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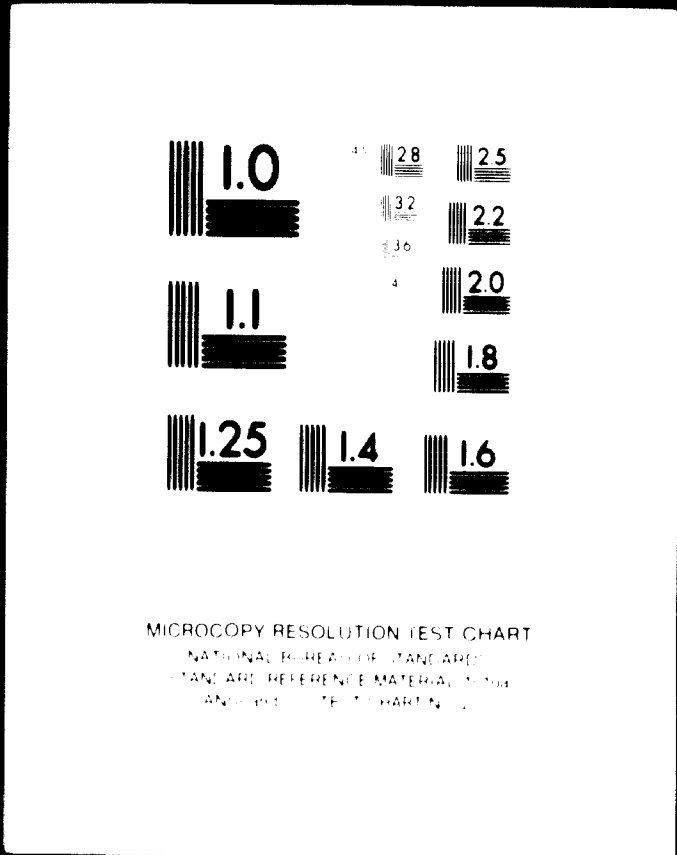
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The development plan has been based on the prevailing conditions in the manufacturing industry and the fact that an opening up the European Common Market will drastically change these conditions. Beginning in 1973 the Icelandic market will gradually be an open market where industrial firms from all Western countries can compete on similar conditions.

The basic aim of the development plan is to suggest ways and means to prepare the industrial firms and all institutions assisting the industry for this new situation.

The preparation of the plan has consequently been carried through with the following objectives in mind:

- 1 To create an instrument to be used in the further programming and implementation of necessary actions in the process of industrialization in Iceland.
- 2 To prove the necessity of changes in various areas, changes that seem to be necessary for the future development of the Icelandic society but may be of disadvantage for certain groups of people or for certain individuals.
- 3 To provide a homogenous system of proposals needed for a progressive development of manufacturing industries during the planning period.
- 4 To present facts and figures needed for an effective appraisal of the realism in proposed actions.
- 5 To prepare a programme of action for an efficient start of the implementation of the development plan.
- 6 To provide a set of supplementary information to be used by politicians, industrialists, and the general public in their appraisal of pros and cons of proposed actions.

The primary goal in the process of further industrialization in Iceland is to increase the competitive power of the firm. The production per man-year is considerably lower in too many Icelandic firms compared to corresponding firms in neighbouring countries - and there are many reasons for that.

In spite of some disadvantages (lack of domestic raw materials, limited domestic market and long distances to material and product markets) it is clear, however, that through joint efforts it will be possible to reach the target of the plan, which has been formulated as follows:

A PROGRESSIVE MANUFACTURING INDUSTRY CAPABLE OF
COMPETING WITH OTHER INDUSTRIES ON THE WORLD
MARKET AND EMPLOYING AROUND 20,000 PEOPLE IN 1980.

To reach the targets for 1980 requires a series of substantial changes and improvements in many areas of activity. The outcome of this part of the development process depends to a great extent upon the mutual connection of changes and improvements, timely implementation and the overall co-ordination.

A model of an overall plan of industrialization has been prepared based on the following two basic principles:

1 Specialization of functions

In the process of industrialization the responsibility for the fulfilment of established targets are decentralized. A number of institutions, agencies, marketing firms and industrial firms, each perform one specialized function in one distinctive area of activity: wholesalers for the supply of materials, general agencies for supply and maintenance of machinery, industrial firms for production, wholesalers and branch-organizations for export marketing of goods, and the whole industrial infrastructure for all kinds of services and financial support.

2 Specialization in the manufacturing of industrial products

In the process of manufacturing the firms are concentrating their effort on a very limited number of products utilizing all the advantages of specialization.

The basic ideas behind this model of industrialization are:

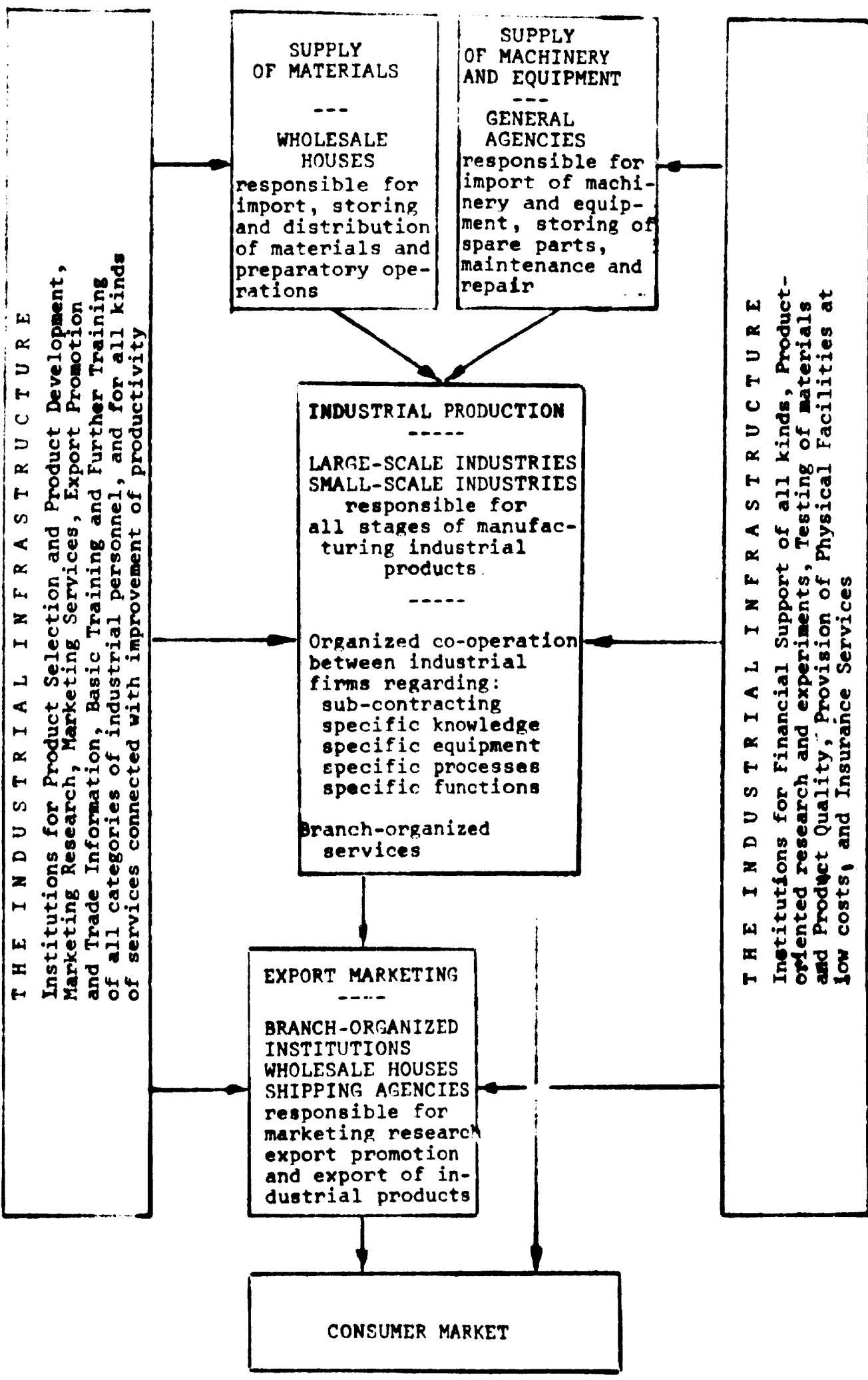
- optimum utilization of limited resources during the planning period;
- an adequate introduction of new industrial goods on the world market;
- the need for an instrument for balanced actions of development in various areas.

The model has been visualized on page V.

This model just shows the overall approach to be used in industrial development especially in the development of the industrial infrastructure. It is of course up to the individual firm to decide what shall be the responsibilities of the firm and what shall be bought from outside service institutions. A fundamental aim in all decision-making during the first years of the planning period is to achieve a satisfactory balance in investments and actions in various activities in the process of industrialization.

Too large investments in advisory services without corresponding investments in product development and export marketing may cause unemployment and too much effort put into export marketing without a substantial improvement in product quality and industrial discipline could spoil export possibilities for a long period of time. Examples can be manifolded.

All areas of activity are interrelated and a continuous follow up of investments and actions is of great importance. Almost any investment in some area without a corresponding investment in some other area (s) may cause severe disturbances in the society. The model may serve as a good instrument in the process of follow up.



THE INDUSTRIAL INFRASTRUCTURE

Institutions for Product Selection and Product Development, Marketing Research, Marketing Services, Export Promotion and Trade Information, Basic Training and Further Training of all categories of industrial personnel, and for all kinds of services connected with improvement of productivity

SUPPLY OF MATERIALS

WHOLESALE HOUSES
responsible for import, storing and distribution of materials and preparatory operations

SUPPLY OF MACHINERY AND EQUIPMENT

GENERAL AGENCIES
responsible for import of machinery and equipment, storing of spare parts, maintenance and repair

INDUSTRIAL PRODUCTION

LARGE-SCALE INDUSTRIES
SMALL-SCALE INDUSTRIES
responsible for all stages of manufacturing industrial products.

Organized co-operation between industrial firms regarding:
sub-contracting
specific knowledge
specific equipment
specific processes
specific functions

Branch-organized services

THE INDUSTRIAL INFRASTRUCTURE
Institutions for Financial Support of all kinds, Product-oriented research and experiments, Testing of materials and Product Quality, Provision of Physical Facilities at low costs, and Insurance Services

EXPORT MARKETING

BRANCH-ORGANIZED INSTITUTIONS
WHOLESALE HOUSES
SHIPPING AGENCIES
responsible for marketing research export promotion and export of industrial products

CONSUMER MARKET

The realization of this model in practice include a variety of measures of which the following are the most important:

1. A change-over from highly diversified production on order to specialized production for stock in export oriented industries.

This change-over is a slow process and a difficult one to manage and carry through, but it is the most necessary step to take.
2. Establishment of specialized firms serving the whole manufacturing industry, such as an iron foundry, firms for tool design and tool making, heat-treating and electro-plating. These firms are one of the prerequisites for specialization in other firms.
3. Establishment of export agencies responsible for marketing research, trade information, export promotion as well as the execution of the export of manufactured products.

Besides the already established agency for the canning industry, The Seafood Corporation, it seems necessary to establish two more agencies during the planning period: one responsible for the export of goods from the engineering industry, the shipbuilding industry and the furniture industry and one for woolen products, skin and skin products, garments and sundry exports.

These institutions could also assist the firms in the import of machinery, special equipment and spare parts.
4. Establishment of specialized institutions or firms responsible for the import of raw materials.

Two agencies could be envisaged during the planning period: one for the import of wood and wood products and one for the import of all kinds of raw materials for the engineering and shipbuilding industries.
5. Development of a comprehensive programme for basic and further training of all categories of industrial personnel and putting this programme into practice.

The process of training and retraining is an ingredient part of the process of specialization in production.
6. Further development of the industrial infrastructure.

Of special importance is the establishment of an Industrial Development Centre and a number of Industrial Centres.

7. Improvement of the productivity of labour within individual industrial firms (as measured in the volume of production per man-year).
8. Adaptation of government rules and regulations affecting manufacturing industries to the conditions of today and tomorrow.
9. State financial support to the further development of the industrial infrastructure as well as to individual firms for investments and general rationalization.
Experiences from other countries prove that this is an essential part of the implementation.
10. Large investments in small-scale industry and in large-scale industrial projects are necessary if full employment conditions are to be maintained.
The power requirements in large-scale industries call for the establishment of two more power plants during the planning period.
It seems to be possible to finance these investments without too much disturbances in the overall allocation of capital during the planning period.
11. The overall economic policy must be more industry oriented aiming at a major increase in the productivity of labour.
12. It seems advisable to extend the development plan presented here to include the fish processing industry and the construction industry.
Investments in the industrial infrastructure could then be better utilized, the programme for further training could be developed for the whole industry, and the effects on wages and prices of improvements in the productivity of labour better controlled.

In Appendix 1 a list of "Essential ingredients in an industrial development strategy in Iceland" is presented. Four of the items on the list is repeated here in order to emphasize the need of overall co-operation in the implementation of the Industrial Development Plan.

The four ingredients in a development strategy are:

- 1 A foundation of generally accepted basic values and primary objectives.**
- 2 A constructive attitude towards industrial development from politicians and the Althing, state and communal authorities, representatives for agriculture, fishery, and other sectors of the society and from the public in large.**
- 3 A constructive attitude from industrialists towards professional management and improvement of managerial techniques - eventually at the sacrifice of the system of family-owned companies.**
- 4 Realistic recognition of needs and weaknesses.**

1 IDENTIFICATION OF THE PROBLEM

The preparation of a long-term development plan for one sector of the society has to be based on the following factors:

- the basic values and primary objectives formulated for the society as a whole and the allocation of priorities in balancing primary objectives;
- the economic situation in the country and major changes that can be foreseen during the planning period;
- the economic policy put into practice;
- the prevailing situation in the sector of current interest;
- the international situation and major changes that can be foreseen during the planning period influencing the development in the sector in question.

The factors that have the greatest influence on the problems to be solved in this plan are the first one and the last one.

1.1 Basic values and primary objectives

The basic values and areas for primary objectives to be used in development planning are the same almost in all countries. What differs is the allocation of priorities in balancing primary objectives: employment, economic growth, price stability, balance of payments, and living conditions.

The preparation of this long-term industrial development plan has been based on the following allocation of priorities:

- full employment with due regard to price stability, which means unemployment for 1.5-2.0 per cent of the labour force;
- optimum economic growth with due regard to good and equal living conditions for all citizens.

Full employment means that manufacturing industries are supposed to employ around 20,000 people 1980.

1.2 The international situation

The entry into EFTA and the provisional agreement with EEC will gradually create a completely new situation for the manufacturing industry. The domestic market so far protected by tariffs and trade regulations will no longer exist. Instead there will be

a European market involving 16 nations and 300 million people where a great number of industrial firms will compete on almost the same conditions. Product quality, product price, and delivery reliability will be the measures of competitiveness and the qualifications for survival.

One of the results of this new situation will be that the share of the Icelandic market controlled by Icelandic firms will be reduced for several sectors of industry. From 1959, when Norway entered EFTA, to 1970 the Norwegian industry lost 13 per cent of the share of the domestic market for textile goods, 19 per cent for ready made clothing, 41 per cent for shoes, and 16 per cent for furniture. After ten years inside EEC the share of the domestic market in Belgium for the Belgian manufacturing industry was reduced from 58 to 38 per cent.

These facts give in a nutshell the fundamental problem to be solved by the future development of manufacturing industry:

- if the existing firms in many industries will survive it is necessary to compensate the loss of the share in the Icelandic market through export of industrial goods. So they did in Norway and so in Belgium;
- in order to make it possible to create export markets for affected industries the product quality and delivery reliability have to be improved and the product costs substantially reduced;
- for the fulfilment of the "full employment" objective the overall volume of production in manufacturing industries must be materially increased which also means a corresponding increase of the export of industrial goods;
- all industrial firms will be involved in this process of productivity improvement, even those firms producing for the Icelandic market only. If so will not be the case these firms will not be able to attract competent manpower or pay competitive rewards. This is, of course, valid for other sectors of the society, too.

The alternatives for the manufacturing industry seems to be:

- a substantial increase in production per man-year and export of industrial goods or
- stagnation, close down of factories and unemployment.

1.3 The magnitude of the problem

Based on official statistics the following comparison is made of the average gross value added per man-year¹⁾ in manufacturing industries in Sweden, Norway, Finland and Iceland for the year 1970. For further details see the diagram in Fig. 2.3.

	Gross value added per man-year US \$	Per cent
Sweden	10,000	100
Norway	8,300	83
Finland	6,100	61
Iceland	4,900	49

There might be differences in reliability of statistics but the fact can be established that the production per man-year is lower in Iceland than is the case in Sweden, Norway and Finland. Direct comparisons within certain industries made recently prove this fact.

It is of course unrealistic to believe that the Icelandic industries shall be able to reach the same level of average competitiveness during the planning period as have the Norwegian and Finnish industries. It seems realistic, however, that through joint efforts it might be possible to double the average production per man-year up to 1980. That would give the export industries a possibility to reach a level of competitiveness that might make it possible to compete on the world market on a larger scale.

1.4 The purpose of development planning

The preparation of the long-term development plan for the manufacturing industry has been carried out with the following

- 1) Gross value added has been defined as follows: for a given enterprise, the market price of goods completed, less the cost of materials purchases from others is value added. Value added may be gross or net. Gross value added includes payments for taxes, interest, rent, profits, reserves for depreciation, and compensation to management and other employees, including social security. Net value added excludes depreciation. The Gross National Product is the total gross value added by all the productive enterprises in the economy.

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
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ICELAND

LONG-TERM DEVELOPMENT PLAN
FOR
THE MANUFACTURING INDUSTRY
1973-1980

VOLUME 1

1973

Olle Rimer

2954



UNITED NATIONS
New York

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objectives in mind:

- 1 To create an instrument to be used in the further programming and implementation of necessary actions in the process of further industrialization in Iceland.
- 2 To prove the necessity of changes in various areas, changes that seem to be necessary for the future development of the Icelandic society but may be of disadvantage for certain groups of people or for certain individuals.
- 3 To provide a homogenous system of proposals needed for a progressive development of manufacturing industries during the planning period.
- 4 To present facts and figures needed for an effective appraisal of the realism in proposed actions.
- 5 To prepare a programme of action for an efficient start of the implementation of the development plan.
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2. DISTINCTIVE FEATURES AFFECTING INDUSTRIAL DEVELOPMENT PLANNING IN ICELAND

2.1 Historical background

The industrial development in Iceland differs in many respects from industrial development in other West-European countries. There are many reasons for that, some of which will be discussed here.

Iceland is the most sparsely populated country in Europe - approximately 2 inhabitants per square kilometer (Norway, which comes second to Iceland in this respect, has 11 inhabitants per sq.km.). This means a limited domestic market, complicated communications, and a lot of problems related to regional development.

The most important natural resources are the extensive grasslands and rich fishing banks. On these depend the two occupations of farming and fishing, which have always provided the Icelander's chief means of livelihood.

Other important natural resources are the sources of energy available in the form of water-power and geothermal heat. The average annual hydro-electric potential of technical exploitable power has been estimated at 4 million kW of continuous capacity.

Iceland is, however, lacking most of the classical raw materials for industrial production other than products from agriculture and fishing. Large quantities of perlite and pumice have been found and there are several deposits of diatomaceous earth of which the largest one, at the bottom of Lake Mývatn, is used for production of high grade diatomite.

No more deposits of economic importance have been found. Minerals containing copper, lead, zinc and other valuable metals have been found in the south-eastern part of the country, but no big deposits have been discovered.

Manufacturing industry started rather late in Iceland. The changeover from handicraft to industrial production started between 1920 and 1930 and it was first during and after World War II that industry employed more people than any other occupation. (See table 2.1).

TABLE 2.1

Breakdown¹⁾ of population in Iceland 1860 - 1960
according to source of livelihood (in percentages)

	1860	1880	1890	1910	1920	1930	1940	1950	1960
Primary sectors									
Agriculture ..	79.5	73.9	65.5	51.0	42.9	35.8	30.6	19.9	15.5
Fishing	9.4	12.7	18.1	18.7	18.9	16.7	15.9	10.8	7.3
Industry	1.1	2.2	2.9	8.3	11.3	18.9	21.3	32.5	35.5
Services	5.5	5.8	7.1	18.3	22.6	24.7	27.0	29.5	32.7
Pensioners etc.	4.5	5.7	6.4	3.7	4.3	3.9	5.2	7.3	9.0
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1) Allowance must be made for inaccuracy in the table owing to variation in classification methods over the years. (Iceland 1966, p. 163).

During the last century labour has been moving from agriculture and fishing to industry and trade and service (in more general terms from the primary to the secondary and tertiary sectors). This is shown clearly in the diagram in fig 2.1. This tendency is the same in all western countries. A remarkable change in this trend, however, occurred in Iceland after 1964. The downward trend in the primary sector stopped and from 1965 onwards the size of the labour force is unchanged around 19% of the total. In the industrial sector the upward trend stopped and changed into the opposite - from 1964 there is a decrease in employment from 48 to 46%. The trade and service sector is, however, still increasing even though the trend is not as clear as before.¹⁾

1) One explanation to this change in the trend might be the change in the statistical technique used. Up to 1960 the figures are based on Census Data and from 1963 onwards on accident-insured work-weeks. The trend after 1963 is, however, still to be explained.

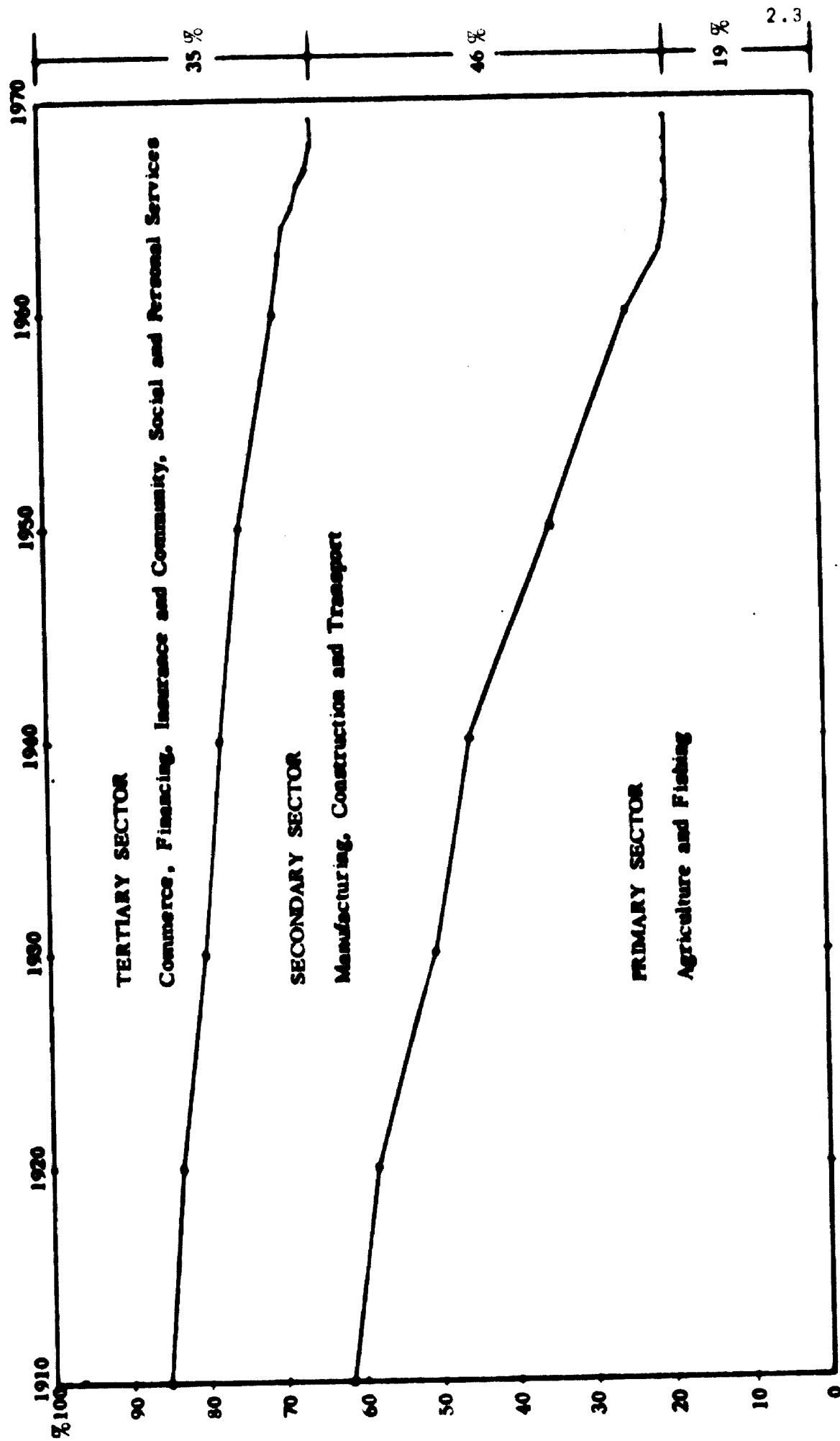


Fig.2.1 Distribution of Employment in Iceland among Economic Sectors 1910 - 1970
Based on Census Data 1910 - 1960 and accident-insured work-weeks 1963 - 1970

The expansion of manufacturing industries has been followed, contrary to agriculture and fisheries, by a rapid increase in employment. From 1950 to 1960 the number of man-years in manufacturing industries increased by 50 per cent.

Investments were, however, much lower per employee in manufacturing industries than in agriculture and fisheries during the same period, as can be seen in Table 2.2.

TABLE 2.2

Gross Investments in Different Sectors 1951 - 60.

	Gross Investments 1951-60 Mill.kr 1954 prices	Number of man-years 1960	Gross Investments per man-year 1960 1.000 kr. 1954 prices
Agriculture	1.400	12.200	115
Fishing	600	5.400	111
Industry	1.230	10.600	85
Fish Processing	450	7.000	64
Other Industries	780	11.600	66
Other Sectors	6.470	36.000	--
Total	9.700	72.400	134

From "Draft Development Programme 1962-66", page I:20.

Gross fixed asset formation has always been lower in manufacturing industries (excl. fish processing and aluminum production) than in agriculture. From Table 2.3 it can be found that during the period 1960-1970 the share of manufacturing industries has been slightly below 7 per cent of the total except for two years. In agriculture the share has been well above 7 per cent of the total, from 7.3 to 11.1 per cent.

Table 2.3 Gross Fixed Asset Formation 1960 - 1970
Constant 1960 prices and percentages. Millions of kroner

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
Gross Fixed Asset Formation. Mill.kr.	2.499	1.946	2.274	2.971	3.494	3.329	3.997	4.505	4.111	3.122	3.390
Industrial Asset Formation. Percentage distribution											
1 Agriculture	8.3	11.1	10.8	9.7	9.5	10.6	8.7	7.8	7.9	7.3	7.5
2 Fishing	19.1	5.6	6.7	9.6	10.5	3.9	4.8	9.5	2.5	1.7	7.5
3 Fish Processing	4.3	4.8	7.9	5.9	4.4	5.0	5.7	2.9	1.6	1.3	2.6
4 Manufacturing other than 3 and 5	5.5	6.5	6.8	7.7	6.9	6.4	7.9	6.8	6.9	6.4	6.7
5 Aluminum Smelter								3.9	9.1	15.5	6.6
6 Transport Equipment	9.9	12.0	9.8	10.4	16.4	15.0	14.1	9.5	6.5	2.1	8.3
7 Commercial Buildings	3.9	5.7	4.8	5.1	4.1	5.6	5.4	3.6	2.8	4.5	5.3
8 Various machinery and equipment	2.5	3.4	3.0	4.7	3.5	5.4	5.1	5.2	2.9	1.8	3.4
Industrial Asset Formation. % of Total	53.5	49.1	49.8	53.1	55.3	50.9	51.7	49.2	40.2	40.6	47.9
Industrial " " Mill.kr.	1.345	960	1.120	1.580	1.940	1.748	2.066	2.244	1.647	1.256	1.625

The Economic Institute 1971.

2.2 The Prevailing Industrial Situation

Manufacturing industries (exclusive fish processing) employed 1970 about 14.160 people or 16.8 per cent of the total labour force, which is more than any other single sector of the economy did that year (Table 2.4). The estimated contribution to the total gross national product was 1969 15.6 per cent and manufacturing industries have for the first time reached the same level in this matter as fishing and fish processing (Table 2.5).

The size of enterprises. Manufacturing industries are dominated by small firms engaged in relatively unsophisticated processing. The size distribution of the 2.160 firms are dominated by the one-man category of companies (almost 750) and only about 150 firms employ more than 20 persons.

The distribution of industrial enterprises according to number of people employed is visualized in fig. 2.2.

Distribution of employment among industries. As can be seen in Table 2.6 the manufacturing industry has the traditional distribution of employment among industries. Food industry (including dairy industry, slaughterhouses, other food, beverages and tobacco) employed 1970 2.340 people, textile shoes and garments 2.030 and furnitures and fixtures 1.498, in all about 40 per cent of the total number of employees.

Normally the employment in these industries proportionally decreases while the employment increases in such branches as metal industry, chemicals and petrochemicals and electrical appliances. In Table 2.6 it can be seen that the downward tendency in textiles, shoes and garments has turned upwards during 1970 and also for food industry and furniture and fixtures there is in fact an upward trend. In petrochemicals there is a great increase (in the statistics aluminum is included in this group), but in metal industry and electrical appliances there is almost status quo.

TABLE 2.4 Distribution of Employment by Sector¹
Per cent.

	1960	1963	1966	1968	1969	1970
Agriculture	16.0	13.7	12.8	13.0	12.9	12.0
Fishing	8.2	6.6	5.8	5.8	6.0	6.7
Manufacturing:						
of which:						
Fish processing	10.1	9.9	8.4	7.2	8.2	8.6
Other	15.5	17.9	17.1	15.8	16.5	16.8
Construction	10.7	10.6	12.1	13.7	11.5	10.9
Electricity, gas, water, etc.	1.0	0.4	0.5	0.5	0.7	0.6
Commerce, banking, etc.	14.7	16.5	18.1	17.9	17.5	17.9
Transport and communications	8.2	9.6	9.5	9.0	8.8	8.4
Other services	15.7	14.8	15.7	17.1	17.9	18.1
Total	100.0	100.0	100.0	100.0	100.0	100.0

1 Based on compulsory accident insurance figures for weeks worked in each sector.
Source: The Economic Institute.

TABLE 2.5 Gross National Product by Industrial Origin
Per cent.

	1960	1966	1969
Agriculture	9.6	7.6	7.5
Fishing and fish processing	16.8	18.5	15.3
Manufacturing other than fish processing	14.3	13.9	15.6
Construction	11.7	15.2	13.8
Public administration	6.3	6.3	7.5
Ownership of dwellings	7.7	7.5	8.7
Other services	33.6	31.0	31.6
Total	100.0	100.0	100.0

Note This table, which is based on factor cost data at constant 1960 prices, is subject to very wide margins of error and should be treated as indicating approximate values only.

Source: The Economic Institute.

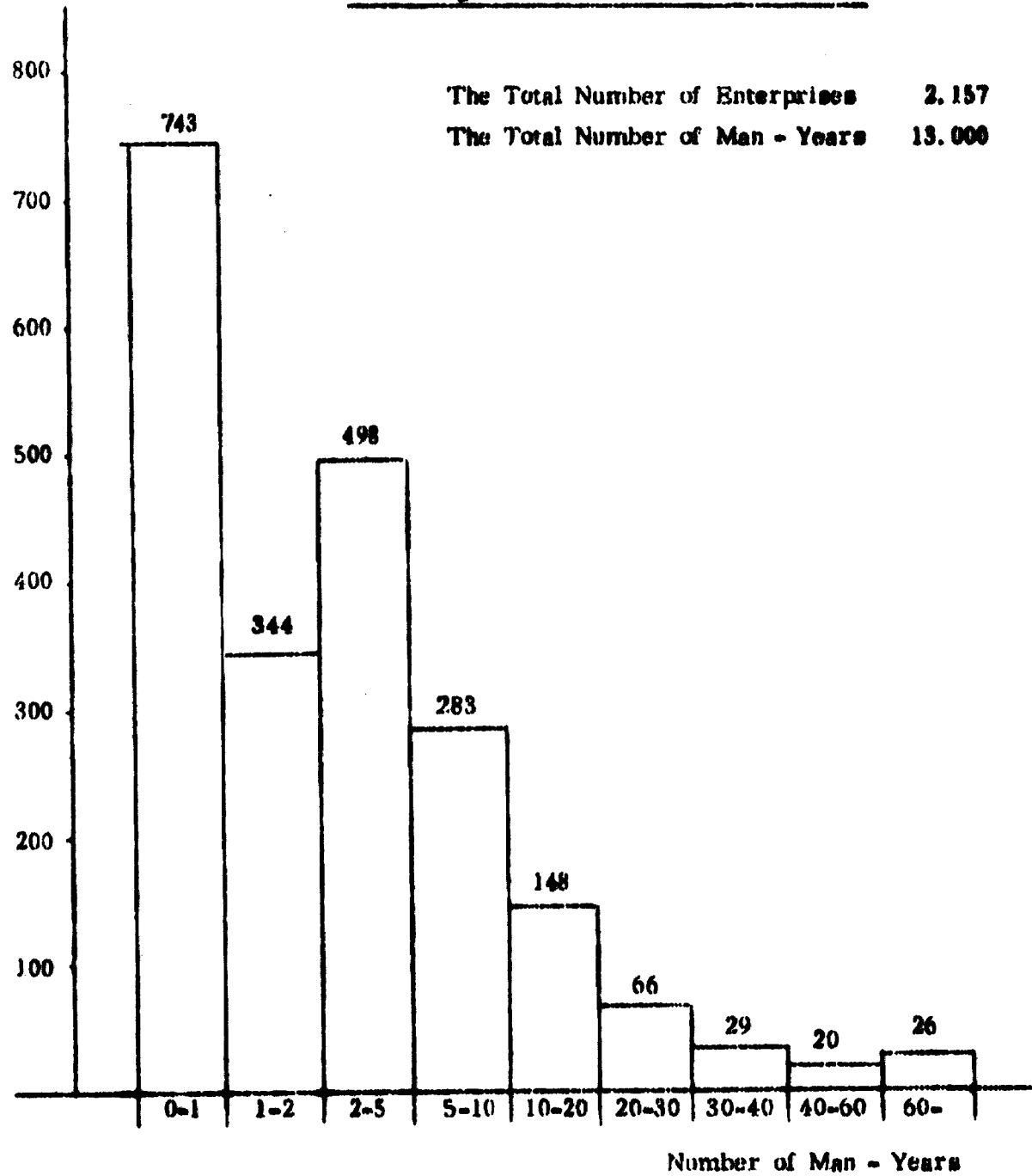
Number of
enterprisesDistribution of Industrial Enterprises
According to Number of Man - Years 1969

Fig. 2.2

TABLE 2.6

Employment in manufacturing industry.

	Calculated man-years										Indices 1964 = 100					1970
	1964	1965	1966	1967	1968	1969	1970	1964	1965	1966	1967	1968	1969	1970		
Dairy industry	384	399	400	386	370	349	343	100.0	103.9	104.2	100.5	96.4	90.9	97		
Slaughterhouses	776	730	834	773	778	744	753	100.0	94.0	107.5	99.6	100.3	95.6	113		
Other food	907	886	940	918	936	935	922	100.0	97.7	103.6	101.2	103.2	103.1	105		
Beverages	205	238	216	241	221	214	216	100.0	116.0	105.4	117.6	107.8	104.3	60		
Tobacco	10	4	6	12	11	6	6	100.0	40.0	60.0	120.0	110.0	60.0	99		
Textiles	1,034	968	936	876	802	886	1,022	100.0	95.6	90.5	84.7	77.6	85.7	82		
Shoes and garments	1,219	1,064	962	832	781	854	1,008	100.0	87.3	78.9	68.2	64.1	70.0	113		
Furniture and fixtures etc.	1,326	1,347	1,453	1,440	1,371	1,334	1,492	100.0	101.6	109.5	108.6	103.4	100.6	113		
Paper products	159	142	137	131	145	166	141	100.0	89.3	66.2	82.1	91.2	104.4	120		
Printing and allied industries	1,218	1,151	1,167	1,187	1,236	1,211	1,214	100.0	94.4	95.8	97.5	101.5	99.4	100		
Leather, furs and skins	84	112	112	89	81	92	146	100.0	137.9	136.6	108.5	96.4	109.5	100		
Rubber products	73	70	87	75	68	76	91	100.0	95.9	112.3	102.7	93.2	104.1	174		
Chemicals	389	391	400	405	441	462	463	100.0	101.0	102.8	104.1	113.4	118.8	125		
Petrochemicals	478	559	642	583	529	622	677	100.0	116.9	134.3	122.0	110.7	130.1	119		
Metal products	2,094	2,199	2,229	1,837	1,710	2,042	2,125	100.0	105.0	106.4	87.7	81.7	97.5	234		
Electrical appliances	337	361	341	312	303	352	361	100.0	107.1	101.2	92.6	89.9	104.5	92		
Transport equipment	1,868	1,982	2,049	2,320	2,157	2,280	2,325	100.0	106.1	109.7	124.2	115.5	122.1	110		
Other manufacturing	299	353	360	386	352	384	475	100.0	118.1	120.4	129.1	117.7	128.4	125		
TOTAL	12,860	12,956	13,266	12,803	12,292	13,009	14,416	100.0	100.8	103.2	99.5	95.6	101.2	159		
Protected industries	4,962	4,716	4,735	4,587	4,172	4,416	4,416	100.0	95.2	95.5	92.4	84.2	89.0	110		
Unprotected industries	2,714	2,693	2,717	2,639	2,697	2,696	2,696	100.0	99.2	100.1	97.2	99.4	99.4			
Construction industries	940	1,100	1,232	1,178	1,292	1,337	1,337	100.0	117.0	131.1	125.1	137.4	142.2			
Metals and transport equipment.	3,946	4,169	4,267	4,147	3,980	4,322	4,322	100.0	105.6	108.1	105.1	97.8	109.5			
Minor industries	298	278	315	254	271	238	238	100.0	93.3	105.7	85.2	90.9	79.9			
TOTAL	12,860	12,956	13,266	12,803	12,292	13,009	14,416	100.0	100.8	103.2	99.5	95.6	101.2	2, 9		

Frankvæðastofnun ríkisins 1972.

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UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
VIENNA

ICELAND

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(1 of 2)

SUGGESTIONS FOR A
LONG-TERM DEVELOPMENT PLAN
FOR
THE MANUFACTURING INDUSTRY
1973-1980

PREPARED FOR
THE ICELANDIC GOVERNMENT

BY
OLLE RIMÉR

ASSIGNED BY
UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
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Production for the domestic market. Manufacturing industries are engaged almost exclusively in production for the domestic market. In 1969 only 6 per cent of the total value of industrial production was exported. Exports concentrated to a few industries- tannery, canning and wool industry (aluminium and diatomite not included). This means, of course, a highly limited market, to a certain extent limited competition and thus limited industrial development.

The content of production. Manufacturing in many industries can be characterized as "production on order" and there are very few firms built up completely for "production for stock". That means a great number of runs in manufacturing and consequently low utilization of machinery and manpower. Some industries, especially metal industry and shipbuilding, are to a great extent working with maintenance and repair (mostly for the fishing industry) and to a less extent with production of industrial goods, and there is not always a clear distinction between the two areas.

An inadequate industrial infrastructure. The most obvious indication of any young industry is perhaps that the industrial infrastructure is incomplete. The supply of materials, machinery and special equipment is inadequately organized, the labour market is not supplying specialized labour trained for the conditions of today or tomorrow, the capital market is not supplying investment money and working capital in sufficient quantities and on reasonable terms, the advisory services in technical, economical, managerial and marketing areas have not yet reached neither the capacity nor the capability needed, and specific services such as tool design and tool making, heat-treating, and electro-plating cannot meet the real demand.

Family owned firms. Most of the Icelandic firms are family owned, there are quite a number co-operative owned firms and some state owned. The family owned firms are in a state of change-over from first to second generation of owners-managers which involves a lot of replacement problems, reorganization problems as well as financial problems. The owner and the founder of the firm was in the

normal case a technician and consequently more concentrating on manufacturing and less on marketing. The owner is in the normal case also the manager of the firm and as such he is not inclined to share the responsibility for the activities of the firm with anyone - not even his son. Partly as a result of this fact there is a shortage of specialists in top management in many firms.

Lack of industrial tradition. Being a young industry many firms have not yet reached the level of specialization in manufacturing needed in the competition of today and tomorrow. With a highly specialized production it is easier to utilize effectively all managerial techniques available but, on the other hand, specialized firms are more depending on contributions from other firms (sub-contracting and specific services) and from outside service institutions and, first of all, on reactions from the market. In all this calls for a high level of industrial discipline which include, among other things, deliveries on time, in accordance with agreed specifications and at low costs. Industrial discipline is an important part of industrial tradition - a necessary ingredient in the process of industrialization.

The economic policy. The prevailing situation in manufacturing industries is to a great extent a result of the economic policy of the country: the economic policy has not had as an objective the expansion of the manufacturing industry. In a report from 1966 Arne Haarr gives the following comments:

"The weak expansion in the Icelandic consumer goods industry (excluding fish precessing) is surprising, in view of the fact that Iceland, by means of restrictions and high import duties, has followed a very restrictive import policy. This would have been expected to provide the basis for a flourishing of the home industries which were thus insulated from foreign competition. That there has not been such an expansion is presumably partly because the size of the home market has in many sectors been a limiting factor. But the main explanation must clearly be sought in the fact that the Icelandic home industry, so far as can be ascertained, has worked under very difficult conditions during most of the post-war period. The main hindrance has been that economic policy has not had as an objective the expansion of these manufacturing activities. Among the factors restricting expansion, can in particular be mentioned the following:

Due to the strict control of imports, there have for long periods been shortages and irregular supplies of raw materials and semimanufactures, and the choice of sources of supply has often been restricted. In the same way, access to imports of machinery and technical equipment has been limited.

On the whole, firms within the home industries have had small

possibilities for the credit financing of equipment of new investments. Available loan sums have, generally speaking, been allotted to other purposes than the home industries.

To counteract inflation a strict price control has been practised. In many instances this has prevented enterprises from exploiting the tariff protection. The price control has been based on general prohibitions of price increases, unless it could be documented by the submission of accounts and calculations that the costs of production had risen. Very narrow limits have been fixed for the profits an enterprise can take. In the immediate postwar years the system of price control in Norway was based on similar principles. Experience showed that the weakness of this system, inter alia, is that it does not encourage the producer to rationalise his production or improve the quality of his product. Moreover, the system can often bring losses to the producers, if the costs of the means of production, raw materials and manpower rise sharply, as happened in Iceland during the post-war years.

Taxation policy has worked against ^{the investment} the by earned money. According to the rules prior to the tax reform in 1961, total taxes to the central government and the local authorities could in certain cases exceed the total taxable income. The effects of taxation have been accentuated by the sharp rise in construction costs and in the prices of machinery so that the real value of savings funds has declined. In the case of imported technical equipment this is connected, inter alia, with the increases in the import duties.

During the past 2 to 3 years (1960-63) there has been a realignment of economic policy, which has improved conditions in many respects. Mention can be made of some of the most important changes, such as freer access to imports of raw materials and means of production, a radical change in industrial taxation by the tax reforms of 1961 and an easier access to credit financing. There can be little doubt, however, that the Icelandic home industry today still bears the marks of the restraint imposed on developments through many years".

In connection with structural conditions Haarr means that the small domestic market has a limiting effect on the size of the firms but he also means that it is possible that a number of factors determined by the national economic policy have been important. "Until the tax reform of 1961 income tax to the state payable by industrial joint stock companies was progressive, a situation which must naturally have tended to work against the creation of larger units. It would also seem that the forms of tax control gave certain advantages to the small units".

Small units do not, however, necessarily means low productivity of labour. But if, as it is in many Icelandic firms, it is combined with a great variety of products within one unit, it becomes one of the main reasons for low productivity of labour. This state of things is of course to a great extent related to the fact that a limited domestic market can force a factory to expand by starting the production of new items, since sales within the country impose limits on how much can be produced and sold of one individual unit. Haarr's comment to this is: "There is little doubt that the special conditions of the post-war years - inter alia the strict import controls and tariff protection, price control etc. - have given firms the incentive to spread production unnecessarily wide".

2.3 Large-scale industries

Opportunities for large-scale industries in Iceland may be said to fall into two categories: 1) Energy intensive industries, where cheap power is of decisive importance, without Iceland supplying any considerable materials or services of other kinds; 2) Industries employing a combination of power sources and local raw materials, and then not necessarily on such a large scale nor so dependant on the price of power.

The first and only very large industry in the former category is the aluminum smelter, owned and operated by the Icelandic Aluminium Company Ltd (ISAL), a subsidiary of Alusuisse. The smelter is located at Straumsvik near the town of Hafnarfjörður in the south-west.

ISAL went into operation in the fourth quarter of 1969 with an annual capacity of 30,000 mtons from 120 reduction furnaces. In 1970, a first expansion took place when 40 pots totalling 10,000 mtons were added.

Production capacity is now being further expanded to 70,000 mtons per annum including a second potroom with 120 pots and 30,000 mtons new capacity, plus a second silo for alumina capable of holding 40,000 mtons.

The master agreement between the Icelandic Government Alusuisse

is for 30 years, with the possibility of two 10-year extensions. Provisions include performance guarantees, power prices, tax-lations and financial obligations.

At present alumina is imported from Guyana, Surinam and Jamaica. Future supplies from Australia are anticipated now that Alusuisse have completed their bauxite mine and alumina plant at Gove, Northern Australia. With the second potroom operational in 1973, the staff strength will be around 550 men. Over 98 per cent are Icelandic citizens.

In the latter category the Diatomite Plant, the Cement Factory and the Fertiliser Plant can be considered to belong.

In 1967, a plant for the processing of diatomaceous earth was completed at Lake Mývatn in northern Iceland. The plant is jointly owned by Icelandic Government and the Johns-Manville Corporation of the U.S.A.

Diatomaceous earth is dredged from the bottom of Lake Mývatn and dried nearby. The processing plant is similar to other diatomite plants except that geothermal steam is utilised as the source of heat.

Initially, the plant had an annual capacity of 12,000 mtons but this has been doubled. The production schedule for 1972 envisages a total production of 22,000 ton and with the results obtained, it is reasonable to expect that a total output of 24-25,000 tons will be shortly within reach. Exports in 1971 of 17,000 mtons were valued at 157 million Icelandic Kronur. Regular employees are around 50.

Iceland is self-sufficient in cement output, with production from one cement plant of 110,000 mtons annual capacity located at Akranes, near Reykjavík.

The plant, which started up in 1958, is wholly owned by the Icelandic Government. Annual production is equivalent to approximately 500 kg per capita, an unusually high figure that is attributable to a lack of alternative local building materials.

The cement process is not typical. In the absence of limestones and silica-rich clays for conventional cement manufacture, the raw materials employed are sea-dredged calcareous sand and liparite.

In Faxa Bay, some 16 km offshore from Akranes, calcareous sand was discovered containing 85 per cent shell and 15 per cent tuff or basalt fragments. This shell sand is suitable for the production of first-rate Portland cement by the addition of silica. Volcanic liparite, averaging 76 per cent silica, is found 38 km inland from Akranes.

Annual production is about 90,000 tons of Portland cement. Small quantities of Portland pozzolana cement are also made from clinker together with tuff and liparite.

Cement distribution to customers scattered around the Icelandic coast is accomplished chiefly by a coaster capable of carrying 1,200 tons in bags on pallets.

Regular employees are around 100.

Nitrogenous fertilisers are manufactured at the government owned plant, *Aburðarverkefniðja Ríkisins, Gufunesi*, at an annual rate of 24,000 tons gross weight. An expansion of the production has now been carried through aiming at a further processing of this ammoniumnitrate together with imported materials into compound fertilisers. It is envisaged that the production will reach 60-64,000 during 1973. Regular employees are around 150.

2.4 The industrial infrastructure

The term infrastructure is often used as a name on one sector of the economy covering activities that are necessary for the efficient utilization of resources in other sectors.

Activities constituting the infrastructure are such as education, public health, power production and distribution, transportation systems and communication facilities, telecommunication, radio, TV, wholesale and retail trade, hotels, restaurants, and personal services.

Similarly the industrial infrastructure is composed of those areas and activities specifically needed for an efficiently working industry. Some of the most important areas and activities will be mentioned here with very brief comments.¹⁾

- capital market: not sufficient capacity and organization for future needs; investment capital limited and expensive, lack of effective channels for risk-oriented capital, the system for working credits unsatisfactorily organized, quite expensive and time consuming, and inadequate guarantee for efficient utilization of capital.
- labour market: one could almost say that there does not exist a labour market in Iceland which meet the needs of a modern industry; vocational training is regulated by Acts based more on the needs of handicraft fifteen years ago than on demands of a modern industry today - or tomorrow; the supply of skilled labour for industry is thus very limited and the rules for selection and employment out of date.
- whole sale trade and general agencies for export and import: the channels for import of materials and machinery and the export of industrial goods are not effectively organized and not working with the efficiency needed in future.
- transportation systems and communication facilities: increased efficiency in sea transportation and lower freight costs is one of many conditions for increased competitive power for Icelandic firms on the world market.

1) See also the Appendices in Volume II: 3.1 The Labour Market, 3.2 The Capital Market, and 5.2 The Industrial Infrastructure.

- processing facilities for specific operations (e.g. heat-treating, electro-plating, tool making): facilities for this kind of industrial processes are almost completely missing; specialized firms serving the whole industry are urgently needed.
- institutions for product-oriented research and experiments, and materials testing have neither the capacity nor the aim and direction needed for the industry of today.
- institutions for training of industrial personnel are working with very limited funds and consequently with a very low overall efficiency for the industry.
- institutions for advisory services have neither the capability nor the capacity for the actual needs of assistance on firm level and further training of specialists are urgently needed.
- industrial information services (statistics, libraries etc.) cannot meet the current needs.
- specific industrial services such as book-keeping bureaus, accountants, patent agencies, designers, legal services, construction bureaus and type-writing offices are not all capable to meet future needs.

2.5 Markets and marketing of industrial goods

Exports of goods and services play an important role in the Icelandic economy. In 1969 and 1970 exports counted for 48 per cent and in 1971 for 40 per cent of the GNP.

As can be seen in TABLE 2.7 marine products have for many years been the dominating group of products counting for 82-89 per cent of the export value during the latest three years.

In 1971 the exports of manufactured goods (aluminum and diatomite not included) amounted to 5.7 per cent of total exports or 732 million Icelandic Kr: skin and skin products - 207 MKr, knitted goods and garments - 187 MKr, canned fish products - 177 MKr, and other - 165 MKr.

There were in 1971 144 firms exporting industrial goods in the manufacturing industry.

The main export markets for Icelandic industrial goods were in 1971 U.S.S.R., U.S.A. and North-western Europe, as shown in TABLE 2.8.

The main products exported to U.S.S.R. are knitted goods and canned fish products, to U.S.A. canned fish products, skins, knitted goods and garments, and to Finland hides and skins.

In 1968 the Federation of Icelandic Industries established an Export Bureau to co-ordinate efforts in export promotion and to maintain a program of continuing contact between industry and State to mobilize established companies and to bring new companies into the export field.

Following an act of Parliament a new EXPORT BOARD OF ICELANDIC INDUSTRIES was established in July 1971, to promote the export of Icelandic manufactured goods. This new EXPORT BOARD took over all services and staff of its forerunner the Export Bureau Federation of Icelandic Industries.

Founder members of the New Export Board are Federation of Icelandic Industries, Federation of Icelandic Master-Craftsmen, the Federation of Icelandic Co-operative Societies, the Ministry of Commerce and the Ministry of Industry.

TABLE 2.7

Exports by main categories 1968 - 1971.

Products	1968		1969		1970		1971	
	Mill. \$	%	Mill. \$	%	Mill. \$	%	Mill. \$	%
Marine products (excl. canned products)	72.1	92	88.0	93	119.5	96	125.5	96
Agricultural products	6.2	8	6.7	7	5.2	4	5.2	4
Total fish and agricultural products	78.3	100	94.7	100	124.7	100	130.7	100
Aluminum ingots	--	--	5.9	53	19.4	72	10.0	50
Diatomite	0.2	0	0.8	7	1.5	6	1.8	9
Canned fish products	0.0	32	1.4	13	1.6	6	2.0	10
Woolen products	0.0	32	1.4	13	1.0	7	2.4	12
Skin and skin products	0.4	16	0.9	8	1.9	7	2.4	12
Sundry exports	0.3	12	0.7	6	0.7	2	1.6	8
Total manufacturing products	2.5	100	11.1	100	26.9	100	20.2	100

Total exports (f.o.b.) Million US\$	80.7	100	105.8	100	151.6	100	150.9	100
Total exports (f.o.b.) Per cent	100		132		188		187	

DEVELOPMENT PLAN FOR THE ICELANDIC MANUFACTURING INDUSTRY .

1973 - 1980

INTRODUCTION AND ACKNOWLEDGEMENTS

One of the recommendations put forward by Albert Walterston in his report in 1969 "A PRACTICAL PLANNING PROGRAM FOR ICELAND" runs as follows:

"A system of annual national budgets and annual, integrated public investment plans linked to programs of seven years or more for the most important production sectors and subsectors offers Iceland the flexible planning approach dictated by present circumstances".

The decision to enter into EFTA further emphasized the need for sectoral planning and consequently the Government in 1970 designated the Industrial Development Institute of Iceland with the preparation of a Development Plan for the Manufacturing Industry.

In accordance with an agreement between the Government and UNDP/UNIDO/UNCTAD dated 30 April 1971 a group of international experts were attached to the Institute and to the Export Board.

The preparatory studies started in September 1971 and the first draft of the plan was delivered during December 1972. This draft was circulated amongst a number of institutions and persons and the comments received have been considered in the present edition.

The main report - Volume I - is written in a rather concentrated form. In order to clarify the terminology used and explain the background and alternative views on various problems a series of Appendices is presented in Volume II as supplementary information.

The principal functions of the Export Board is devoted to providing market information and investigation of export sales prospects, trade fairs participation and introduction of new manufacturing companies in the export field.

The sphere of the Export Board will be concentrated on the manufacturing industries as opposed to the agricultural and fishing industries but the whole Icelandic economy is historically divided into these three sections.

The Export Board chief emphasis are on the following manufacturing groups:

1. The textile industry
2. The canning industry
3. The furniture industry
4. Light engineering. In particular manufacturing of equipment serving the fish industry.
5. Arts and crafts (incl. manufacturing of silverware and lava ceramics).

TABLE 2.8 Geographic distribution of exports 1971

<u>Countries</u>	<u>Thousands of Icelandic Kr.</u>	<u>Per cent</u>	<u>Per cent</u>
<u>EFTA-countries</u>			
Finland	91,275	12.5	
United Kingdom	42,960	5.9	
Faroe Islands	37,330	5.1	
Denmark	27,475	3.8	
Sweden	26,020	3.5	
Other	16,780	2.3	33.0
<u>EEC-countries</u>			
West Germany	40,700	5.6	
Other	17,100	2.3	7.9
<u>Eastern Europe</u>			
U.S.S.R.			30.6
<u>USA</u>			20.7
<u>Other countries</u>			7.8
Total	732,800		100.0

Branch-organized institutions for the co-ordination and execution as well as marketing research and export promotion have for a long time been established within the fish processing industry. The first institution with these responsibilities within the manufacturing industry was established in 1972 in the canning industry: the Seafood Corporation.

The Icelandic Seafood Corporation is an independent institution with its own finances and bookkeeping, set up by The Icelandic Government and most of the Icelandic Cannery in co-operation. With the Corporation there are now affiliated 20 Canneries, all along the coast of Iceland.

Its starting capital is to be Icel. kr. 125.000.000,- outright grant, payable over the next 5 years.

The Government of Iceland has further the right to guarantee a loan of Icel. kr. 100.000.000,- for the Corporation.

The Corporation's income will be commissions on the sale of goods for the members, and on production goods purchased for the members.

According to the Charter of the Corporation, its purpose is:

"To increase methodically the production and export of canned and preserved goods, and further of Shrimps and Molluscs, for those of the members of the Corporation, that so wish.

This, the Corporation will seek to do, by making market analysis, marketing, and sales-promotion for the goods produced by its members.

Further, by modifying the goods to suit the prospective markets, initiating production of new goods and establishing strict quality control.

Purchasing of all production goods, that the members may need will be centralized, and lastly, the Corporation will give the members the technical advice they need".

As said under 1, the Corporation is an independent institution, but it is foreseen, that after 5 years, the various members can take it over.

2.6 Economic growth in manufacturing industries

Economic growth in industry is normally measured by the changes in volume or value of production per man-hour or man-year. The accuracy of measurement is, however, normally rather limited, for different reasons: the statistical figures giving volume of production are always subject to wide margins, the value of production at different times has to be measured in the same prices, the labour content of a man-year varies from year to year because of variations in the number of working-hours per week, the number of hours in over-time work, and the composition of the labour force. The measurement gives, for these reasons, an indication only.

The economic growth in Icelandic manufacturing industry during the period 1959 - 1969 can be studied in a series of tables on the following pages. Table 2.9 shows quantity indices of production in manufacturing industries 1959 - 1969. The overall increase in the volume of production in 1969, 9 per cent, is the same as during the whole period 1963 - 1968. Table 2.10 shows the development of value added per man-year in some industries during the same period. In table 2.12 the volume of production and the number of man-years are put together in an index over productivity of labour during the period 1960 - 1968 (1960 = 100). The last line shows the overall increase to be 17.3% during this period. (All three tables are taken from Guðmundur Magnússon: "Iðnþróunaráform", 1971).

This increase of labour productivity is, however, larger than in other sectors of the economy. Estimates of average labour productivity based on data for the year 1965-69 are presented in Table 2.13, which is taken from "ICELAND - OECD Economic Surveys, 1972", page 18. The figures in the table are commented as follows:

"With due reserve for the considerable margins of error to which these estimates are subject, it would appear that in 1965 and 1966 average productivity was considerably higher in fishing and fish processing than in other sectors, even though the rate of increase in the volume of the catch declined sharply in the latter year. It should be noted that the relative productivity of protected industries (as shown in 2.13) is overstated to the extent that these industries are able to maintain higher prices because of tariff

Table 2.9

Quantity indices of production
in manufacturing industry 1959-1969
1968 = 100

(excluding slaughter houses, fish processing and the aluminum smelter)

	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
Dairy products	58.9	63.3	74.1	81.5	90.6	103.1	114.8	106.6	98.9	100.0	91.4
Canred products	47.1	34.5	36.6	34.1	38.6	56.1	59.2	66.8	74.8	100.0	78.5
Bakery products	46.7	79.7	84.0	82.9	82.0	92.3	87.6	95.2	85.6	100.0	105.3
Confectionery	58.9	56.9	55.1	63.4	71.2	72.2	72.5	85.4	87.8	100.0	99.0
Margarine, coffee, jam etc.	69.8	78.1	84.4	88.6	91.8	95.8	97.9	96.4	99.0	100.0	104.8
Beverages and tobacco	84.0	81.4	80.2	88.4	90.9	92.5	92.9	100.9	105.2	100.0	102.0
Textiles	59.2	77.8	74.4	92.5	89.2	90.3	98.8	109.9	96.8	100.0	113.1
Fishing gear	53.8	73.0	79.0	58.9	79.7	57.4	57.8	80.2	76.3	100.0	124.4
Shoes	332.4	304.0	291.8	270.5	211.7	171.4	123.6	111.0	98.2	100.0	57.9
Clothing	112.6	107.5	105.3	119.2	117.0	112.3	107.0	114.3	107.0	100.0	121.4
Other textile products	54.9	42.4	52.5	61.4	81.8	43.5	122.8	140.6	108.8	100.0	120.3
Furniture etc.	67.9	64.1	62.9	69.9	85.3	95.6	102.8	106.9	106.5	100.0	96.2
Packing containers	82.4	83.0	79.6	89.8	102.5	111.5	98.3	99.7	82.1	100.0	137.9
Leather and furs	80.9	100.7	81.4	94.7	109.6	102.5	101.0	91.5	81.8	100.0	109.6
Paint and misc. chemical products	71.0	78.6	77.8	78.7	80.4	89.9	96.3	97.9	92.9	100.0	103.3
Diatomite	-	-	-	-	-	-	-	-	-	100.0	274.3
Washing and cleaning preparations	82.2	78.9	85.1	91.0	104.1	104.4	104.6	95.0	96.1	100.0	121.2
Cement and building parts	60.3	51.7	53.6	68.9	72.0	77.1	81.3	79.4	86.6	100.0	70.7
Metal products, electrical appliances and equipment	109.3	100.0	104.4	107.5	118.4	116.6	116.8	102.8	103.4	100.0	116.9
Plastic products	15.8	25.8	27.7	39.3	60.7	74.6	84.1	91.2	101.4	100.0	138.4
Other manufactured products	52.8	52.1	57.1	76.4	80.4	102.3	112.6	105.0	143.0	100.0	103.3
TOTAL	72.5	76.1	76.6	84.8	90.7	94.6	96.6	99.4	97.4	100.0	109.1
Total, excluding dairy products	74.2	77.6	76.9	85.2	90.7	95.6	94.5	98.5	97.2	100.0	111.1
Total, excluding dairy products and diatomite	74.6	78.0	77.3	85.7	91.2	94.1	95.0	99.0	97.8	100.0	110.2

Gross
Table 2.10 Value added per man-year in some industries during the period 1964-1969 (1.000 kronur)

	1964	1965	1966	1967	1968	1969
Mjálfræðnaðar	269	260	263	254	267	280
Kongurð	94	147	140	156	169	208
Skammtlagarð	149	163	201	232	221	206
Ól- og gæðrykkjagarð	220	216	245	252	268	401
Ullarvottur, spunni og vafnaðar	166	121	100	220	178	220
Vafnarfræðnaðar	163	181	233	240	236	261
Skágarð	161	151	161	217	209	244
Fatagarð	112	120	162	163	199	222
Málgagnfræðnaðar	161	188	227	229	240	200
Innviðingarnáttúla	199	211	241	241	258	200
Pappírveruðgarð	220	227	291	292	312	287
Sátun og vorkun skinna	162	221	177	168	434	489
Læðgarð	123	129	160	194	209	210
Kemilískar undirvæðnaðar	216	209	206	279	299	419
Málting og líkk	208	220	266	299	290	481
Annar kemilískar iðnaðar (m. a. beinlínslíov.)	226	222	262	212	297	477
Sement	209	201	220	424	244	262
Málmnáttúla	148	129	229	223	265	288
Smíði og vígæðir rafmagnstólja	147	182	186	209	208	272
Iðnaðar ölls (annar en fiskiðnaðar)	168	194	222	246	269	284

Helmskið: Útvaldi af tölum frá Efnahagsstofnuninni.

Gross
Table 2.11 Value added in per cent of sales prices in some industries during the period 1964-1969

Atvgr. nr.		1964 %	1965 %	1966 %	1967 %	1968 %	1969 %
208	Mjálfræðnaðar	11.8	11.9	13.0	9.8	10.2	8.6
207	Kongurð	21.6	24.4	48.2	21.9	22.0	44.8
208	Skammtlagarð	43.3	46.7	46.3	48.9	43.5	44.8
212	(Ól- og gæðrykkjagarð)	41.7	44.2	47.7	49.7	46.7	44.2
221	Ullarvottur, spunni og vafnaðar	20.8	22.2	20.1	41.5	44.6	46.0
222	Vafnarfræðnaðar	43.1	43.4	51.1	52.4	52.2	48.4
241	Skágarð	29.9	29.0	41.6	49.6	52.0	47.9
242	Fatagarð	26.0	26.4	29.0	42.0	48.6	41.9
261	Málgagngarð	46.6	48.4	48.6	49.8	52.2	48.9
262	Innviðingarnáttúla	21.8	22.0	28.1	51.9	57.7	48.9
271	Pappírveruðgarð	27.1	24.1	26.6	24.1	24.4	24.9
291	Sátun og vorkun skinna	29.9	28.7	46.1	22.7	48.3	24.4
292	Læðgarð	42.2	44.2	48.3	22.7	48.0	42.2
211	Kemilískar undirvæðnaðar	24.2	22.9	40.0	48.2	46.4	42.2
212	Málting og líkk	20.9	24.1	28.9	26.6	24.2	27.9
219	Annar kemilískar iðnaðar	21.7	22.4	24.6	24.0	22.4	21.0
224	Sement	49.8	47.7	49.6	49.3	46.6	48.9
228	Smíði og vígæðir rafmagnstólja	42.1	41.2	28.2	48.1	46.2	48.2
	Iðnaðar ölls (annar en fiskiðnaðar og hjólaðnaðar)	29.5	31.9	44.7	42.6	42.1	41.2

Helmskið: Efnahagsstofnunin.

Table 2.12 Productivity index for small scale industry (excl. fish processing) 1960-1968

Ár	Franklínus ¹⁾	Breyting frá fyrra ári í %
1960	100.0	
1961	101.0	+1.0
1962	104.3	+2.5
1963	105.2	+1.0
1964	105.2	+0.1
1965	106.1	+0.2
1966	108.7	+2.5
1967	111.0	+2.1
1968	117.2	+5.7

1) Mjálfræð- og hjólaðnaðar undirvæðnaðar.

2) Skammtlagarð og hvítur málm vafnarfræðnaðar og skinnvæðnaðar (X 100).

Helmskið: Efnahagsstofnunin.

Table 2.13 Average Labour Productivity by Industrial Sector

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Agriculture	77.0	67.2	68.0	67.7	59.7	100.0	90.0	91.6	84.1	73.0						
Fish and fish processing	130.7	143.7	114.3	110.0	116.2	100.0	110.3	85.4	75.9	81.1						
Manufacturing (excluding fish processing) and construction	103.4	106.8	112.0	115.6	117.2	100.0	110.1	112.3	107.0	109.7						
Manufacturing (excluding fish processing)	87.7	88.3	91.6	97.5	106.7	100.0	107.2	108.3	106.4	117.8						
Construction	126.1	133.1	137.0	136.5	133.9	100.0	112.6	112.6	103.5	102.8						
Other	92.4	90.9	96.8	96.2	95.3	100.0	111.1	111.1	101.8	102.8						
Total	100.0	100.0	100.0	100.0	100.0	100.0	106.5	107.7	95.7	96.8						

Note: The table has been estimated on the basis of the respective sectors' shares of GNP at factor cost and, consistency of drawings and of total labour input. The effect of possible variations arising from these primary sources could be compensated by imputation of minor deficits. The data presented should accordingly be treated as subject to possible errors and imbalances are given for three sectors. The industrial divisions of the table refer to relative labour productivity of industrial sectors in relation to that for the economy as a whole (before the later - 1980 while the right-hand division indicates movements in productivity of the individual sectors and of the economy as a whole in relation to 1965).

Source: Author's calculation on the OECD and Eurostat data.

protection and subsidies. High tariff protection and subsidies thus provide for a permanent level of redistribution of income between the export and domestic sectors. The same seems to hold for manufacturing although allowance has to be made for the fact that the capital labour ratio in this sector has been significantly below the national average. There seems little reason to doubt that marginal productivity in fisheries exceeds that in other sectors during a cyclical upswing. At the same time, lower average productivity in agriculture offers prima facie evidence of the relatively weak position of this sector".

The current level of productivity of labour is considerably low in the Icelandic manufacturing industry in comparison with corresponding industries in neighbouring countries. The diagram in Fig. 2.3 shows the average gross value added per man-year in Iceland, Finland, Norway and Sweden during the period 1968-1971. The figures for 1971 does not include Iceland and the figures from the other countries for this year are preliminary only.

The Icelandic figures are based on statistics from Efnahagsstofnun and Framkvæmdastofnun ríkisins and cover manufacturing industries other than fish processing, but includes canning of fish product and excludes slaughterhouses.

The figures for Norway and Finland are based on OECD statistics and for Sweden on official Swedish statistics. All figures are based on the price of each year.

As mentioned before comparisons of average figures from official statistics just give a rough indication. Direct comparisons, however, of production per man-year made in 1970 and 1971 between small groups of firms in Iceland and Norway in some branches of industry show the same tendency as in illustrated in Fig. 2.3.

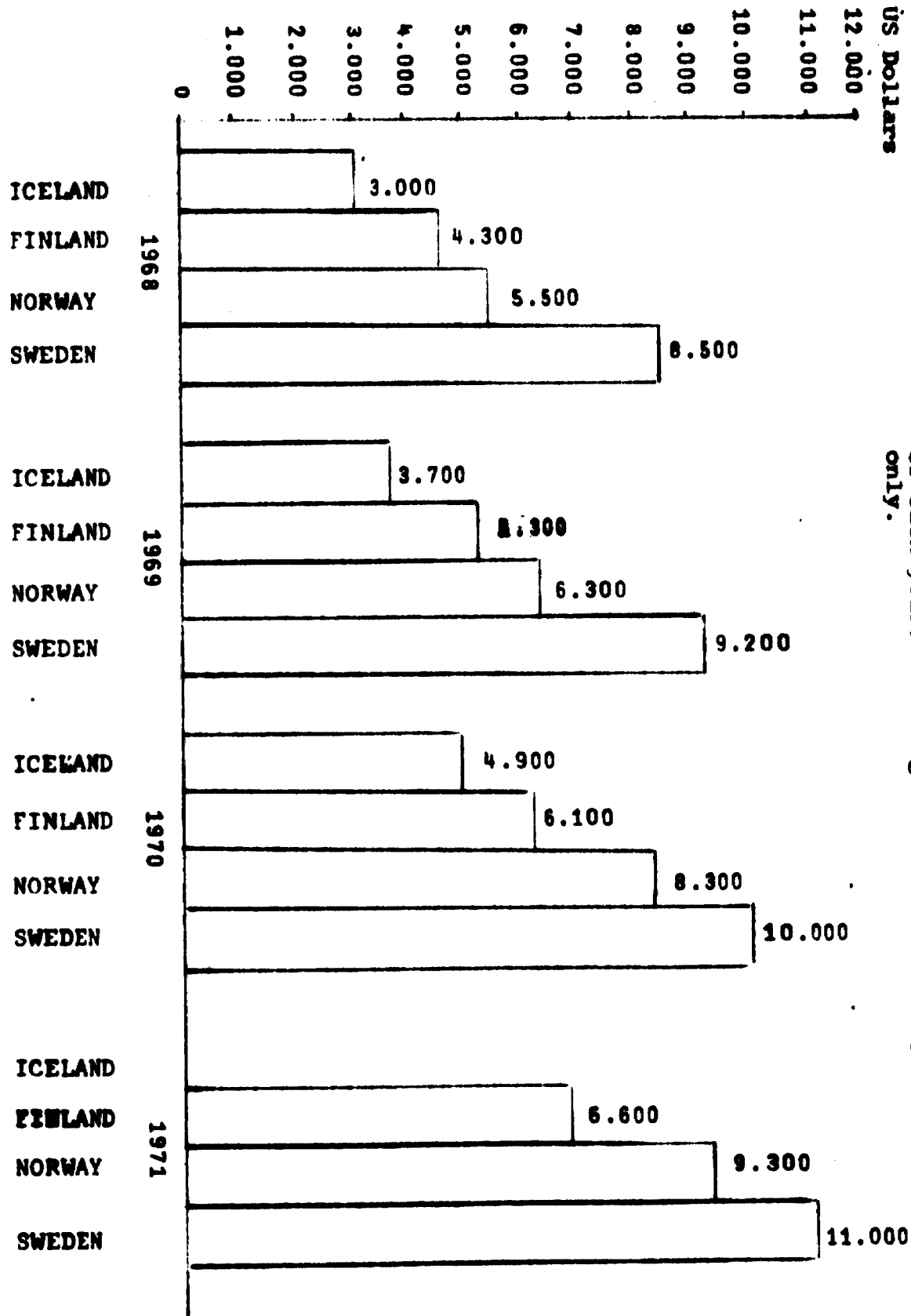


Fig. 2.3 Average gross value added per man year in four countries during the period 1968-1971 (in prices of each year). The figures for 1971 are preliminary only.

2.7 Additional problems in the nearest future

The Icelandic industry has now reached a stage of development where changes in many respects seem to be inevitable: expansion of the market for industrial products, improvement of managerial techniques, restructuring of some branches of industry, and a change in attitude and approach towards industrial production.

1 Entry into EFTA and tentative agreement with EEC means increased competition for some industries: Entry into EFTA and EEC means limited tariff protection and more competition on the domestic market from high-competitive foreign firms. Some industries will be more affected than others. From 1959 to 1970 the Norwegian industry lost 13 per cent of the share of the domestic market for textile, 19 per cent for ready made clothing, 41 per cent for shoes and 16 per cent for furniture.

In order to survive it is necessary in some industries to substantially increase the competitive power. This aim can be achieved through improved utilization of manpower and capital, which means, either the same volume of production with less manpower (discharge of labour), or increased volume of production with the same manpower (the increased volume of production has to be sold on the world market).

2 All firms may be involved: Increased production per man-year in some firms means a higher earning capacity and higher manpower compensation in these firms. It also means, however, additional problems for all non-competitive firms in all sectors (difficulties in attracting skilled labour, in paying high wages, in high labour turnover and in profitability). The inevitable consequences will be a process of restructuring several branches of industry.

3 Change of attitude and approach towards industrial production: Necessary ingredients in a process of productivity improvement are such activities as product development, marketing, managerial planning and control, export promotion, and progressive management, which means that the traditional Icelandic attitude and approach towards industrial production and industrial management must be adapted to new conditions: high financial requirements means in many cases a widening of ownership (family firms may have to be transferred into joint-stock companies), utilization of new techniques in management engineering and managerial economics means in many cases a separation of ownership from managership and the introduction of professional managers.

4 Industrial discipline: An essential prerequisite for increased production per man-year is specialization in production - a more restrictive product policy, which in some cases means a closer co-operation between firms on a subcontracting basis - This calls for a high industrial discipline: deliveries according to specifications and agreements, and deliveries on time at low costs. These qualifications are of course of extreme importance also in the introductory stage of production for exports.

From the experience gained in connection with the establishment of a system of sub-contractors at Volvo, producer of motor-cars, it is a very long and troublesome way to become an acceptable subcontractor.

5 Responsibility for employment: The age composition of the Icelandic population is relatively youngish, the 0-15 year group being almost double the number of 30-45 year group. From this it follows that the labour force will continue to grow at the high rate of 2 per cent although the growth of the overall population has slowed down to below 1.5 per cent per annum.

The expected annual increase of the labour force will not find an outlet neither in the fishery nor in the agricultural

In the process of preparation of the Development Plan a great number of specialists have made valuable contributions.

In the UNIDO-team of experts Messrs. Jens A. Rinnan, Antti J. Salmela and George W. Dziecielewski together with the Icelandic specialists Messrs. Helgi G. Þórðarson, Sigurður Auðunsson, Eggert Hauksson, Björn Jóhannsson, Jón Svavar Friðjónsson and Ólafur H. Kjartansson carried out a series of depth studies in various industries and prepared a number of study reports. Mr. William B. Thompson performed a comprehensive Market Study for the Sea Chemical Project assisted by Mr. Georg Gunnarsson, Mr. Bengt-Olov Byström studied Industrial Services, Mr. V. Alexandrov, assisted by Mr. Ásbjörn Einarsson carried through a prefeasibility study of electro-smelting of ilmenite, and Mr. Janós E. Ujhelyi, assisted by Messrs. Aðalsteinn Jónsson and Hörður Jónsson studied the industrial application of perlite and other volcanic materials.

In the parallell UNCTAD-Project a team of experts have been attached to the Export Board under the Managing Director Úlfur Sigurmundsson, who together with the experts Messrs. T. Torbjörnsson, H.E. Berggren and A.H.R. Delens have co-operated in the export phase of the preparation of the plan.

The Industrial Development Institute has been the Centre of Studies. The Managing Director, Sveinn Björnsson, has taken an active part in the work of the team, contributed efficiently in numerous discussions and served as a connecting link between the study group and Icelandic Institutions and all the Icelanders, who have been involved in one way or the other. The Board of the Institute under the Chairman Árni Vilhjálmsson has followed closely the studies from the very beginning and continuously appraised the results. The Staff members of the Institute have all been involved in the project and excellently taken their share of the workload. A special reward, however, should be given to Mrs. Herdís Björnsdóttir, for the perfect managing and execution of all the typing and printing of numerous reports.

To name all the persons who have contributed is impossible but some must be singled out for special recognition:

The Ministry of Industry: Mr. Magnús Kjartansson, the Minister, Mr. Árni Snævarr, Secretary General, Messrs. Árni Þ. Arnason and Þröstur Ólafsson.

sector. In both these sectors the manpower employed will rather decrease in future than increase, which means that it is necessary for the industry to create employment possibilities in order to absorb a great portion of the annual increase in the labour force. To this should be added, as mentioned before, that if the increased volume of production achieved through an increase in production per man-year can not be sold on the domestic market or on the world market the alternative is to limit the production and discharge labour.

A necessary prerequisite for a satisfactory solution of the employment problem in the future is enterprising spirit and a good climate for entrepreneurship, industrial ventures, inventions, and development of new products and markets.

6 Still lacking the support of a strong unified industrial organization: The industrial firms are grouped in several organizations, which means inefficient utilization of manpower and financial means, limited power, inadequate advisory and information services, and risks for different opinions on industrial development.

3 GENERAL PROSPECTS FOR INDUSTRIAL DEVELOPMENT

3.1 The Labour Market

The total population of Iceland at the close of 1970 was 207.174. According to estimates made this figure will have risen to about 230.000 by 1980.

Changes in population during recent years have been characterized by a large expansion of the age group 15-19 years. This trend will continue through the next few years. The relatively large supply of young labour with more advanced education must be regarded as a favourable feature of population development. The number of school-children between 7-14 years will also continue to expand rapidly, though at a decreasing rate.

The potential labour force was in 1970 137.900 persons (64.940 men and 62.960 women) and the actual labour force the same year 81.282 persons (58.154 men and 23.128 women). The increase in the actual labour force up to 1980 has been estimated at 17.000 - 18.000 persons. The number of persons employed in manufacturing industries was in 1970 13.700 persons.

For several branches of industry there does not exist an adequate labour market in Iceland as in other industrialized countries. In accordance with tradition, handicrafts have an important position in Iceland, and altogether there are 61 legalized handicraft trades. No special demarcation line is drawn between industrial trades and handicraft trades.

The vocational training in Iceland is regulated by two Acts, i.e. the Act on Apprentice training of 25 May, 1949, that was brought into force from 1 January 1950, and the Act on Vocational schools that was brought into force from 1 October 1955. The Act on apprenticeship training regulates the conditions of training in the workshop. The Act embraces the whole country and includes all ages.

The Guilds of handicrafts include by tradition both masters and journeymen. In collaboration with these organization, training schemes have been drawn up in twelve trades, but in other trades there are no special schemes.

In an industry with high specialized production processes the requirements on labour and labour training are quite different from what is the case in handicraft and artisan trades. An adequate basic education and further training adapted to actual needs in each branch of industry is a primary prerequisite for a successful process of industrialization in Iceland.

For further details about the Icelandic labour market see Appendix 3.1.

3.2 The capital market

The growth of manufacturing industry is still a relatively new phenomenon in the Icelandic economy. Industry has grown as a result of tariff protection on an import substitution basis and is becoming an increasingly important sector. Most companies, however, are still small family owned firms or partnerships whose ability to raise money is restricted by the credit worthiness of the owners rather than that of the firms.

The opportunities for self-finance are limited by the family or partnership's savings and their income. Since the bulk of savings are usually used up in the establishment of the enterprise only income from profits remains as a source of self finance. Profits, however, in the majority of cases are not high enough to enable the firm to finance re-equipment, modernization or expansion. The level of private and public savings is quite high and would be more than sufficient to cover the needs for credit finance in manufacturing industries. Manufacturers have, however, to compete for these resources against all other credit users and especially the traditional industries, i.e. agriculture and fishing. Although there has been a marked improvement in recent years and particularly since 1969, traditional attitudes persist in Government, financial institutions and the public at large. An example of this is the variable discount rate, which for agriculture and fishery products is 6% rediscounted at 5.25%, whereas in the case of manufacturing products it is 9 to 9.5%. Rediscounting for manufacturing industries has only recently been introduced. Some seventeen Investment Credit Funds are in existence. The majority of these were established to channel capital to the traditional industries and only one with rather limited funds deals with the needs for manufacturers. An additional source of credit is the Nordic Fund established in 1970. Although capital is available from this fund few industrial firms can benefit from it as it is primarily aimed at the establishment of new enterprises rather than the improvement of existing firms. The banking system is therefore the chief supplier of credit to

manufacturing establishments. Its loans for investments are norminally expensive but nevertheless not prohibitive. A far more serious aspect which has limited the availability of capital to individual manufacturers has been the banks inability to judge the credit worthiness of the enterprise. Manufacturers as a group are reluctant to disclose their accounts even to the banks as a result of which their ability to borrow is restricted. A possitive change has, however, occurred during the last few years.

This attitude of secrecy so common amongst small family businesses in all countries is perhaps the main reason why a Stock Exchange does not exist in Iceland. Floating shares would of course be a cheap way of obtaining additional capital but since this implies accountability to shareholders, the disclosure of accounts and a loss of control (even if only partial) few companies are really interested in this type of development. The result is, that although the Central Bank has had the authority to organize a Stock Exchange for several years no action has sofar been taken. The persistence of a fairly high rate of inflation, around 12 per cent per annum, has also influenced adversely the availability of capital. Rapidly rising manufacturing costs have put increasing pressures on limited resources of working capital with the result that many manufacturers are no longer able to exist without borrowing. The existing price freeze introduced with the aim of containing inflation has of course put even greater strains on the manufacturer's ability to meet his day to day commitments from his own resources.

Inflation has also helped to develop practices which tend to limit even further liquid assets. Hedging against inflation manufacturers and the community at large tend to overstock, invest in housing, machinery, office space and the like, keeping liquid assets to a minimum.

A series of tables in Appendix 3.2 give additional information on the existing structure of the capital market.

3.3 Energy resources

Economically exploitable hydroelectric power is estimated at about 35.000 million kWh per annum, equivalent to 4.000 MW capacity in continuous operation. Up to 1970 about 244 MW capacity had been installed producing 1.413 million kWh. This represents a utilization of about 6 per cent of potential capacity.

Electric services are provided by companies owned by the state or jointly by the state and municipalities. Over 97 per cent of Iceland's population enjoys the benefit of electric power.

Unfortunately it has not been possible to get an overall view of the current utilization of the energy resources in the country, giving details about installed capacity, distribution of consumption by categories of consumers, variations in consumption of different kinds, price in various parts of the country and for various categories of consumers, the magnitude of disturbances, and, which would be of great importance, the plans for future extension. Such a plan should be of great help in many connections. For the southern part of the country, however, covered by the activities of Landsvirkjun most of this information is available.

Landsvirkjun's present power system consists of six interconnected generating stations, namely, Steingrímsstöð, Ljósafoss and Írafoss hydros on the River Sog, the Burfell hydro with three initial units on the River Thjorsá, a steamturbine station at Ellidaar, and a gasturbine station at Straumsvik. This system is presently in the process of being expanded. The capabilities of the system upon completion of these additions in 1972 will be as follows:

	Installed Rated Capacity MW	Annual Firm Energy GWh
Steingrímsstöð Hydro (2 units)	27	140
Ljósafoss (3 units)	15	110
Írafoss (3 units)	48	250
Total Sog Hydro	90	500
Burfell Hydro (6 units)	210	1650
	<hr/> 300	<hr/> 2150
Ellidaar Steam (2 units)	19	
Gasturbine Straumsvik (2 units)	35	
	<hr/> 354	

Table 3.1 Capacity of Power Plants, Productive and Consumption

Year:	Capacity of public power plants at end of year (Thousands of Kw)			Production and consumption during year (Millions of KwH)							
	Hydro	Other	Total	Production Source		Consumption					
				Hydro	Other	Total	(1)	(2)	(3)	(4)	(5)
1960	105.0	17.0	122.0	523	13	536	143	13	15	-	365
1961	105.0	22.9	127.9	576	12	588	152	11	38	-	388
1962	104.9	23.6	128.5	593	13	606	134	13	42	-	418
1963	121.7	24.9	146.6	629	12	641	137	13	41	-	450
1964	122.7	26.6	149.3	653	13	666	142	13	41	-	469
1965	122.7	31.2	153.9	641	22	663	101	13	40	-	509
1966	122.7	45.4	168.1	624	44	668	68	13	44	-	542
1967	122.7	47.3	170.0	665	31	696	74	13	49	-	559
1968	122.7	48.2	170.9	687	32	719	81	14	51	-	573
1969	243.7	89.5	333.2	860	43	903	63	13	52	171	604
1970	243.8	90.3	334.1	1 413	47	1 460	116	11	55	645	634
1971	283.8	90.5	374.3								

(1) Fertilizer Plant

(2) Cement Plant

(3) Keflavik Airport

(4) Aluminium Plant

(5) General use, including consumption of power plants

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Table 3.1

Three power stations owned by others are interconnected with Landsvirkjun's system. These stations are the Andakill hydro, now being enlarged from 3.5 MW to 8 MW, the Westmann Islands 4 MW diesel, and 7 MW of diesel capacity at the Keflavik NATO Base. These stations will serve mainly as standby stations for their respective areas after certain improvements now under way are completed in 1972. Landsvirkjun will thus be relieved of corresponding service requirements to those areas during system disturbances.

Master planning studies extending over the past 12 years have identified a number of potential sites for reservoir storage and generating stations in the Thjorsa Basin. Detailed studies have shown that Landsvirkjun's next logical hydro developments are first the Sigalda and then the Hrauneyjafoss stations on the River Tungnaa one of the main reasons for this being that they both utilize the already existing Thorisvatn storage. The stations are very similar in most respects and according to feasibility studies already made their main features are as follows:

		<u>Sigalda</u>	<u>Hrauneyjafoss</u>
Net head	m	70.9	82.0
Useable intake pondage	m ³	140x10 ⁶	28x10 ⁶
Installed capacity	MW	150	160
Addition of annual firm energy to existing system	GWh	850	1000

One transmission line will carry the power from both stations to the main local center in the Reykjavik area and this line together with the existing line from the Burfell station and the above discussed reserve line from Burfell to Geithals will furnish adequate transmission capacity.

The construction of the Sigalda Plant will commence in spring 1973 and is scheduled to be completed in autumn 1976. It is hoped that construction of the Hrauneyjafoss Plant can start before Sigalda is completed.

3.4 Export marketing opportunities

Provided the infrastructural prerequisites are established effectively, the export opportunities of various industries seem to be rather promising.

The industry with the greatest export potential in terms of new products and employment opportunities is the metalworking sector. Some of the existing products possess export potential, especially items connected with the fishing industry: herring grading machines, automatic fishing reels, plate freezers and hydraulic winches. These are examples of products which have a good performance quality, acceptable price level and incorporate technical features specially adopted to customer needs. New products have, however, to be developed and/or introduced on a license basis.

Within the leather goods industry some leather goods are being exported. The potential for increasing these exports exists but the extent to which expansion will take place will be determined by raw material supply and new product development. Local raw materials can be augmented through imports to be used in a large sector of hitherto only marginally exploited leather products, such as belts, leather bound photograph and stamp albums, wallets, purses, handbags, travel goods and the like. The main advantage of the development of this type of industry in Iceland lies in the fact that these product can be produced competitively on a small scale, capital requirements for machinery are relatively small, and the production can be located in any part of the country. This production could also have a multiplier effect in the metalworking sector by creating demand for local manufacture of zip fastners, press studs, buckles, frames, etc.

The export potential for the knitwear industry is very strong as long as emphasis on distinctive Icelandic features is maintained. Icelandic knitwear already sells well in the U.S.A. and Western Europe as a result of its distinctive design. An adaptation of similar design features to, say, carpets could also prove successful. A higher level of product specialization is, however, required within this industry in order to

achieve volume output with consequent reductions of unit costs. The products should follow fashion trends in design and colour without losing their distinctive Icelandic image.

Although export opportunities within the furniture industry are limited individual items of special design could find sales outlets abroad. Exports of office furniture, i.e. chairs, have begun and have proved successful. This indicates that with proper design, acceptable prices, and good product quality other products could also find outlets abroad.

Lava ceramic products are already exported and the potential demand seems to be unlimited in the foreseeable future. Although these products are unique in their field they do compete against ceramics made from more traditional materials and for that reason product prices are of importance. Even in this industry product specialization is one of the ways towards lower product costs.

including
canning

Fish processing/although one of the largest single industries in Iceland is still relatively undeveloped. A far larger portion of value added can be obtained through relatively minor changes and additions in processing methods. Market oriented products and product packaging should be developed with due regard to differences in taste and habits in various countries. Care must also be taken with strict adherence to rules and regulations regarding food and health, often varying from country to country.

The Economic Development Institute: Messrs. Bjarni Bragi Jónsson, Jón Sigurðsson and Sigurður Gústavsson.

The National Research Council: Messrs. Steingrímur Hermannsson and Vilhjálmur Lúðvíksson.

The Committee on Power Intensive Industry: Messrs. Jóhannes Nordal, Sigurgeir Jónsson and Garðar Ingvarsson.

The Building Research Institute: Mr. Haraldur Ásgeirsson.

The Industrial Research Institute: Mr. Pétur Sigurjónsson.

The Nordic Fund for Industrialization in Iceland: Messrs. Bragi Hannesson and Þorvarður Alfonsson.

The Federation of Icelandic Industries: Messrs. Gunnar Friðriks-son and Haukur Björnsson.

The Federation of Icelandic Artisans: Mr. Ottó Schopka.

The Federation of Iceland Co-operative Societies: Mr. Harry O. Frederiksen.

The Committee on Industrial Services: Þorsteinn Vilhjálms-son.

All the specialists and civil servants contributed generously with proposals, ideas, comments, study reports and statistics but the author of this report took the liberty of revising and expanding it and moulding it all into the LONG-TERM DEVELOPMENT PLAN FOR THE MANUFACTURING INDUSTRY presented in this report, and he must alone be held accountable.

3.5 Regional aspects on industrial development

3.5.1 Conflicting objectives

In development planning there is always the problem of conflicting objectives:

- short-term or long-term perspectives: short-term investments which will show immediate results and will raise the level of living for the present generation or investments which are focussed on the longer run development;
- economic, social or physical planning objectives to be selected as prime objectives: if the most rapid economic growth is selected as the prime objective the result will be a certain set of policies regarding the utilization of human, economic and physical resources, if full employment is assigned the highest priority the type of planning, the concentration of resources may be directed somewhat differently;
- national versus regional objectives: it may be in the interest of the national objectives to try to concentrate on particular areas which can be most fruitfully developed at the sacrifice of the development in other areas;
- individual versus national objectives: the objectives for the individual are frequently in conflict with the objective for the economy or society as a whole;
- the public versus the private sector: finally, there is the conflict which is constantly present in the democratic nations, namely, the relative roles of the public and private sectors.

Conflicting objectives have been one of the main reasons for the relatively limited effect the process of regional development has had in many countries. In the Scandinavian countries, for instance, (Norway, Sweden and Finland) enormous amounts of money have been spent in the attempts to establish industrial firms in the Northern part of these countries and all kinds of aid has been tried. Conflicting objectives have, however, to a great extent limited the impact.

3.5.2 Public support for industrial firms in development areas

In the past maximum economic growth has almost everywhere been considered to be the prime and determinant objective. This approach brings about very definite requirements regarding location of industries, covering such factors as supply of power, manpower and raw materials, transportation facilities, the proximity of auxiliary and support industries, infrastructure, and industrial services. The end result is a centralization of industries to certain areas well suited for efficient industrial production. Nowadays however, full employment is more and more considered as an essential objective in development planning and this fact changes considerably the basic approach in location of industries. Assistance can be provided by the state and/or by the communities in order to compensate firms for the additional expenses involved in being located in a development area rather than in the area of their choice, which is generally in a highly developed part of the country where all advantages mentioned above are available.

In many countries provision is made for direct stimuli for attracting or expanding industrial activity, in addition to the measures affecting the infrastructure. Such stimuli may cover new firms, those which have moved from congested areas, or existing firms carrying out rationalization and expansion programmes. These direct aids mainly take the form of loans, grants or fiscal exemptions although a wide range of different kinds of measures are used, especially for specific purposes, and there are wide variations in the terms and conditions under which loans and grants are given.

In general, the measures apply to manufacturing and extraction enterprises only, but in some countries tourism is also included and also commercial establishments. For the most part, foreign firms enjoy the same advantages as the national ones.

Regional development is, however, more of a political than an economic problem and public support to industrial undertakings is just one part of it. It is also a very complicated problem which, for certain, not is to be solved in a sectoral plan. ¹⁾

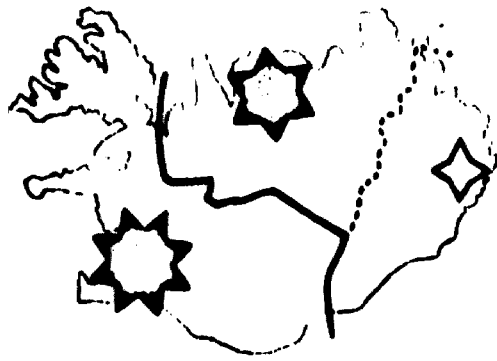
1) For more details see Appendix 3.4: REGIONAL ASPECTS ON INDUSTRIAL DEVELOPMENT and Appendix 5,3: INDUSTRIAL CENTRES.

3.5.3 Development areas in Iceland

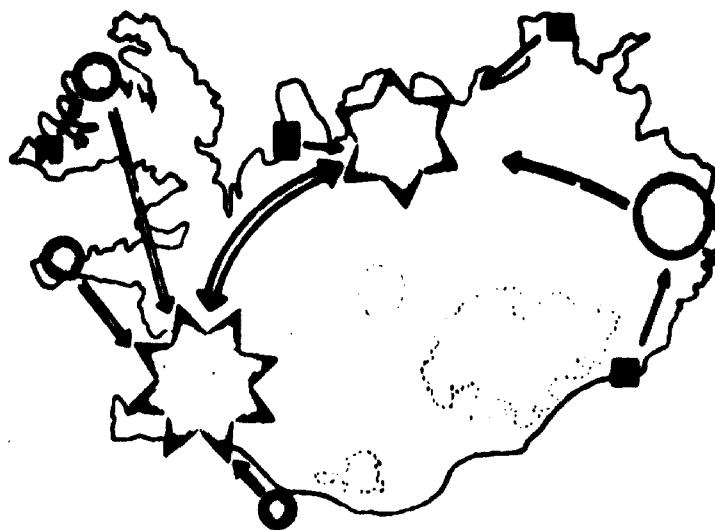
Regional development is a more complicated problem in Iceland than in any other West-European country because of the large centralization of the population to the Reykjavík area, the sparsely populated countryside, and climatic conditions.

The map on the next page shows the distribution of inhabitants by December 1st, 1960 census. Each dot denotes 50 persons and the encircled areas indicate a population exceeding 500. The number of inhabitants in these areas is indicated on the map in thousands. Dots forming squares show villages of less than 500 inhabitants. The map is included in "Proposed Development Areas in Iceland", by Cand.Oecon. Valdimar Kristinnsson, 1963.

Kristinnsson also discuss alternative development areas outside Reykjavík and Akureyri as illustrated below.

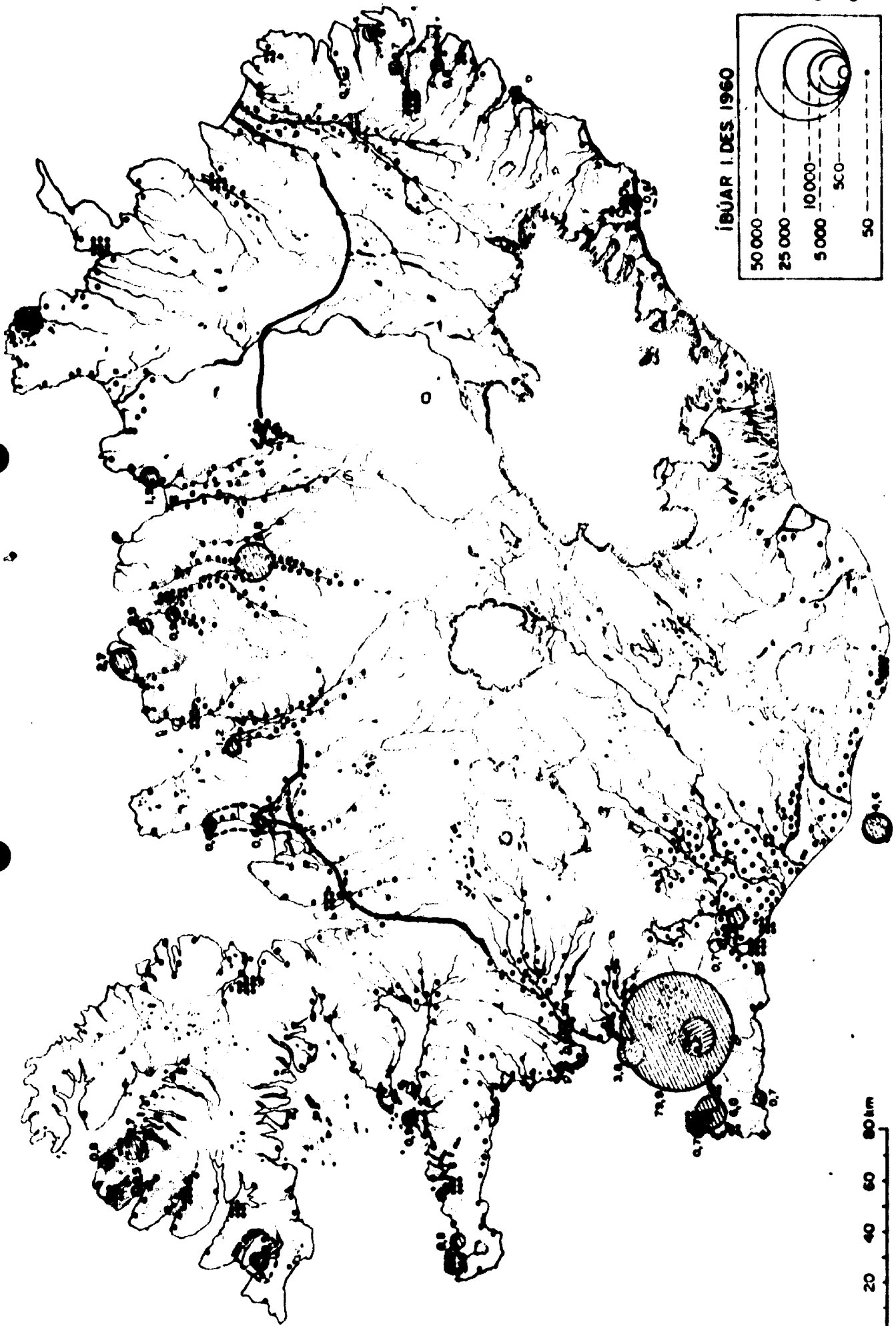
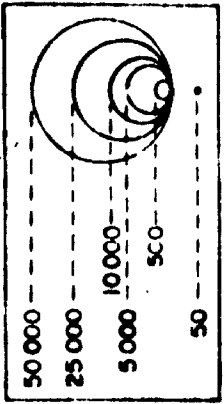


The uninterrupted line shows a possible administrative division of the country between Reykjavík and Akureyri aside from the central governmental administration in the capital. The dotted line shows a possible administrative area of a town which might be built in the future on the east coast. But the future will decide whether more than 2 or 3 cities will be built in Iceland.



The illustration shows the development areas and other important centres discussed in this survey. The arrows are intended to indicate wherfrom it would be most natural to seek miscellaneous services after the densely populated nucleus have been further developed.

IBUAR I. DES. 1960



Regarding the future prospects for industrial development in development areas outside Reykjavík and Akureyri it is a fact that there are a number of small industrial undertakings managed by progressive and skilful manufacturers. If these firms could be provided with public support and industrial services of different kinds they could most certainly be further developed.

3.5.4 Distribution of employment

Relative dependence on agriculture and fishing in Northern and Eastern Iceland is greater than for the country as a whole. Incomes are below average in these regions, while variations in the fish catch lead to considerably more unemployment than in other parts of the country. There is also a seasonal unemployment problem as the fish catch is concentrated to particular parts of the year. The problems are increased by the low density of population and difficulty of communication outside the Reykjavík area. These factors have resulted in net emigration from the countryside to the towns and from regional centres to Reykjavík. Extrapolations suggest that if no action were taken almost half of the growth of the population outside the capital would emigrate to the Reykjavík area. As this migration would probably be concentrated to the more active sections of the population the burden of providing basic infrastructure development of small communities would be considerably increased.

Table 3.2 Demographic, Employment and Income Data by Region

	Reykjavík area	North	North West	West	South	East	Total
Per cent of total population, 1970	58.6	15.7	4.9	6.5	8.8	9.5	100
Percentage growth in population, 1960-1970	22.2	9.0	-3.6	12.1	13.7	11.6	16.4
Net migration as per cent of population growth, 1965-1965 ¹	+ 31	-35	-95	-10	-30	-30	0
Unemployment as per cent of population, 1969	0.6	2.4	0.5	0.7	0.3	1.5	1.0
1970	0.3	1.8	0.2	0.2	0.2	0.9	0.5
Proportion of labour force in fishing industry, 1969	4.7	9.1	19.0	11.5	11.5	27.8	14.2
Percentage deviation from mean income for whole country, 1969	+ 5.7	-9.5	-6.4	-7.1	-4.7	-15.2	0

¹ Based on extrapolation of 1960-1969 experience
Source: The Economic Institute and Hagstofa.

Table 3.3 Distribution of Employment by Sector and Region
Per cent

	Northern Region, 1965	Eastern Region, 1968	Whole Country, 1968
Agriculture	31.0	27.0	13.0
Fishing	7.6	12.1	5.8
Fish processing	10.5	17.6	7.2
Other manufacturing	15.2	7.9	15.8
Construction	8.7	7.8	13.3
Electricity, gas, water, etc.	0.6	0.1	0.9
Transport, storage and communications	5.1	7.7	9.1
Commerce	9.7	9.1	15.0
Other services	11.6	10.7	19.9
Total	100.0	100.0	100.0

Source: The Economic Institute.

Some medium term regional programs have been drawn up in the recent past, and have been partly or fully implemented. These are the Westfjords communications program, the North Iceland industrial and employment program and the East Iceland road program. Other programs have had regional aspects, such as the electrification program of 1954 - '63, with later additions, and the main highway program of 1969 - '72. Since its establishment in 1966 the Employment Equalization Fund has allocated its own as well as external finance to regional programs, which have been drawn up by the Economic Institute.

Now both these institutions have been merged into the new State Development Institute, and the fund will henceforth operate under the name of the Regional Fund. In addition to the resources of the previous fund, the institute is specially authorized by its founding legislation to borrow up to 300 million kr. annually for 5 years for this fund. This decision reflects increased emphasis being laid on regional policy.

4.1 Overall targets for the manufacturing industry up to 1980

In the determination of the overall targets for the manufacturing industries in 1980 due consideration has to be given to, on the one side, the primary objective "Economic growth" (tentatively formulated as "Optimum economic growth") and on the other side the primary objective "Employment" (tentatively formulated as "Full employment" which means about 98 per cent of the labour force), and the possibilities for productivity improvement within individual industrial firms.

As stated under 3.1 the net increase of the total labour force is estimated at 17.000 - 18.000 people during the period 1970-80 or about 1.760 people per annum. The net increase will most certainly not be added proportionately to the existing pattern of occupation. The Economic Institute presented in 1968 three alternative projections of the distribution of employment among main economic sectors. These projections have now been revised by Framkvæmdastofnun ríkisins (November 1972) and projection No. 2, which is considered to be the most realistic one, is presented in Table 4.2.

As an alternative is added in the same table a Proposed target level of employment in 1980 based on the same total employment. This alternative is based on the new industrial situation in coming years after the entry into EFTA and the tentative agreement with EEC, which will make it possible to put more emphasis on the primary objective "Economic growth".

The future distribution of employment by sectors will to a great extent be influenced by the possibilities of each sector to pay competitive rewards for well done work. One explanation for the relative stagnation of the industrial sector from 1964 onwards (fig. 2.1 on page 2.3) might be the lack of competitive power in many industrial enterprises and the inability to pay competitive wages. This fact seems

also to have had an influence on the projections established in 1968. With the substantial increase of production per man-year that by necessity has to be achieved during the planning period the inflow of labour into the industrial sector will most certainly show a more positive trend.

The enlarged European market and the increased competitive power of the industrial enterprises will also have another effect on the future distribution of employment among sectors. It is in the interest of the Society that manpower resources are utilized in those sectors where the best contribution to GNP can be achieved - the objective of "Optimum economic growth" best attained.

This flow of manpower can to a certain extent be influenced by effective allocation of investment capital. The efficiency of the allocation of investment money to various sectors is normally measured through the incremental capital output ratio, which means the relationship between the investments and the corresponding increase in production. This ratio has been calculated for the period 1954-1960 for the different sectors of the Icelandic society, and the results are shown in Table 4.1.

TABLE 4.1 The Incremental Capital Output Ratio.
Annual average 1954-60. Millions of kronur.
1954 prices.

	Fixed Asset Formation	Annual Increase in Production	Ratio
1 Agriculture	980	90	11.0
2 Fishing	300	60	5.0
3 Fish Processing	300	120	2.5
4 Manufacturing other than 3	470	140	3.5
5 Other Sectors	4.450	-	-
Total	6.500	980	6.5

From "Draft Development Programme 1962-66", page I:30.

In the comments to the table it is said that the statistics behind the table are not fully reliable and that the figures for that reason just give the order of magnitude.

According to investigations made by OEEC for the same period the ratio 6.5 was almost the same as that for Holland and Sweden, considerably lower than that for Norway, and higher than that for West-Germany, Austria and France. The ratio also expresses the number of years needed for recovery of the investments - the recoupment period. The lower the ratio is the better.

The length of the recoupment period for different sectors is quite normal for a West European country even today. 1) The period of recovery of investments is always much longer in agriculture than in industry.

Bearing this in mind it is advisable from the national economic point of view to increase the formation of fixed assets in industry and decrease the same in agriculture. As a consequence of this the flow of manpower from agriculture to industry will increase, in the years to come. The estimated decrease of employment in the fishing sector is, of course, more doubtful and an estimate for which it seems to be little justification. The estimate is, however, based on the volume of catch as reflected in Table 4.6 and a better utilization of manpower in bigger fishing vessels.

1) Study also Table 2.13 and the comments to the table made by the OECD - secretariat

TABLE 4.2 Manpower projections and target level of employment in main economic sectors

Occupations	1970		1975		1980		1980	
	Numbers	%	Numbers	%	Numbers	%	Numbers	%
<u>PRIMARY SECTOR</u>	15,200	18.7	14,800	16.0	14,400	14.4	13,000	13.0
Agriculture	9,800		9,400		9,000		8,000	
Fishing	5,400		5,400		5,400		5,000	
<u>SECONDARY SECTOR</u>	36,900	45.3	43,500	47.0	46,900	47.0	49,000	49.0
Fish processing	7,000		7,200		7,200		7,300	
Other manufacturing	13,700 ¹⁾		17,300		19,000		21,000	
Construction	8,800		10,800		12,000		12,000	
Power and Water	500		600		700		700	
Transport and Communication	6,900		7,600		8,000		8,000	
<u>TERTIARY SECTOR</u>	29,300	36.0	34,300	37.0	38,500	38.6	38,000	38.0
Trade and Hotels	11,000		12,100		12,700		12,700	
Financing and Business Services	3,400		4,100		4,800		4,300	
Social and personal services	14,900		18,100		21,000		21,000	
TOTAL	81,400	100.0	92,600	100.0	99,800	100.0	100,000	100.0

1) Canning of fish products included, slaughterhouses not included

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As a conclusion the overall target for 1980 has been formulated as follows:

A PROGRESSIVE MANUFACTURING INDUSTRY CAPABLE OF
COMPETING WITH OTHER INDUSTRIES ON THE WORLD
MARKET AND EMPLOYING 19.000-21.000 PEOPLE IN 1980.

Is it realistic to think of such a target?

First, regarding the competitive power of the firm. There are already some factories working with a productivity of labour comparable to that of competing firms in neighbouring countries. If the average production per man-year in small-scale industry could reach 1.800.000 - 2.000.000 kronur in 1980 the best firms will reach a production of 3.000.000 - 3.500.000 kronur per man-year and that makes it possible to compete on the world market.

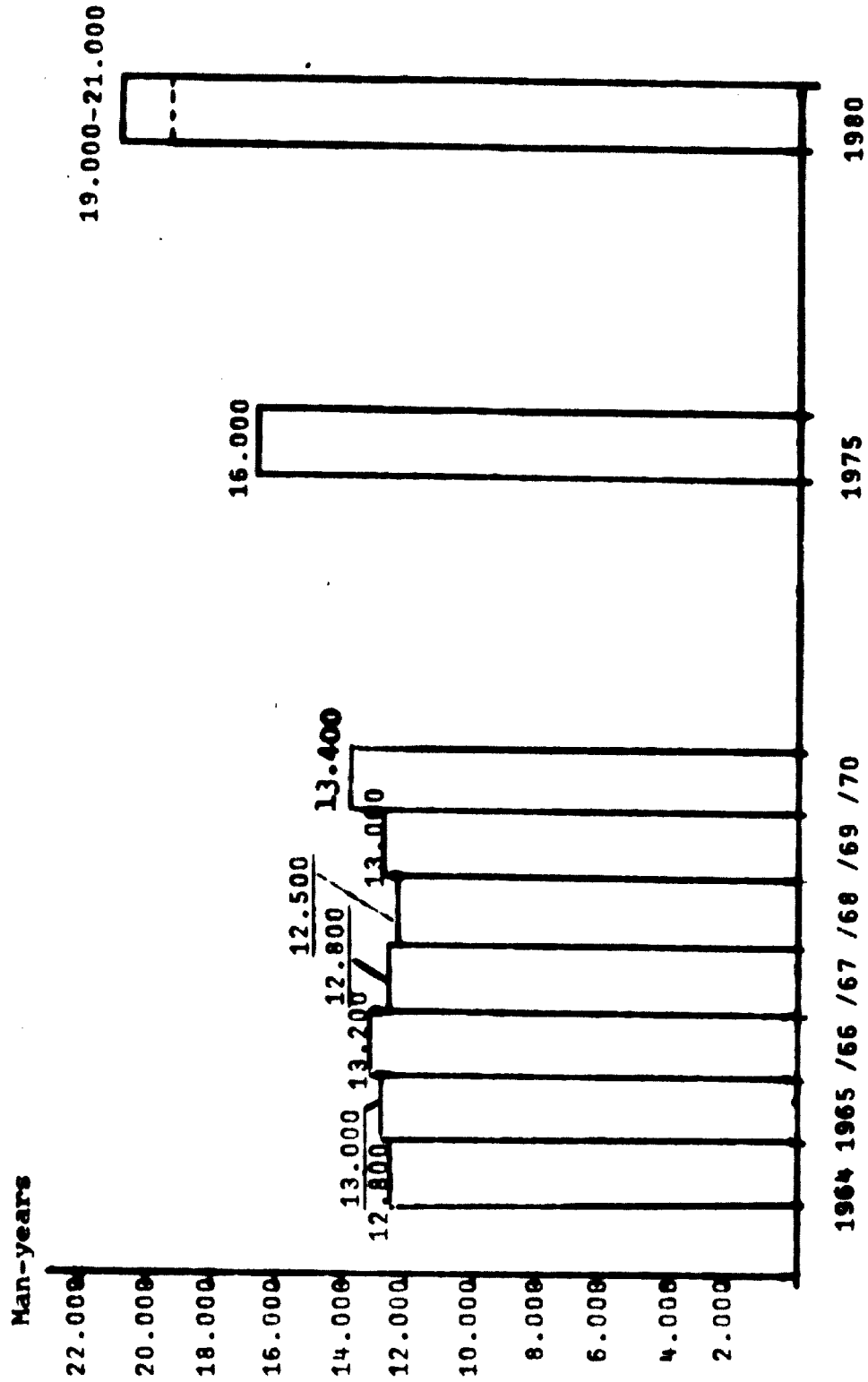
Second, regarding the employment of 19,000 - 21,000 people in 1980 in manufacturing industries, which means that something like 6,000-8,000 new jobs have to be created in 7 years, in addition to those jobs needed in a continuous process of productivity improvement, in all perhaps 15,000 new jobs.

According to statistics about 25.000 new jobs are created in Norway each year. About 20.000 of these result from expansion in existing firms. The scope for employment in new firms in new areas, therefore, should be some 5.000 jobs a year. The extent that firms might be induced to move into new areas the figure would increase, but probably not beyond 8.000. 15.000 new jobs in 7 years means 2.500 new jobs every year and with the Norwegian figures in mind it seems to be a realistic target.

The labour force in Manufacturing Industries for the period 1964 - 1970 and forecasts for 1975 and 1980 has been visualized in Fig. 4.1.

It should be emphasized once again that 19,000-21,000 employees in the manufacturing industry 1980 is not a target in itself but a consequence of the acceptance of the primary objective "full employment", and the estimates of the distribution of employment. If the manufacturing industry will employ only 17,000 or 18,000 people in 1980 the target is achieved as long as the other 2,000 - 3,000 people can be employed with satisfaction in other sectors of the economy.

Fig. 4.1.Labour force in Manufacturing Industries 1964-1970
and forecasts for 1975 and 1980



4.2 Planned Growth in Small-scale Manufacturing Industries

Icelandic industry is predominately small-scale and will remain so over the planning period. Official statistics show about 2.150 enterprises engaged in the manufacturing sector and employing just above 13.000 man-years. These figures however, overstate the true size of the manufacturing sector as they include a large number of one-man businesses and other very small enterprises engaged primarily in service and handicraft activities. These firms which account for approximately 4.000 to 5.000 man-years could be more properly defined as artisan workshops rather than industrial enterprises.

They do of course perform an indispensable service to the community and will always exist. They are, however, unlikely to make a significant contribution to either employment or productivity and are, therefore, treated as a constant in the plans projections.

In part 3.4 the various potential growth industries and products were discussed. Here we are concerned with those small-scale industry sectors which can create additional employment and maintain long-term growth through the development of competitive products. Such industries have one or more of the following characteristics:

- industries based on local raw materials e.g. leather, fur and skin products, woollen knitwear, lava ceramics; products which are already exported and whose potential for further growth is considerable.
- industries based on imported raw materials manufacturing products specifically adapted to Icelandic conditions, e.g. fishing boat accessories, fishing gear, automatic reels, winches, fish processing and canning equipment, weatherproof clothing of functional design. Such products would have an excellent test market in Iceland and once accepted by local fishermen would have a strong sales appeal internationally.

- industries based on imported raw materials that can operate profitably on an import substitution basis due to design, specification or specific variable requirements, and are therefore particularly suited to small scale production e.g. hand-bags, purses, shopping bags; travel goods, lamp shades, silverware, jewelry, and ornaments. Other products in this category could easily be made in Iceland. One example is fast moving spare parts for motor vehicles and agricultural tractors, e.g. exhaust systems, gaskets, roof racks, fan belts etc.

Based on the assumption that existing enterprises will become more competitive through a greater degree of product specialisation and development on the one hand and improve their production techniques, cost control, management techniques etc. on the other the following manpower utilization figures are envisaged for 1980.

Table 4.3

Projected man-year employed in small-scale manufacturing industry

<u>Industry</u>	<u>1970</u>	<u>1980</u>
Food, incl. fish canning, excl. slaughter-houses	1,587	3,000
Textiles, shoes and garments	2,030	1,900
Furnitures and fixtures	1,498	1,500
Paper products	191	400
Printing and allied products	1,214	1,400
Leather, furs and skins	146	400
Rubber products	91	100
Chemicals and petrochemicals, excl. aluminum, diatomite, cement, fertilizer	860	1,000
Metal products	1,925	4,300
Electrical appliances	361	500
Transport equipment, incl. shipyards	2,325	3,000
Other manufacturing	475	500
Total	12,703	18,000

The extent to which the above figures are achievable will depend on the expansion of the present product range manufactured in Iceland while at the same time individual firms introduce a higher degree of product specialization into their product range. Not only product specialization but also specialization by function or process will have to be introduced. The projected employment of 4.300 man-years in the metal-working sector will only materialize if functional specialization becomes a reality. Specialist companies providing heat treatment, tools and dies, stampings, forgings, castings of at least ferrous materials are a prerequisite to the expansion of this sector.

The non-existence of a modern iron foundry has been a severe limiting factor on the variety of metal products which can be produced in Iceland. If in addition to ferrous casting non-ferrous metals could also be treated, then the growth of this industry sector would be more promising.

The degree to which small scale industry will grow up to 1980 is thus closely connected with the implementation of large-scale projects discussed below.

4.3 Prospects for Resource - based Industries

4.3.1 Introduction

Iceland is one among the few high-income countries of the world which can still base their economic growth to a large extent on valuable natural resources. This is one advantage that sparsely populated countries have.

The fish sector is a typical resource industry and it has been the dynamic factor in economic growth since the turn of the century. It seems now likely that Iceland's other major resource - energy - can be exploited on a large scale. The first steps have already been made and now the time seems ripe for a major advance in this field as the cost of electric power is rising rapidly in neighbouring countries while tariff barriers for Icelandic products into Europe are being removed. The construction of power plants, industrial plants and the operation of these could for some time to come provide a similar kind of dynamism as the development of fisheries has done since the turn of the century.

4.3.2 Committee on Power Intensive Industry

The Committee on Power Intensive Industry in Iceland was established by the Minister of Industry in September 1971. The Committee is responsible for discussions with prospective industrial buyers of electrical Power from the Sigalda Hydro-electric power project and the technical and economic evaluation of projects of power consuming nature. At the outset the Committee took over the already existing contacts with foreign corporations interested in establishing power consuming industries in Iceland and other contacts have been established since then. Many different projects have been offered for study and the Committee has held many meetings with various interested foreign corporations as well as others. The project studies and discussions are at various stages and no contracts have been finalized yet. It should be noted however that if more than one of the projects under discussion should be realized the total power requirement goes beyond the capacity of the proposed Sigalda plant and would necessitate the construction of additional power plants and most of the projects under study

would start production before 1980. The interest shown by the foreign discussion partners of the Committee indicates that there will be no lack of investment opportunities if enough electrical power is provided for.

4.3.3 Aluminium

The aluminium reduction industry is already represented in Iceland by the smelter of the Icelandic Aluminium Company Ltd., a wholly owned subsidiary of the Swiss Aluminium Ltd. There is no question that the heavy power consumption of around 15.000 Kwhrs per ton of product that characterizes this industry makes Iceland an attractive location. It comes therefore as no surprise that this aluminium corporation has shown interest in enlarging its operations in Iceland. Besides an addition of 20 MW or 10.000 tons per year to the second potline of the existing smelter bringing the annual output of that smelter up to 87.000 tons, Swiss Aluminium Ltd. has shown strong interest in establishing a third potline in Iceland in cooperation with the Icelandic Government. This proposal is now under study by the Committee on Power Intensive Industries and Swiss Aluminium Ltd. The original proposal was for a 60 MW 32.000 tons a year potline but other stages are at the present being evaluated. About 150 people would be employed in the new potline. Besides the above mentioned joint company a Commission of the Government of Iceland and Swiss Aluminium Ltd. submitted last year a project study on an aluminium smelter in northern Iceland. The initial capacity of that smelter would be 50.000 tons per year with possibilities of expansion up to 200.000 tons per year. Other major aluminium producers have also shown interest in building aluminium reduction plants in Iceland and have contacted the Committee on Power Intensive Industry in Iceland. As the aluminium market grows stronger after the recession prospects for the building of further aluminium smelters in Iceland should become very real.

Some thoughts have been given to the possibilities of further processing of aluminium and some preliminary studies have been made. Although under the present condition no further processing of aluminium will be carried out during the next decade in Iceland, this will likely become actual in the future.

4.3.4 Silicium

The production of silicium is very power intensive. To produce one ton of silicium about 13.500 Kwhrs are needed. The main market for silicium is within the aluminium industry which takes about 60% of the world output and in the chemical industry which takes about 30% of the annual output. At the moment two projects are under study, one calling for a smelter with annual capacity of 12.000 tons of silicium using about 170 Gwhrs per year and employing about 100 people and the other study calls for a production of about 20.000 tons per year and an electrical consumption of about 300 Gwhrs. Further contacts have been established in the silicium field but as yet there are not other studies being prepared.

4.3.5 Ferro-Alloys

The ferro-alloys reduction industry seems to possess many different features, which would make it a logical component in the build-up of power-oriented export industries in Iceland.

The production units are of a size that makes Icelandic participation seem feasible. The units can be enlarged stepwise as the build-up of the power supply progresses. Besides being relatively power-intensive (3.500 - 16.000 Kwhrs per ton of product) the ferro-alloys industry is transport-oriented, as up to 5 tons of material are moved for each ton produced, which calls for good harbours of which Iceland has an abundance.

During the last few years a change in location patterns for this industry has been observed for different reasons and a number of old ferro-alloys plants have been closed down and others are scheduled to do so. The main customer of the ferro-alloys industry is the steel-industry. Some alloys such as ferro-mangan and ferro-silicon are basic raw-materials for the steel-industry, but others like lime ferro-chrome, are indispensable for special production, like stainless steel. With the growing steel-production, and in particular special production like stainless steel, the demand for ferro-alloys is expanding.

The Committee on Power Intensive Industry in Iceland has been contacted by several ferro-alloys producers on the possibilities of establishing various ferro-alloys plants in Iceland. At the moment negotiations with three of the leading ferro-alloys producers of the world are in progress concerning three different ferro-alloy plants. Those negotiations and the accompanying project studies are at different stages but it is expected that all three would be brought to conclusion during the year 1973.

It should be noted that most of the projects under study are made on the assumption that maintenance will be bought from local machine repair shops.

Following is a brief description of the plants at present under study.

A) Ferro-silicon

The project under study comprises a plant of two furnaces of 25 MW to produce 75% ferro-silicon. The yearly production would be about 43,000 tons of ferro-silicon. The yearly consumption of energy would be about 400 Gwhrs and the amount of electrical energy needed to produce 1 ton of product is about 9,300 Kwhrs. Estimated capital cost of this plant is 22 mill. U.S.\$ and about 100 people would be employed in the plant. A second stage of this plant would be the adding of two 25 MW furnaces to double production, when the energy becomes available.

b) Ferro-mangan

The project under study is a ferro- and siliconmangan smelter with a yearly capacity of about 120,000 tons. The smelter would be equipped with two 35 MW furnaces and would require about 500 Gwhrs of energy per year. About 4,200 Kwhrs are needed to produce 1 ton of product. Estimated capital cost is about 20 mill. U.S.\$ and the smelter would employ about 120 people. Doubling of the capacity of the plant is foreseen at a later stage.

c) Ferro-chrome

The project under study is a one 30 MW furnace operation capable of producing 75,000 tons of ferro-chrome per year. The annual electrical consumption would be about 260 Gwhrs per year and the amount of energy required to produce 1 ton of ferro-chrome is

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about 3.500 Kwhrs. Estimated capital cost is about 11 mill. U.S.\$ and the plant would employ about 130 people. At a later stage 1 and possibly 2 furnaces would be added to the plant.

4.3.6 Electro-smelting of ilmenite

Through the initiative and with the assistance of UNIDO studies have been made on the possibility of establishing an electro-metallurgical plant for processing ilmenite concentrates to 88 - 90% TiO_2 contained slag and pig iron in Iceland. A pre-feasibility study and a market study have been carried out by UNIDO and the results seem promising. The proposed plant would have an annual capacity of about 100.000 tons. The annual electrical consumption would be about 260 Gwhrs and 2.600 Kwhrs would be needed per ton of product. Estimated capital cost is about 18 mill. U.S.\$ and the plant would need about 210 employees. Further studies on this project will be carried out in co-operation with UNIDO during the year 1973.

There are deposits of ilmenitic sand and ores in Iceland and the quality and availability has been investigated. So far the investigations show that the quality is not as good as it should be for a profitable utilization. Further investigations will, however, be carried through. The pre-feasibility studies were based on ilmenitic sand concentrates to be imported from Senegal or Gambia.

4.3.7 Production of alumina

Alumina, which is the material used in the production of aluminum, is produced from bauxite. Although the establishment of alumina production close to deposits of bauxite is a new general trend in the world-aluminum industry, the volume of bauxite ore transported to overseas locations of alumina plants annually is also increasing and it has nearly doubled during the last ten years.

TABLE 4.4 World export of bauxite and alumina 1961 - 1970 in million longtons

	World export of bauxite	World export of alumina
1961	14,94	1,24
1962	16,04	1,34
1963	15,46	1,47
1964	17,31	1,49
1965	19,41	1,95
1966	20,75	1,95
1967	21,54	2,73
1968	21,57	3,38
1969	24,42	4,24
1970	25,97	5,57

Source: Bauxite and Alumina - A changing Pattern. H.P.Drewry, 1972.

Beyond this fact, additional favourable local conditions for processing bauxite to alumina may balance or even exceed the additional transportation costs for bauxite compared to alumina (the volume of bauxite to be transported is more than double that of alumina). This may be the case in Iceland, where cheap geothermal steam, cheap hydro-power electricity and eventually locally produced caustic soda may considerably reduce investment and production costs of processing imported bauxite into alumina.

The existence of a developing aluminum producing industry operating on imported alumina, the central location between the European and American continents and its accessibility by sea at reasonable distances from rich bauxite deposits located in West-Africa and in the region of the Caribbean sea seems to create favourable conditions for the project, both from the side of alumina market and of bauxite supply.

The consumption of high pressure steam is estimated at 6-7 tons per ton of alumina, of electric power 300-400 kWh per ton of alumina, and of caustic soda 70-80 kg per ton of alumina. For a plant producing 300 tons of alumina per annum the annual requirements are: 10 MW of electric power and 24,000 tons of caustic soda (which could be produced in the sea chemical project).

4.3.8 The Sea Chemical Project

One of the most promising large-scale projects is the Sea Chemical Project and a comprehensive Feasibility Report has been published by The National Research Council in July 1972. The following is a quotation from the Summary of the Report:

"During the last six years the National Research Council has sponsored studies on the recovery of minerals from seawater and geothermal brine. These studies included an initial broad review of the possibilities and, later, specific feasibility studies, geothermal field studies and drillings, in-depth technical experimentation, market studies and other specialized work and engineering analyses. The major efforts have been directed at the production of salt and byproducts from brine on one hand, and the production of magnesium chloride and soda ash or ultimately magnesium metal and chlorine on the other. The purpose of this volume is to report on the technical and economic feasibility of producing 250,000 tons per year of salt and byproducts. It brings to conclusion the studies described above which have taken several years to perform.

The principal results of these studies are that a plant producing 250,000 tons per year of common salt, 25,000 tons per year of potassium chloride, 60,000 tons per year of 80% calcium chloride and 700 tons of bromine can be built at the cost of \$12,240,000 for on-site investment, and \$1,290,000 for offsite storage and transportation facilities, or a total investment of \$13,530,000. The yearly operating cost for the plant inside battery limits is estimated at \$3,557,000 including 15% for depreciation and interest on total investment. At full production capacity the estimate of local sales and export value (ex-works) is \$4,052,000 giving a nominal net profit before taxes of \$495,000. The "break even" point is at 64% of indicated capacity.

The average pretax return on investment, ROI, for this project is 13,5%. Cash flow analysis based on an operating model allowing for gradual start-up and ultimate attainment of 110% of rated capacity gives a discounted cash flow rate or return on total investment (\$12,240,000) of 16,4% before taxes. Similarly a financial analysis for 30% owner capital participation gives a discounted rate or return on that investment (\$3,672,600) of 22,25% after taxes and payment of loans and interest on loans. The "present" value of the venture at the time of start-up at 10% discount factor over 15 years is \$3,181,000.

Market analyses show the existence of markets for all products of the salt plant and specific interest was discovered for the products of an Icelandic plant among potential customers in Scandinavia, in Germany and in Canada. With a well guided market strategy all products of the plant should find sales outlets and an estimated possible market share of an Icelandic producer more than meets the projected outputs of products.

The competitive position of the Icelandic salt plant appears strong with a wide price margin existing for the calcium chloride, for which there is expected to be a strong competition. If full advantage can be taken of the existing prices, an additional cash surplus of about \$600,000 can be expected".

The multiplier effect of this project is illustrated in Fig. 4.2.

The National Research Council has for some time sponsored studies on the development of a process for the production of $MgCl_2$ suitable as a feed for magnesium electrolysis cells. The raw materials are salt, seashellsand and seawater.

A process has now been developed which appears to be technically and economically feasible for Icelandic conditions provided a market can be developed for magnesium metal production. The process would give soda ash as byproduct from the magnesium chloride production, and the production of magnesium metal from this source of $MgCl_2$ would allow the full advantage of chlorine byproduct.

The process is outlined in Fig. 4.3. Initially it is based on lime precipitation of $Mg(OH)_2$ out of seawater, followed by carbonation to produce a $Mg(HCO_3)_2$ intermediate. Reacting this with $NaCl$, either by direct contact or via an ion-exchange step, it gives rise to $NaHCO_3$ precipitate on one hand and $MgCl_2$ solution on the other. The bicarbonate can be processed to give soda ash

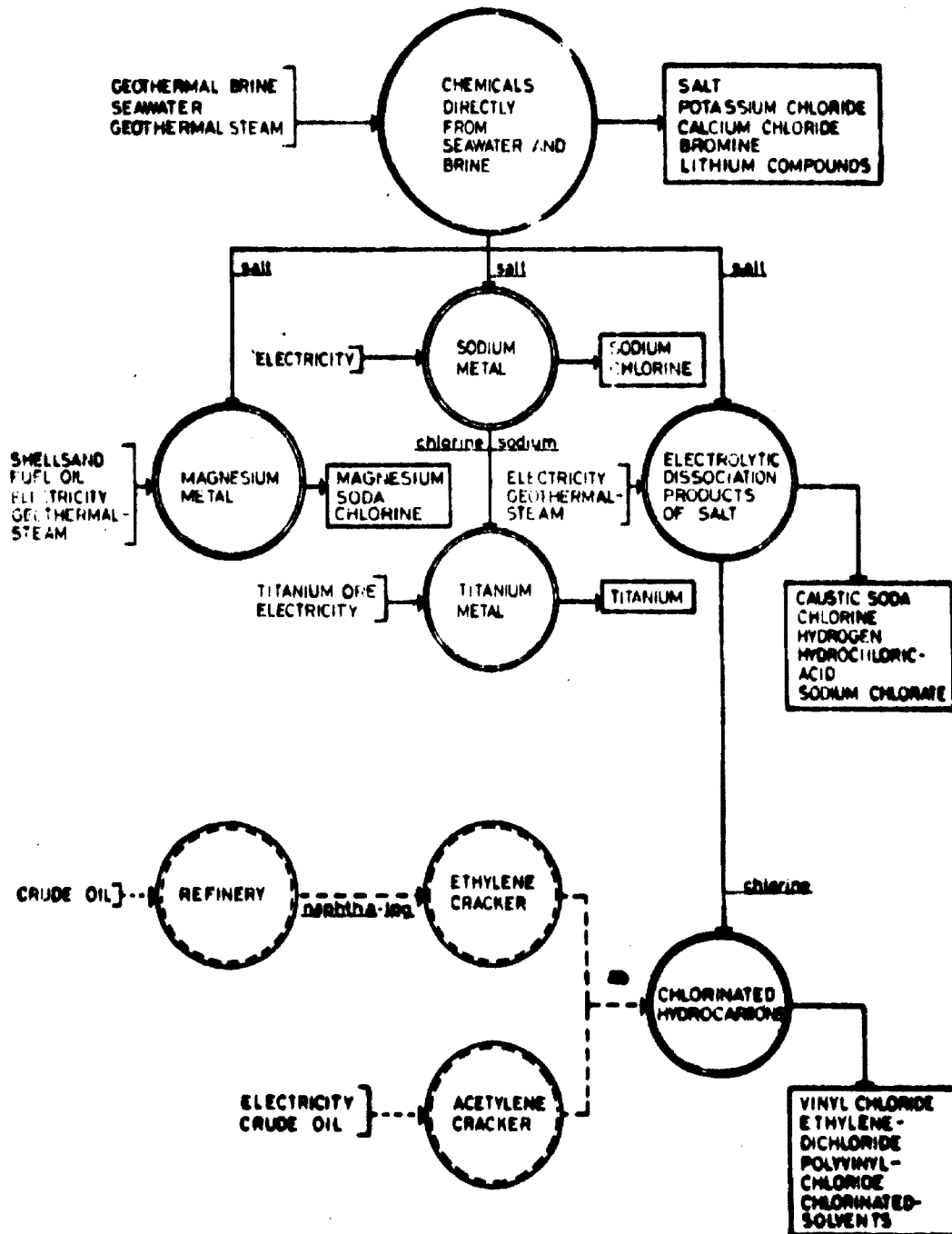


FIG 4.2 ORGANISATION OF THE SEA CHEMICALS COMPLEX

while the $MgCl_2$ solution can be concentrated to give solid hydrates of $MgCl_2$. Final dehydration can result in cell feed to suit the cell design selected for the magnesium metal production.

Detailed laboratory experiments have been conducted on all major steps except the final dehydration, and the processes have been found to work satisfactorily in principle.

A cost estimate has been prepared on the basis of 27,000 tons of magnesium metal, which would require a production of 110,000 tons per year of anhydrous magnesium chloride. The following is a summary of the capital cost estimate for the various process steps assuming the plant is built at Reykjanes, Iceland.

TABLE 4.4 Summary of Capital Investment Cost
-Direct process for $MgCl_2$ production -

Line Manufacture	3.400.000
MgOH Precipitation	1.210.000
Preparation of Crude $MgCl_2$ and $NaHCO_3$	3.300.000
Soda Ash Production	3.450.000
$MgCl_2$ Concentration and Crystallization	5.235.000
Spray Drying System	<u>4.850.000</u>
Investment in $MgCl_2$ Plant	<u>\$ 21.445.000</u>

The ion-exchange process would involve some difference in equipment whose effect would be to increase this estimate by \$100,000.

The following gives a summary of the yearly production cost for various process steps, including in each case 7% depreciation. 8% interest is charged against the total investment.

TABLE 4.5 Summary of MgCl₂ Production Cost

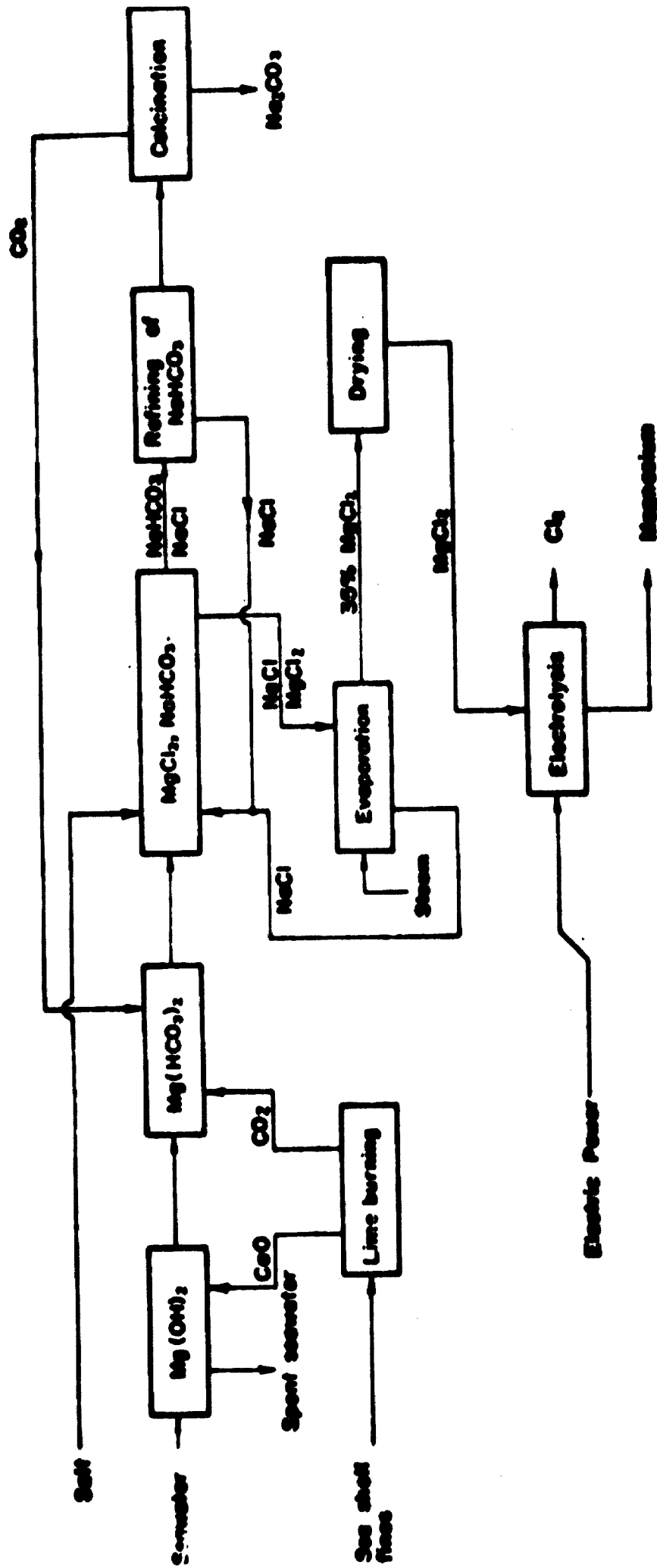
	<u>\$/year</u>
Lime Manufacture	1.390.000
MgOH Precipitation	194.000
Preparation of Crude MgCl ₂ and NaHCO ₃	946.000
Soda Ash Production	586.000
MgCl ₂ Concentration and Crystallization	726.000
Spray Drying	1.347.000
Interest on Inv. 8%	<u>1.716.000</u>
Total processing cost	<u>6.905.000</u>
+ sales of 120.000 t soda ash at \$33/t	<u>3.960.000</u>
MgCl ₂ processing cost	<u><u>2.945.000</u></u>

If we consider the processing cost from the point of view of the MgCl₂ only, we can see that the sale of byproduct soda ash pays for practically all process cost up to the concentration of MgCl₂, including the depreciation and 8% interest on the investment in those parts of the process, as outlined in Table 1.

The present state of development of this project is sufficiently far advanced and its economic prospects so attractive that a major development effort is warranted. A joint venture with a foreign company with expertise in marketing and magnesium reduction technology, is highly desirable.

A pilot stage will be necessary to test the novel technical aspects of the process on a continuous scale, and in order to better specify final design parameters.

With the attractive long term outlook for the marketing of magnesium metal and the rather unique combination of raw material and energy resources in Iceland, this project could become a profitable enterprise if the right time is chosen to initiate it.



THE PRODUCTION OF MAGNESIUM VIA THE SODA ASH METHOD.

Fig. 4.3.

4.3.9 Seaweed industry

The National Research Council (NRC) and the National Energy Authority (NEA) have jointly sponsored studies on the drying of seaweeds by geothermal heat at Reykhólar at Breidafjörður. The bay at Breidafjörður covers an approximately 3.000 km² sublittoral area below 20 meters depth, some of which is heavily grown with seaweeds. It is estimated that one 17 km² area contains approximately 85,000 tons of Laminaria digitata and could yield enough raw material for an annual production of 3,000 tons of dry L. digitata suitable for the alginate industry. Large amounts of Laminaria saccharina also grow in this area and large quantities of Ascophyllum nodosum cover the littoral shores of the innumerable islands in Breidafjörður.

The NRC and the NEA have sponsored feasibility studies on a drying plant producing dry Laminaria digitata. A feasibility report was presented in October 1972 and the first steps have now been taken towards the establishment of a plant producing 4,000 tons seaweed meal for the alginate industry.

4.3.10 Industrial Application of Perlite, Pumice and other Volcanic Materials

The deposits of perlite, pumice, volcanic ash and cinders are of large size and in many cases favourably located. So far there has been only a limited use made of these resources, in the building industry and in road construction. The reports in recent years of the growing industrial application of these materials in the making of glass, glass fibers, ceramic, insulation, filter aids and fillers for light-weight concrete and active mineral additive for portland cement, give good reason to consider the possible use of the Icelandic reserves for these applications.

With the assistance of UNIDO a series of studies have been carried through. The areas of special interest in the present investigations are perlite as aggregate for concrete, fibers from basalt and perlite as reinforcement in different composites, and perlite as raw material for glass, perlite foams.

4.3.11 Projects to be implemented during the planning period

Some preliminary figures about the projects discussed in previous chapters are put together in Table 4.4: production per annum, investment costs, manpower requirements, power requirements, and volume of output.

In the allocation of priorities and the planning of project implementation it is necessary to consider a number of factors: the investment and working capital to be obtained, all categories of specialists needed (for feasibility studies, for project appraisal, for project design, for process design, for facility design, for project implementation), construction capacity needed, managerial personnel for plant management, and all the requirements from the industrial infrastructure, first of all the supply of electric power, transportation systems and communication facilities.

In order to achieve a proper balance in all these activities and avoid undesirable peaks in employment in certain areas and shortage of specialists it seems necessary to formulate a series of criteria for the overall allocation of priorities, to appraise selected projects and, finally, to allocate priorities.

SUMMARY AND RECOMMENDATIONS

In this report a long-term development plan is presented for one sector of the Icelandic economy, the manufacturing industry. Normally a sector plan is a part of a complete development plan covering all sectors of the economy, where basic values and primary objectives are formulated, the aims and goals for the economic policy established, and the adequate co-ordination of activities within all sectors secured.

In this case one sector has been studied separately and consequently the study has had to be based on a series of assumptions. The realism of these assumptions has to be evaluated before the plan itself is appraised.

The basic values and areas for primary objectives to be used in development planning are the same almost in all countries. What differs is the allocation of priorities in balancing primary objectives: employment, economic growth, price stability, balance of payments, and living conditions.

The preparation of this long-term industrial development plan has been based on the following allocation of priorities:

- full employment with due regard to price stability,
- optimum economic growth with due regard to good and equal living conditions for all citizens.

Full employment means that manufacturing industries are supposed to employ around 20,000 people 1980.

The allocation of priority has been determined by the high per capita income on one side and on the new situation that will arise after Iceland's entry into EFTA and the tentative agreement with EEC on the other.

TABLE 4.4. Volume of production, rough estimates of investment costs, requirements of manpower, electricity and steam, and volume of output for some large-scale industrial projects

Production projects	Production ton/year	Investment costs ¹⁾ mill.kr.	Manpower re- quirements man-years	MW	Power requirements Electricity	Volume of output Steam
1 Seaweed meal	10,000	170	30	0,2	45 l/s	55
2 Sea chemicals (NaCl)	250,000	1,400	65	3,5	380 tons/ton	400
3 Aluminum (extension)	10,000	600	30	20		
4 Aluminum (new potline)	32,000	2,500	150	60		
5 Silicium	12,000	850	--	30		---
6 Ferro-mangan	120,000	2,000	120	70		2,000
7 Ferro-silicon	45,000	2,100	100	55		1,000
8 Ferro-chrome	75,000	800	130	30		1,800
9 TiO ₂ slag I	100,000	1,500	210	40		850
10 TiO ₂ slag II	200,000	2,500	260	72		1,700
11 Alumina	300,000	----	---	10	6-7 tons/ton	---
12 Basalt casting	15,000	250	160	1		200
13 Basalt fibers	15,000	250	---	2		---
14 Iron foundry	10,000	250	---			---

1) Excluding working capital and start up costs.

4.4 Effect on the National economy

4.4.1 Effect on the exports of goods and services

The effect on the National economy of a substantial increase in the value of production per man-year in manufacturing industries is visualized in the diagram in Fig. 4.2. The diagram is based, partly on the figures from Table 4.3 which is quoted from "OECD Economic Surveys: ICELAND, March 1972" and partly from the figures in Table 4.4.

Table 4.5 Forecast of Export Values and Shares of net exports in 1974 and 1980.

	1970		1974		1980		% share of net exports ¹	
	Mill. Kr.	%	Mill. Kr.	%	Mill. Kr.	%	1970	1980
Fish products	10 081	78	12 000	67	17 000	56	85	65
Aluminium and other energy-intensive production	1 708	13	4 250	23	9 500	32	5	20
Other manufacturing (incl. diatomite)	519	4	1 200	7	3 000	10	5	13
Agricultural and other products	589	5	500	3	600	2	5	3
	12 897	100	17 950	100	30 100	100	100	100

¹ Share of domestic value added in exports.
Source: "Industrial Development Perspectives", Iceland 1971.

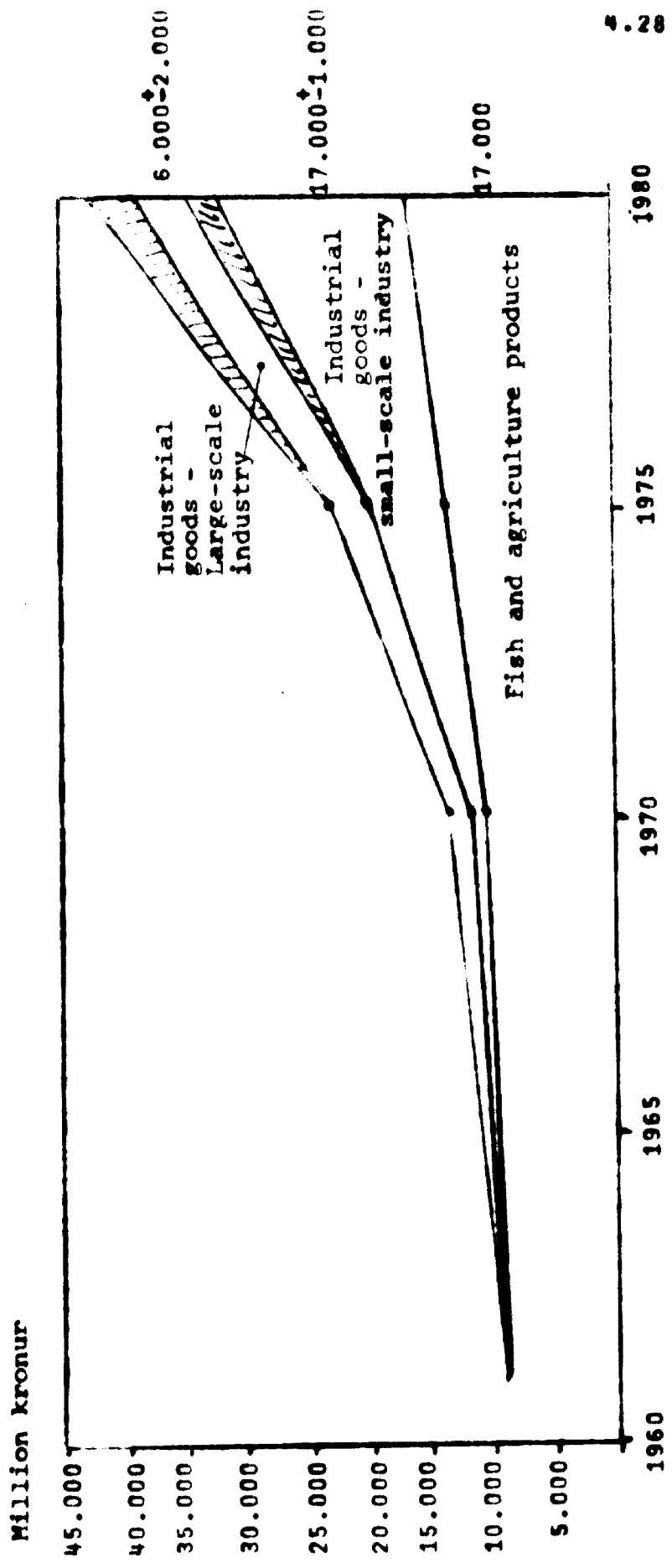
The consumption of industrial goods from the Icelandic small-scale industry on the domestic market in 1975 and 1980 is calculated from the situation in 1970 when about 27 per cent of the National expenditure consisted of goods from small scale industry. The same percentage has been used in 1975 and 25 per cent in 1980. This is, of course, very optimistic. Experiences from other countries show that the manufacturing industries in a country lose a considerable share of the domestic market when the country enters EFTA or EEC. As mentioned before the Belgian industry had 58 per cent of the domestic market in 1958 but only 38 per cent in 1968 after several years inside EEC. The same tendency has been illustrated in Norway.

Table 4.6 Forecast and targets of export values 1975 and 1980 (1970 prices).

	1970	1975	1980
Labour force in small-scale manufacturing industries	12.700	15.000	18,000-19,000
Labour force in large-scale manufacturing industries	700	800	1000-2000
Value of production per man-year in small-scale industry in kronur	950.000	1.400.000	1.800.000
Value of production per man-year in large-scale industry in kronur	3.600.000	4.000.000	4.200.000
Value of production in small-scale industry in mill.kronur	12.100	21.000	32.000-34.000
Value of production in large-scale industry in mill.kronur	2.550	3.200	4000-8000
National expenditure in mill.kronur	41.400	52.000	65.000 ¹⁾
Icelandic small-scale industries' share of domestic market	11.440	14.000	16.000
Export of fish and agriculture products in mill.kronur	10.670	13.500	17.000
Export of industrial goods from small-scale industries in mill.kronur	660	7.000	16000-18000
Export of industrial goods from large-scale industries in mill.kronur	2.227	3.200	4000-7000

1) National expenditure increased during the period 1961-1970 by 58 per cent. The annual increase during the period 1970-1980 has been estimated to be the same.

Fig. 4.2 Actual export values 1961-1970, forecast of export values for fish and agricultural products and targets for export values of industrial goods up to 1980.



It should be emphasized that the enormous increase of the export of manufactured goods from the small-scale industry is not a target in itself but a consequence of the necessary increase in production per man-year and the limited domestic market.

Regarding the estimated increase in value added per man-year of 90-100 per cent during the period 1970-1980 can be compared with the following figures from neighbouring countries (based on OECD statistic)

		Increase in value added per man-year
Norway	1961-1970	45 per cent
Finland	1960-1970	100 per cent
Denmark	1960-1970	80 per cent

4.4.2 Effect on wages, prices and inflation

One of the basic aims of the process of further industrialization is lower product prices, first of all in export industries. This aim could be achieved only through increased productivity of labour.

A consequence, however, of increased productivity of labour within individual industrial firms will be an upward trend in wages. This development may cause difficulties for service industries, industrial firms producing for the domestic market, where the pressure from foreign competition is limited, and for other sectors of the society as well.

The high-wage problem does exist already within the fish processing industry and measures taken within this sector for the purposes of control can be utilized even in the export sector of manufacturing industries.

One way to avoid undesirable effects from a sudden increase in state financial support to one specific sector is to extend the development plan to include also the fish processing industry and the construction industry. The problems are almost the same in these industries as they are in the manufacturing industry and the needs of industrial services and state financial support are of the same magnitude. The Industrial Development Centre could in such a case be a real development centre for the whole industry.

The problem of inflation and full employment has been discussed in Appendix 1, page App. 1.9.

5 TARGETS AND CORRESPONDING DEMANDS5.1 Targets for 1980

A progressive manufacturing industry efficiently utilizing a labour force of 19.000-21.000 people shall have the following characteristics: (1970 prices).

Employment

Small-scale industry	18.000-19.000 people
Large-scale industry	1.000- 2.000 "
Total	19.000-21.000 "

Productivity of labourAverage production per man-year

small-scale industry: value added	700.000 kronur
gross output	1.800.000 "
large-scale industry: value added	1.200.000 "
gross output	4.200.000 "

Value of production per annum

small-scale industry: value added	12.000-13.000 Mkr
gross output	32.000-34.000 "
large-scale industry: value added	1.000- 2.000 "
gross output	4.000- 8.000 "

Export of industrial products per annum

small scale-industry:	16.000-18.000 Mkr
large-scale industry	4.000- 8.000 "

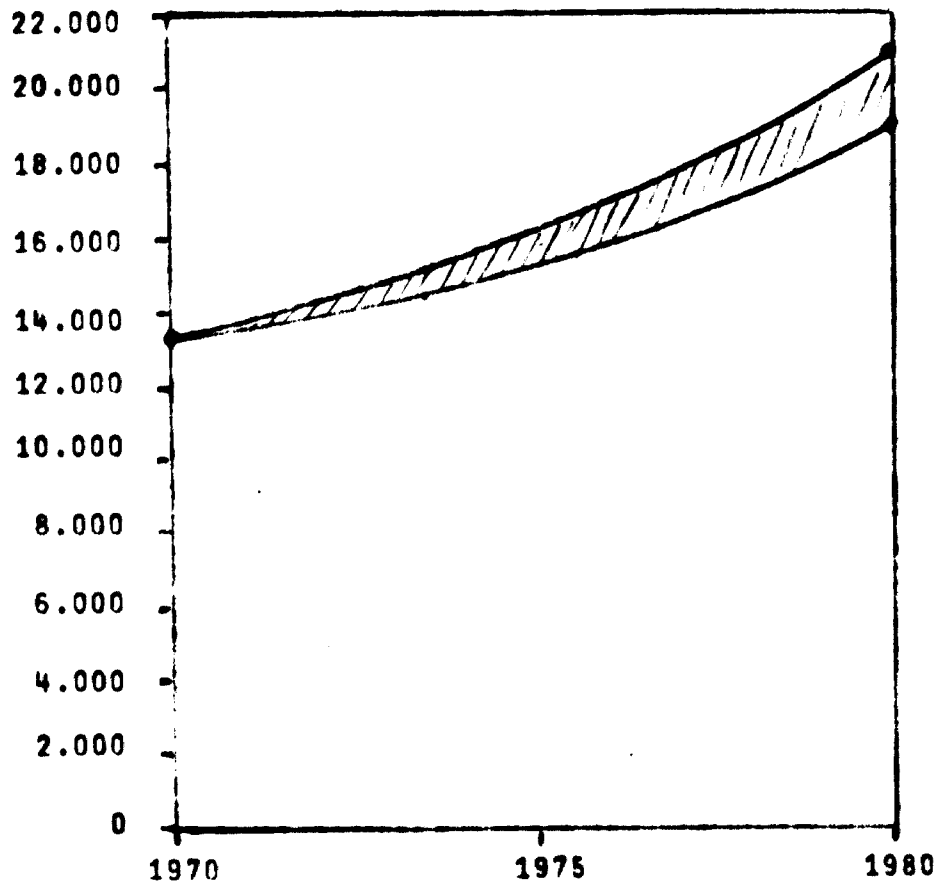
The targets are visualized in a series of diagrams on the following pages.

It should be emphasized that the prime target is full employment and the targets established for productivity of labour, value of production per annum, and export of industrial products per annum are consequential targets only.

5.1 LABOUR FORCE

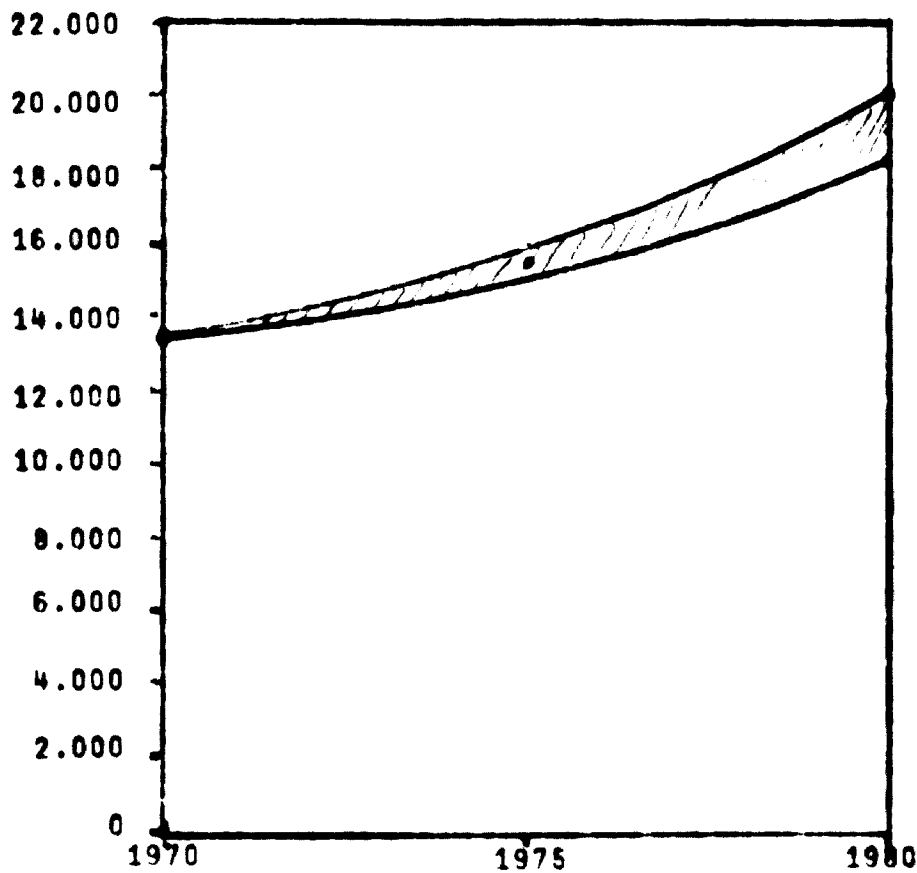
5.2

The target labour force in manufacturing industries for 1980 is 19.000-21.000 people. This represents an increase over the 1970 level of about 45 per cent.

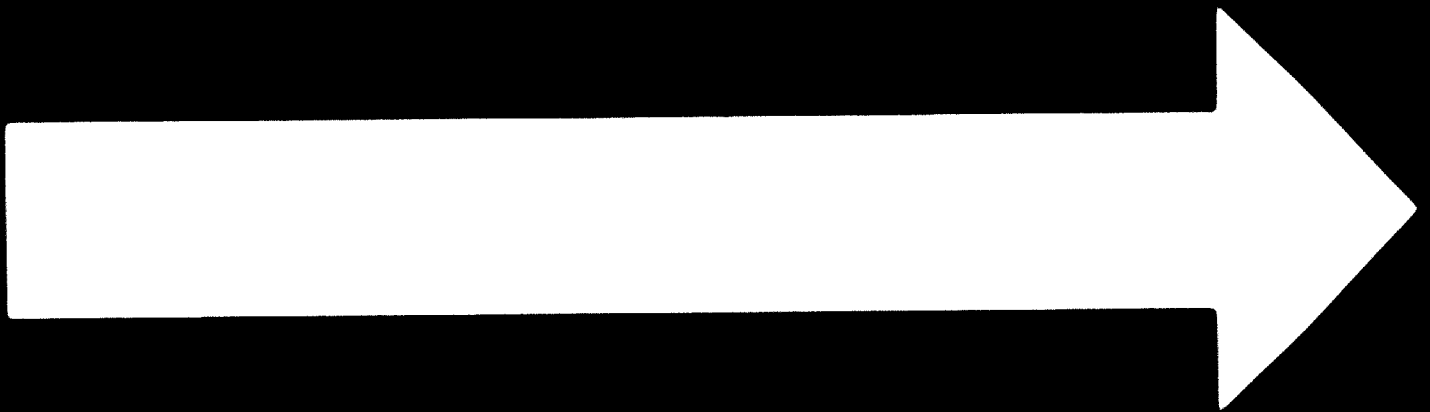


5.2 EMPLOYMENT

The target level of employment has been set at 19.000, which means an unemployment figure of slightly below 2 per cent.



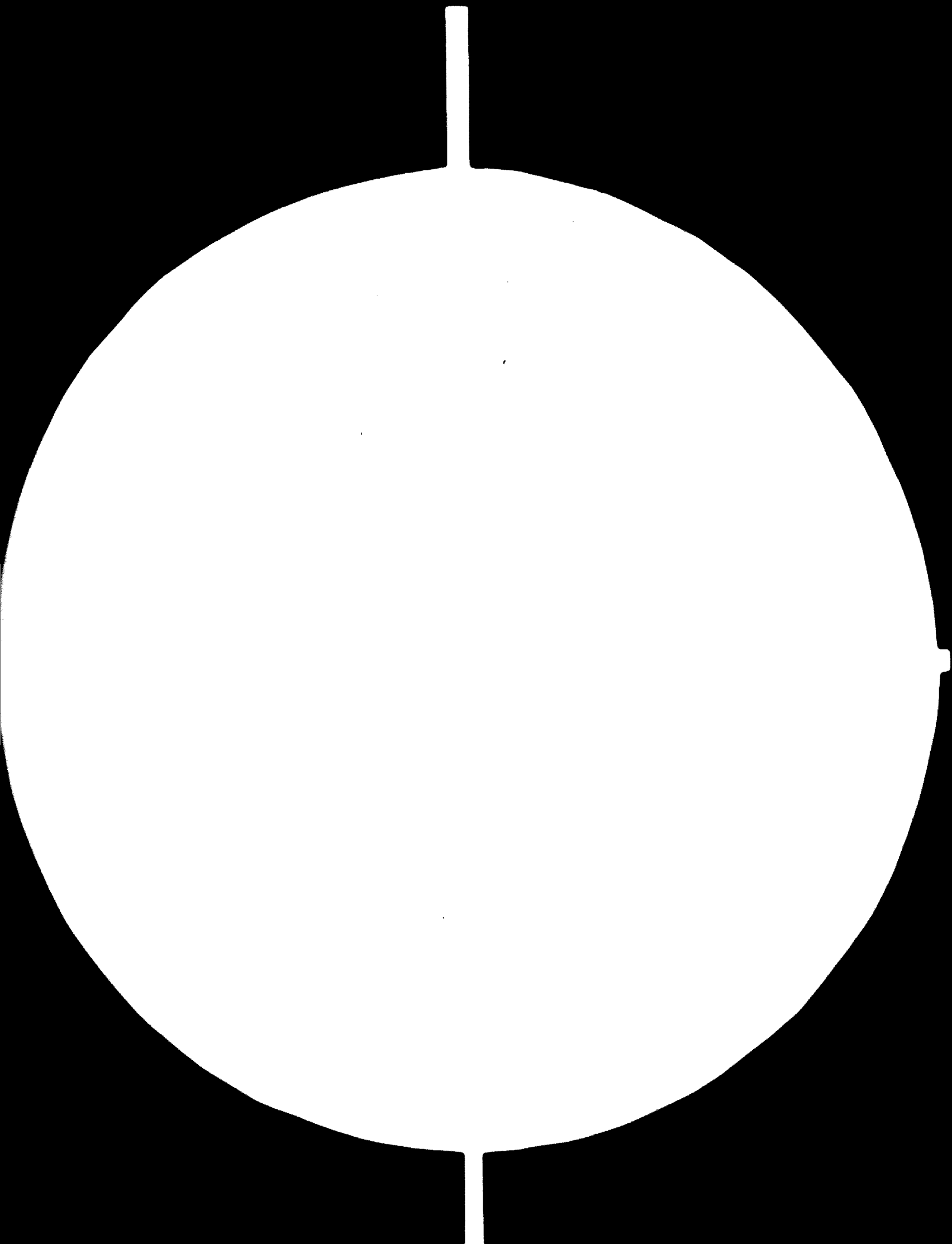
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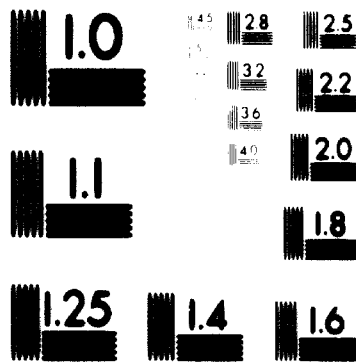
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The competitive power of the firm can be expressed as the efficiency of utilization of resources for a definitive purpose. Resources in this sense are:

- manpower
- management and know-how
- physical facilities
- raw materials
- capital

Available resources can be better utilized in many respects:

Manpower - expensive, not limited during the planning period.

- specialization of production
- adequate training
- adequate introduction into work
- adequate preplanning of work: methods of work, work instructions, detail drawings, materials specifications, tool specifications and quality specifications
- adequate production planning and control
- adequate work place arrangements
- good working environments and human relations
- competitive wages

Management - limited, not expensive during the planning period

- specialization of production
- adequate training of managers and supervisors
- adequate organization of the firm
- adequate assistance from specialists inside and outside the firm
- adequate selection of managers and supervisors
- more effective utilization of managerial techniques, especially for all kinds of planning and control of activities, product quality and production costs.

Physical facilities - expensive, rather limited during the planning period.

- specialization of production
- adequate facility planning
- utilization of outside services: industrial centres advisory service institutions, firms for specific processes, (tool design and tool making, maintenance and repair), sub-contracting, whole sale houses and general agencies.
- improved maintenance of machinery and equipment.

Raw materials - expensive, not limited during the planning period.

- specialization of production
- adequate product design
- adequate materials control: purchasing, storing and using of materials
- utilization of outside services: whole salers

Capital expensive, limited during the planning period.

- specialization of production
- adequate management, managerial planning and control
- utilization of outside services: industrial centres leasing and factoring.

The process of productivity improvement has to be initiated by the management of the firm. For most firms it is not possible, however, to carry out the studies needed and implement the necessary improvements by themselves and to estimate the long-term effects, because of shortage of specialist knowledge and financial means. For many reasons it would be of great advantage if these studies could be carried out for groups of firms or for the whole branch of an industry utilizing experienced specialists. Experiences from other countries prove that studies and implementation of this kind have to be financially supported by the State.

5.3 Demands on the structure of industry

The existing structure of Icelandic industry is the normal one for the early stage of industrial development. Almost all firms are ^{then} relatively small, the majority are family-owned and family-managed. There are some co-operative firms and a few are state-owned enterprises. All firms produce a great variety of products. The most competitive branches of industry are ^{generally} food, textile and furniture.

In the normal process of industrial development some firms grow in size, production becomes more specialized, new firms are established, the new branches of importance are metal industry, electrical appliances and chemical industries and some large-scale projects are established. A distinction between ownership and management develops, ownership is going outside the family, professional management is introduced, the firms become more dependant on each other and co-operation in different forms starts (purchasing, marketing, specific technological processes, sub-contracting).

The intensity of this process is normally determined by the level of competition. Icelandic industry is in the early stage of this process and very great changes will occur during the next 10-20 years.

The process will most certainly be directed towards an industrial situation where one group of relatively small firms cover the service sector (handicraft and small-scale service production) and another group of medium-sized and large firms become responsible for highly specialized production of industrial goods, with some firms working for the export market only.

The different steps in the process of development are normally.

- 1 change-over from a mixture of customer service and industrial production to specialized firms for services and for industrial production respectively

- 2 change-over from the assumption of multiple duties to specialized industrial production (utilizing whole salers for import and storing of materials, and marketing of finished products, etc.)
- 3 change-over from service-directed production on order to market-directed production for stock
- 4 change-over from isolated multiproduct firms to specialized, co-operating firms
- 5 change-over from family-owned firms to joint stock companies
- 6 change-over from ownership-managership to professional managership.

In order to facilitate the process of restructuring and to avoid undesirable disturbances in the national economy and labour market, a prerequisite is the adaption of positive attitudes by all parties involved, so that actions are taken in line with established objectives.

5.4 Demands on Export Agencies

The exports of manufactured goods (excl. aluminum and diatomite) had a value of 660 mill. Kronur in 1970 and might increase to 16,000-18,000 mill. Kronur in 1980. To find markets and customers for this volume of products is a challenging task. 1)

A market introduction of new manufactured products on highly competitive markets abroad must be based on technical improvements in the manufacturing process, reliable delivery terms and available service facilities. Product specialization and co-ordination of production and marketing activities are required. Regular supplies, suitable promotional activities, good design, packaging with sales appeal and high quality products at competitive prices, are vital elements of an export success.

In order to utilize specialist knowledge effectively it is necessary to assign the responsibility for the export of industrial goods to a small group of organizations: private export firms, State organizations, SIS, branch-organized institutions and a few highly specialized industrial firms.

On the market side these firms as a group can initiate and carry out all kinds of marketing research and product potential analysis and organize trade missions and participations in trade fairs and exhibitions.

On the production side industrial firms can get advice and assistance in product selection, product and package design, and marking and labelling requirements.

The experiences gained so far from the activities within the canning industry, after the establishment of the Icelandic Seafood Corporation, are promising. The Corporation takes the responsibility for the exports as well as market analysis and export promotion. Large export orders can more easily be effected through co-operation by a group of firms and market possibilities can be more effectively utilized.

1) The export marketing problems are at present studied by a group of UNCTAD experts and Icelandic counterparts attached to the Export Board and a comprehensive report will be presented early spring 1973.

For the increased exports envisaged during the planning period it seems advisable to establish two more export organizations besides the Seafood Corporation. One could be assigned the responsibilities for the export of products from the engineering industry, the shipbuilding industry and the furniture industry and one for woolen products, skin and skin products, garments and sundry exports as a complement to already established export organizations (SIS and Alafoss). Exports from the food industry other than canning could be included in the programme of the Seafood Corporation.

Financing is an integral part of all marketing, requiring both short-term and long-term credits. In some European countries it has been the general policy by the authorities to encourage banks, subject to normal banking criteria, to give priority to finance exports. Special arrangements exist, under which the banks provide at a fixed rate of interest medium and long-term credits for two years or more, where lending is supported by an unconditional guarantee to the bank by an Export Credits Guarantee Institution. The same procedure could be adopted by Icelandic authorities by supporting suitable financing institutions.

5.5 Demands on the industrial infrastructure

The institutions involved in an effectively working industrial infrastructure are many as illustrated in Fig. 5.2. The responsibility "assigned" to each institution is indicated with index figures at the bottom of each square. These figures refer to the list of assistance activities presented in App. 5.1 on pages 12-13.

"Assignment of responsibilities" is, of course, the result of negotiations and agreements, a process that by necessity may take several years.

The establishment of an industrial infrastructure of this kind is one of the most essential elements in the development plan:

- it has to be initiated very soon
- it has to be agreed upon and supported by all parties involved
- it has to be financially supported by the State
- current laws and regulations affecting this area have to be adapted to the conditions of tomorrow.¹⁾

One of the key institutions in this infrastructure is a development centre with an organization, a capacity and a status that makes it capable to take primary responsibilities for important parts of the implementation of the industrial development plan. The duties, capacity, organization, staff requirements etc. of this institutions, tentatively called the Industrial Development Centre (IDCI), is described in App. 5.2, pages 8-20.

The organization of IDCI is suggested to be based on the following principles:

- 1 Management by objectives, which once has been defined as "democratic leadership which makes it possible to substitute for control from outside the more stricter, more exacting and more effective control from inside" (Drucker).
- 2 Group responsibility, which means management by the right of knowledge rather than by the right of position and group decisions instead of decisions by individuals.
- 3 Project-oriented activities and team work. As much work as possible performed in working groups specially established for each project.

1) The current views of the Export Board on Export Marketing Services and Export Promotion are expressed in Appendix 5.4 and a detailed description of various aspects on the Industrial Infrastructure in Appendix 5.2.

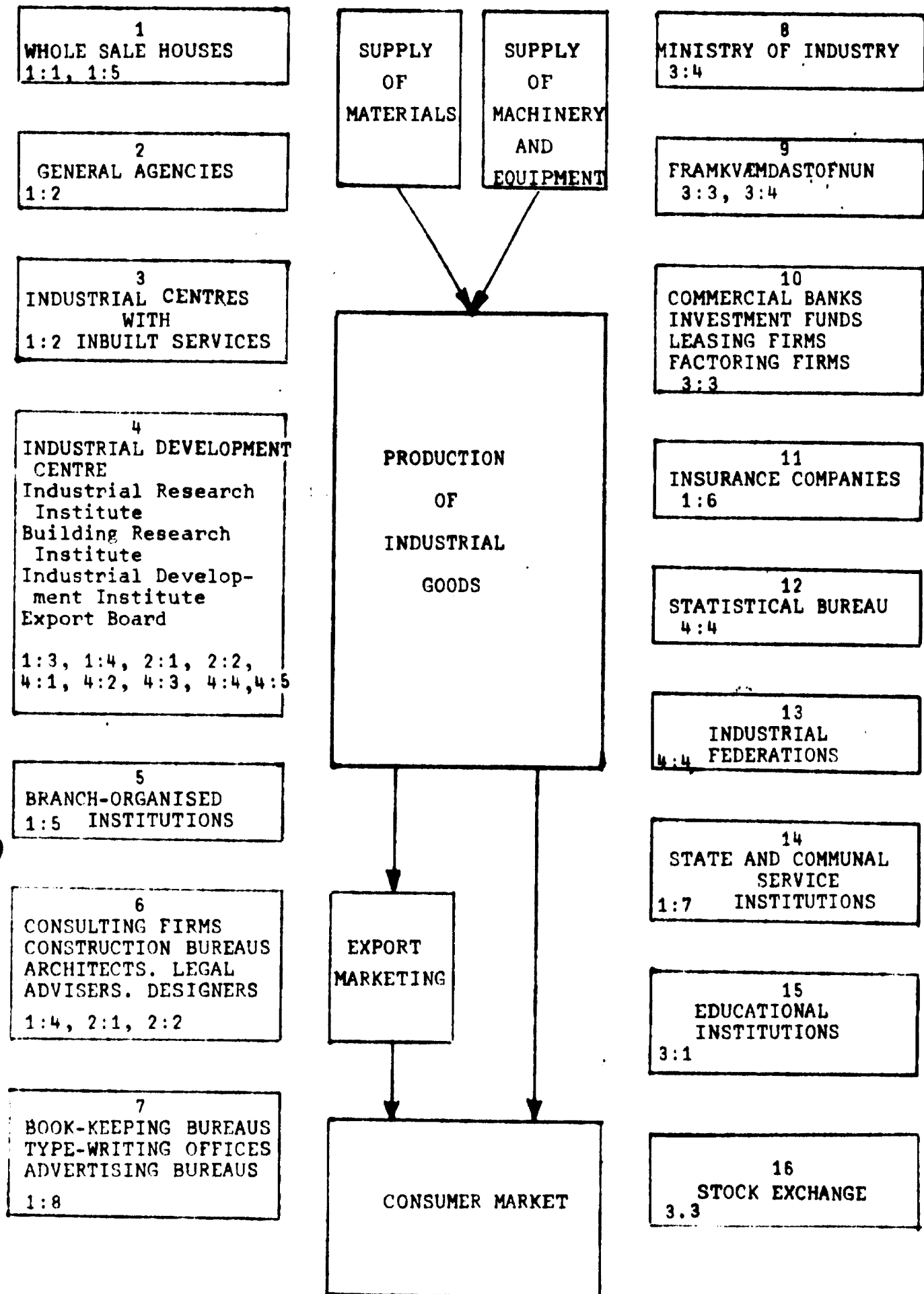


Fig. 5.2

Status of IDCI. The Centre is considered to be an instrument for the Industry to improve the competitive power of individual firms and for the State to secure full employment. If the Industry and the State can agree on this objective it seems advisable to organize the Centre as an independent body outside the bureaucratic machinery of the State. Only in doing so will it be possible to fully utilize the scarce resources of high-skilled specialists, research facilities, and capital, and achieve the flexibility needed for this kind of work.

The long-term responsibilities for the Centre should be established in the governing law and short-term responsibilities in annual programmes and project work programmes.

The financing of the Centre can be shared by the Industry, the State and the users of the Centre's services.

The continuous follow up and control could be carried out during regular meetings by the Board, through monthly reports, through appraisal of project reports, and through an annual report comparing the annual programme with attained results.

Establishment of IDCI. The time schedule for the establishment of the Centre is determined by the following factors:

- 1 The urgent need of assistance of all kind to industry during 1973-74.
- 2 Three UNIDO-experts will be attached to the Industrial Development Institute during the period 1 March-1 November 1973 to assist ⁱⁿ the completion of the industrial development plan and in the first steps of implementation.
- 3 Some governing laws may have to be changed.
- 4 A smooth process of amalgamation of existing institutions simplifies the staffing of the Centre.

The establishment of the Centre is suggested to be carried out in three steps.

Step 1: Extension of the capacity of the Industrial Development Institute. The extension involves the establishment of four groups to which will be assigned the responsibility for: Advisory Services, Product Development, Industrial Inquireies, Information and Industrial Contacts, and Office Services.

Step 2: Co-ordination of the activities within the Building Research Institute, the Industrial Research Institute, the Industrial Development Institute, the Export Board, and the current activities in training of industrial managers and supervisors.

The co-ordination involves the employment of a full-time specialist acting as chairman in the Executive Team as well as in an Interim Board. The Interim Board could consist of the Chairman and five members, one representative for each of the involved institutions. The organization is visualized in Fig. 5.2.4 in App. 5.2

Step 3: Amalgamation of the five institutions into an INDUSTRIAL DEVELOPMENT CENTRE.

The amalgamation involves the employment of a full-time general manager and the establishment of a Board and five Divisions. The organization is visualized in Fig. 5.3

The following tentative time schedule for the establishment seems to be realistic:

Step 1: 1 March 1973

Step 2: 1 July 1973

Step 3: 1 January 1974

A Committee established by the Minister of Industry in May 1972 has been working on the co-ordination of the activities within the institutions mentioned above and the Final Report will be presented in the middle of December.

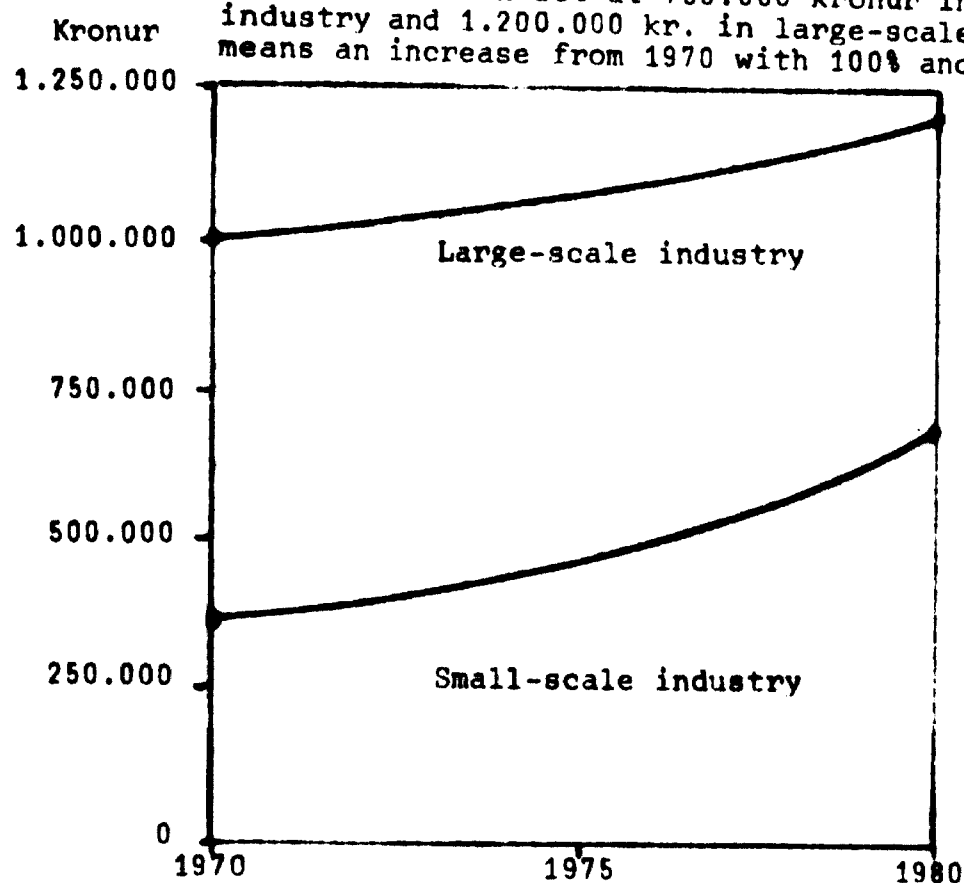
In connection with the establishment of IDCI it is necessary to increase substantially the staff capacity, to begin with in the Industrial Development Institute (IDI) and the Export Board. (EB).

From 1 March 1973 three UNIDO experts will be attached to the IDI, which means that qualified Icelandic counterparts should be employed from the same date.

An efficient start of the implementation of the Industrial Development Plan calls for the following staff capacity within IDI for 1973.

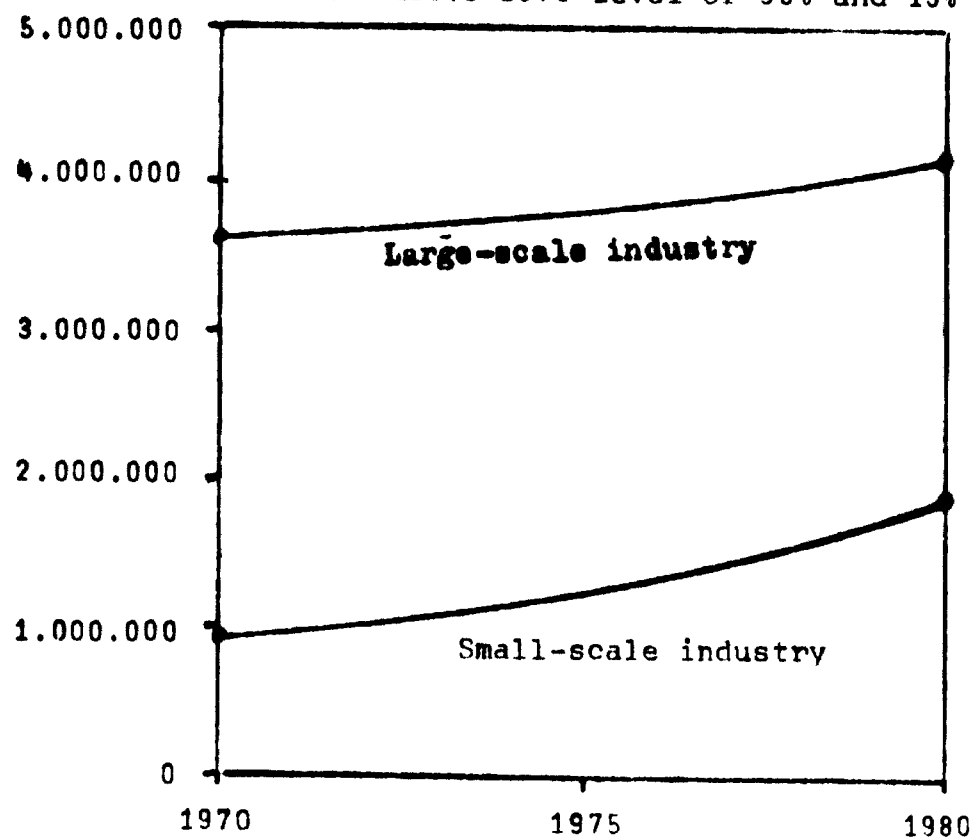
5.3 NET OUTPUT PER EMPLOYEE

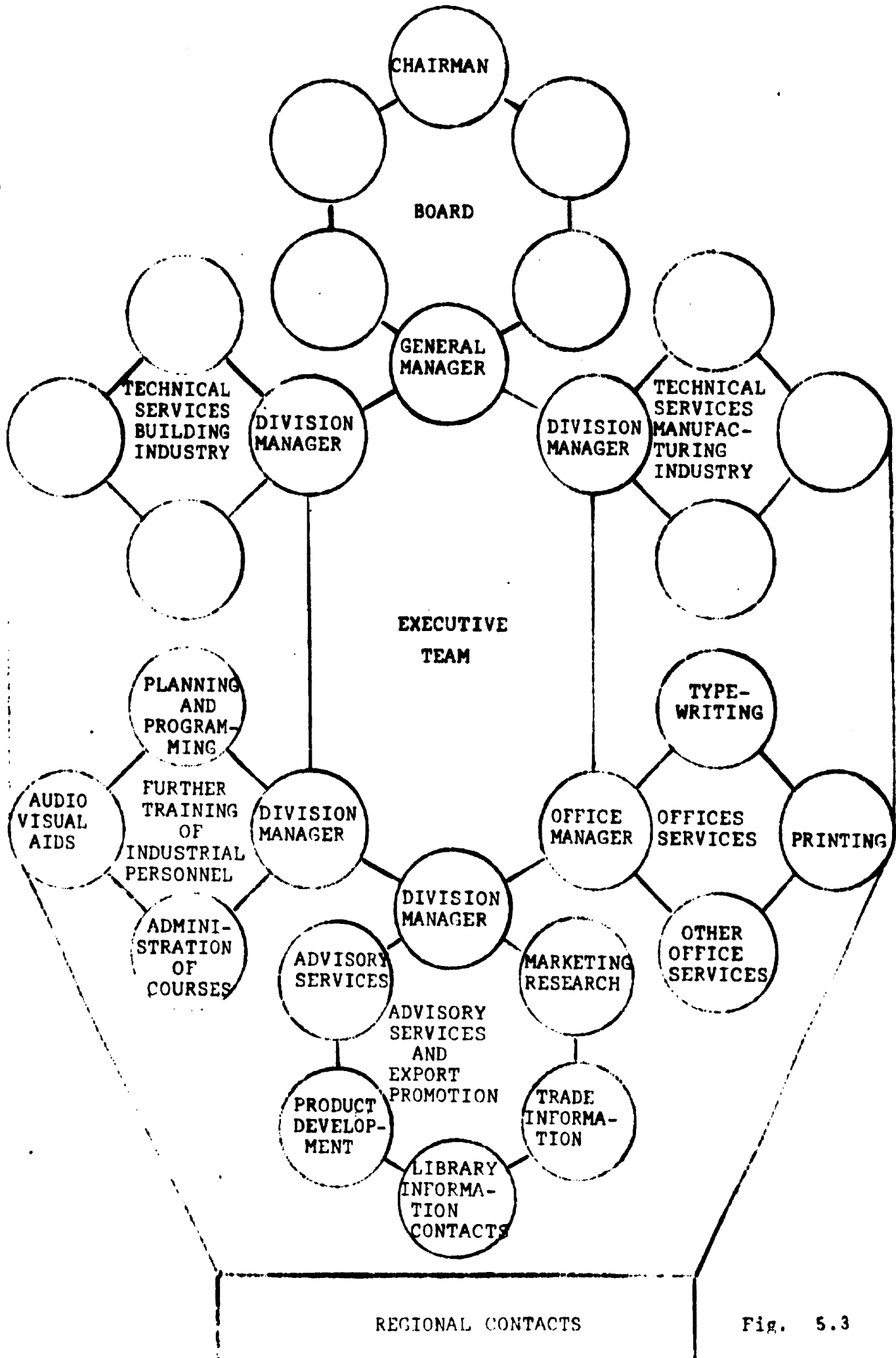
The target net output (value added) per person employed in 1980 has been set at 700.000 kronur in small-scale industry and 1.200.000 kr. in large-scale industry, which means an increase from 1970 with 100% and 20% respectively.



5.4 GROSS OUTPUT PER EMPLOYEE

The target gross output per person employed in 1980 has been set at 1.800.000 kronur in small-scale and 4.200.000 kronur in large-scale industry, which means an increase above 1970 level of 90% and 15% respectively.





REGIONAL CONTACTS

Fig. 5.3

Activities	Total	New emp-loyees	Salary grade	Date of employment
1 General Management	1	-		
2 Advisory Services	4 ¹⁾	1	27	1.3.1973
		1	25	1.3.1973
		1	25	1.7.1973
3 Product Development	4 ²⁾	1	27	1.3.1973
		1	25	1.7.1973
4 Standardization Services	2	1	25	1.3.1973
		1	21	1.7.1973
5 Industrial Inquiries	1	1	25	1.3.1973
6 Industrial Contacts	1	1	25	1.3.1973
7 Library	2	-		
8 Office Services: typewriting and printing		1	13	1.3.1973
		2	10	1.7.1973
Total	21	12		

- 1) Include 2 UNIDO experts
2) Includes one UNIDO expert

The requirements of new staff members at the Export Board are:

1	Marketing Research and Export Promotion	1	27	1.7.1973
		1	25	1.7.1973
2	Trade Information	1	27	1.7.1973

If it will be possible to establish the co-ordination of development institutions along the lines suggested in Fig. 5.2.4 in App. 2 a full-time chairman of the Interim Board will be required from 1 July 1973.

5.6 Demands on resources

The resources to be dealt with in this section are:

- 1 raw materials
- 2 power
- 3 physical facilities
- 4 manpower
- 5 innovators and managerial personnel
- 6 capital.

1 Raw materials

Most of the raw materials for the manufacturing industry have to be imported which means that the process of import and the government rules and regulations controlling the import are decisive factors in the process of further industrialization.

The prevailing conditions have to be improved in many respects:

- the responsibility for the import of raw materials should be assigned to a small number of specialized firms or branch-organized institutions aiming at reliability of quality and delivery of materials and low prices;
- the government rules and regulations should be formulated in such a way that Icelandic firm can reach as far as possible the same competitive position as have competing firms in neighbouring countries;
- it might be necessary to subsidize extra transportation costs for industrial firms located outside Reykjavik and Akureyri;
- long-term planning of the supply of materials and effective procedures for materials control should be introduced in all industrial firms.

Regarding the domestic raw materials, such as perlite, pumice and other volcanic materials, diatomite, skin and wool, seaweed, and products from the fisheries and agriculture, it is desirable that they are further manufactured into exportable products, thereby securing employment and increasing export value.

In this context, however, it is necessary to intensify the research on material requirements and material quality as well as on the utilization and the process of transferring materials into finished products.

2 Power

The new hydro-electric power plant Sigalda, with an installed capacity of 150 MW, is scheduled to be in production during the latter half of 1976 and the plant of Hrauneyjafoss (installed capacity 160 MW) could be in production during 1979. The installed capacity in the Southern part of Iceland would thereby be almost doubled from 1973 to 1980.

There are already alternative market combinations for the additional firm energy from Sigalda, based on an increase of the consumption of the ordinary market and combinations of large-scale industrial projects.

The Hrauneyjafoss plant could then cover the additional demand from the small-scale manufacturing industry and some additional large-scale projects.

Thus, the availability of electrical energy up to 1980 seems to be in balance with the capacity to establish large-scale industrial projects during the same period.

The geothermal energy has been developed to date on a limited scale, chiefly for household heating. The sole industrial application is at the Lake Myvatn diatomite plant, where there is also a 2,500 kW electric power plant employing geothermal steam.

There are two basically different forms of geothermal heat occurrences: recurrent heat and non-recurrent heat. Recurrent heat, comparable to hydro-power resources, consists of the natural dissipation of heat to the surface in thermal areas and has been estimated to be one million kcal per second.

Non-recurrent heat is analogous to mineral deposits and consists of the heat content of the hot bedrock in these regions. The bedrock heat reservoir has been estimated at 10^9 kcal, of which one to ten per cent is recoverable. Recoverability depends upon such factors as bedrock permeability.

The non-recurrent heat content of bedrock is by far the most important form of commercially useful geothermal energy. These resources thus can be considered as heat mines. It seems to be large opportunities for commercial applications of these resources.

3 Physical facilities

The physical facilities in many firms of all branches of industry can be described as follows: small premises and narrow space for incoming and outgoing goods, inadequate buildings (often old, multistory buildings, small and low-ceiling floor-areas, and inadequate floor layouts) and fairly good machinery and equipment, very often with a capacity much above the actual needs but badly maintained.

The future demands in this area are closely coherent with the process of specialization of manufacturing within individual firms. The requirements are more pronounced in buildings and floor layouts and less in machinery. The introduction of new industrial products, however, may call for new types of machinery and future demands on reliability in product quality and delivery time require preventive maintenance and prompt delivery of spare parts. These problems could be greatly simplified if more uniformity could be achieved in the selection of machines.

The proposed centralization of the import of machinery to a small number of specialized firms and the establishment of industrial centres could greatly improve the effective utilization of physical facilities.

4 Manpower

At present the capacity and capability of manpower is not fully utilized within the manufacturing industry for reasons discussed elsewhere in this report (inadequate floor layouts, insufficient product and production planning, low level of mechanization in materials handling, high labour turnover and unsatisfactory working conditions).

In a production characterized of high specialization, however, the inherent capability of the operators, in manufacturing as well as in the office, is quite different from what it is in a diversified handicraft production. The full efficiency of specialization can be achieved only, if and when a complete new system of basic and further training of all categories of industrial personnel is introduced. Manpower will be in abundance in terms of numbers but future requirements in manpower capacity and capability can be achieved only through intensified training.

5 Innovators and managerial personnel

Capable innovators and progressive business managers is a rare resource in all countries but also one of the key factors in industrial development.

The capacity and capability of this kind of individuals is a result of inherent ability and adaptability, special kind of interests and intentions, specialized training and a specific combination of progressive spirit and laziness.

Consequently, individuals with these characteristics cannot be created "by force", they are created by existing circumstances. What could be done is to create a good climate of entrepreneurship, facilitating the promotion of feasible ideas and inventions, a generous support to product development, and financial support to small undertakings.

In this connection the industrial centres to be established could be a valuable contribution.

6 Capital

In Tables 5.1 - 5.4 an attempt has been made to estimate the capital needed for the implementation of the development plan. Table 5.1 covers investments in the small-scale industry and additional funds needed for the improvement of industrial services. The investments in small-scale industries are based on an estimated need of 10,000 new workplaces up to 1980. Estimated cost per workplace is based on experiences made in Norway and Finland. The building costs for Industrial Centres in Norway are 15-20 million Norwegian kroner for 1,000 employees (1970 prices). The average investment costs for one workplace in small-scale industry in Finland are 24,000 US dollars (1971 prices). There are, of course wide variations in costs for different industries. Along with the investments follows the need for working capital, here estimated at about 12 per cent of investments. Depreciation is taken into consideration in the estimates of the number of new workplaces.

The Industrial Development Centre will be the key institution in the process of implementation and a substantial increase in

capacity and capability is of great importance.

Investments in small-scale industries have to be balanced with corresponding investments in export marketing. The establishment of two new institutions, responsible for marketing research, export promotion, part of product development, as well as the execution of exports, are necessary complements to the new inputs made in production. (see page 5.16).

The same arguments are applicable when it comes to the establishment of two institutions for import of raw materials. The most urgent needs are efficient imports of wood and wood product for the furniture and construction industries and of all kinds of raw materials for the engineering and shipbuilding industries.

Experiences from other Scandinavian countries show that it is of great importance for industrial development that there are possibilities for State financial support in various forms, especially in the areas of product development, export marketing and productivity improvement in industrial firms.

In Table 5.2 one alternative of many for investments in large-scale industrial projects is selected in order to illustrate the magnitude of capital needed for such investments during the planning period. It should be emphasized that the figures for volume of annual production as well as for investments are in a few cases only based on complete feasibility studies.

Table 5.3 gives a summary of the estimated Gross Fixed Asset Formation (GFAF) in the various sectors during the planning period. The total estimated GFAF is distributed amongst the sectors in money and per cent and GFAF is also expressed in per cent of the Gross National Product (GNP). The annual increase of GNP has been estimated at 4,5 per cent from 1974 and onwards.

The total GFAF during the period 1971 - 1980 amounts to 205,250 thousand krona in 1971 prices and the total GNP to 653,500 thousand krona. GFAF is thus 31.4 per cent per annum of GNP as an average (variations from 28,0 to 33,0 per cent). Corresponding figures for the period 1961 - 1970 were in 1960 prices: GFAF - 33,246, GNP - 112,964, and GFAF in per cent of GNP - 29,4 per cent as an average (variations from 23,2 per cent in 1961 to 35,7 in 1967; see the last line in Table 5.3).

The total demand of capital for the implementation of the development plan during the period 1973-1980 is summarized in Table 5.4 below.

Table 5.4 The needs of capital for implementation of the development plan during the period 1973-80 (1971 prices)
Million krona.

	Investments in small- scale indus- try 1)	Investments in large- scale indus- trial projects	Additional funds in 1) Industrial Services	Total
1973	1,200	70	60	1,330
1974	2,500	1,100	350	3,950
1975	2,500	1,750	400	4,650
1976	3,600	1,750	525	5,875
1977	3,600	1,640	525	5,765
1978	4,500	1,530	500	6,530
1979	4,500	1,640	500	6,640
1980	4,500	1,640	500	6,640
1973-80	26,900	11,120	3,360	41,380

1) Including working capital and start up costs.

Table 5.1. Investments in Small-scale Industry and additional funds in Industrial Services 1973-80. 1971 prices.

	Total Mill. kr.	1973	74	75	76	77	78	79	1980
		1 Five Industrial Centres including 5,000 workplaces	12,000		1,000	1,000	2,000	2,000	2,000
2 Workplaces for another 5,000 employees	12,000	1,200	1,200	1,200	1,200	1,200	2,000	2,000	2,000
3 Working Capital	2,900		300	300	400	400	500	500	500
4 Additional funds for Industrial Development Centre	950	50	100	100	125	125	150	150	150
5 Two Institutions for Export of industrial products	350		50	50	50	50	50	50	50
6 Two Institutions for Import of raw materials	350		50	50	50	50	50	50	50
7 State Financial Support in Product Development	500		50	100	100	100	50	50	50
8 State Financial Support in Export Marketing	600		50	50	100	100	100	100	100
9 State Financial Support in Productivity Improvement in Industrial Firms	610	10	50	50	100	100	100	100	100
TOTAL	30.260	1,260	2,850	2,900	4,125	4,125	5,000	5,000	5,000
Gross Fixed Asset Formation (GFAF)	24,000	1,200	2,200	2,200	3,200	3,200	4,000	4,000	4,000
Working Capital	2,900		300	300	400	400	500	500	500
Additional Funds in Industrial Services	3,360	60	350	400	525	525	500	500	500

Table 5.2. Rough estimates of volume of production and investment costs in large-scale industrial projects 1973-74. 1971 prices.

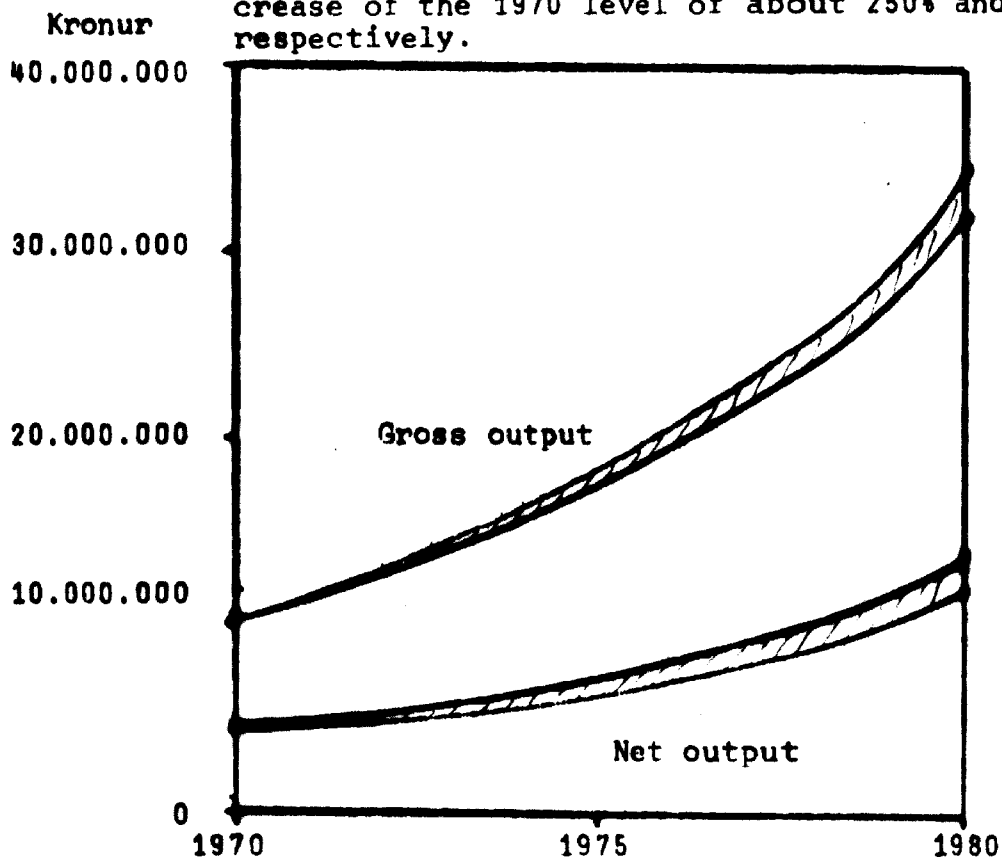
Manufactured products	Volume of production Tons/ annum	Rough estimate of investment Mkr	Planning period								
			73	74	75	76	77	78	79	80	
1 Sea weed	10,000	400	<u>70</u>	<u>100</u>						<u>100</u>	
2 Sea chemicals:NaCl	250,000	1,400	<u>250</u>	<u>150</u>	<u>300</u>					<u>200</u>	<u>500</u>
3 Aluminum (extension)	10,000	600	<u>100</u>	<u>400</u>	<u>100</u>						
4 Aluminum (new potline)	32,000	2,500								<u>200</u>	<u>800</u>
5 Silicium	12,000										
6 Ferro mangan	120,000	2,000				<u>700</u>	<u>800</u>	<u>500</u>			
7 Ferro silicon	45,000	2,100	<u>500</u>	<u>800</u>	<u>800</u>						
8 Ferro chrome	75,000										
9 TiO ₂ slag I	100,000	1,500				<u>500</u>	<u>500</u>	<u>500</u>			
10 Basalt castings	15,000	250				<u>250</u>					
11 Basalt fibers	15,000	250				<u>250</u>					
12 Iron castings	10,000	250				<u>150</u>	<u>100</u>				
			73	74	75	76	77	78	79	80	
TOTAL		9,520	70	950	1,500	1,500	1,400	1,300	1,400	1,900	

Working capital and
start up costs

150 250 250 240 230 240 240

5.5 VALUE OF PRODUCTION PER ANNUM IN SMALL-SCALE INDUSTRY

The target level of net output (value added) per annum in 1980 has been set at 12.000-13.000 mill.kronur and of gross output at 32.000-34.000 mill.kr., which is an increase of the 1970 level of about 250% and about 210% respectively.



5.6 VALUE OF PRODUCTION PER ANNUM IN LARGE-SCALE INDUSTRY

The target level of net output (value added) per annum in 1980 has been set at 1.200-2.400 mill.kr. and of gross output at 4.000-8.000 mill.kr., which is an increase of the 1970 level with 40-260% and 60-300% respectively.

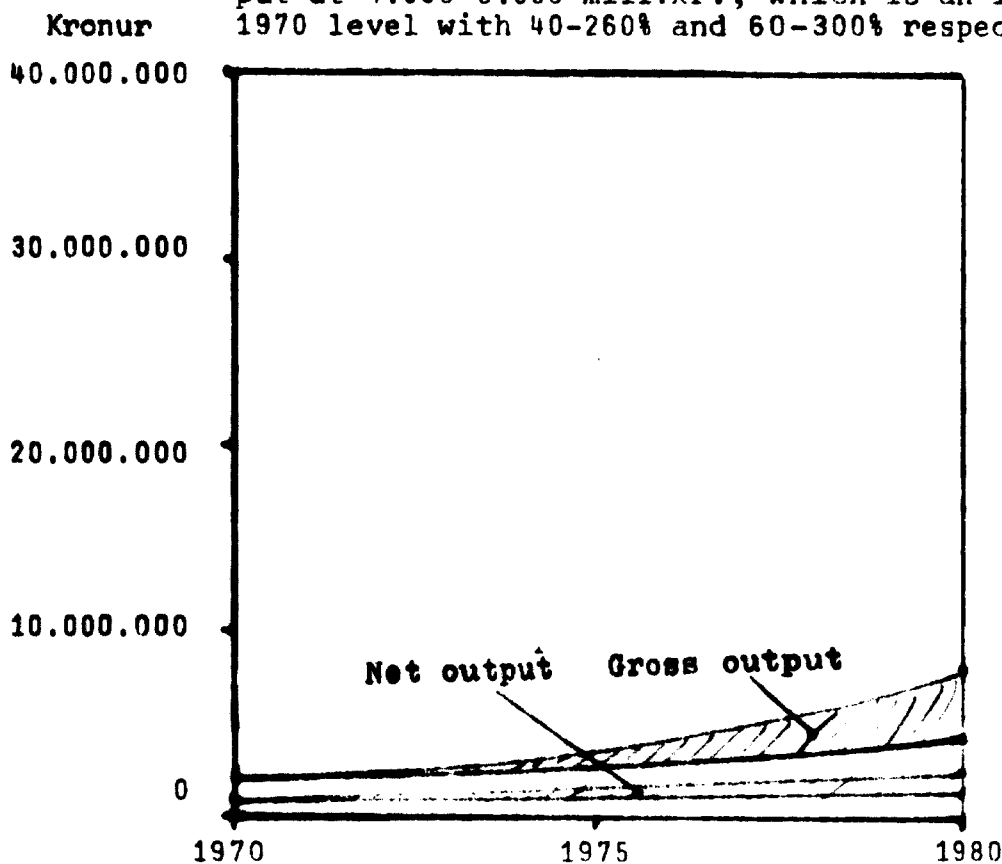


TABLE 5.3.

Gross Fixed Asset Formation and Gross
1971 Prices. GFAF in % ofNational
GNP 196

	1971 1)		1972 1)		1973 1)		1974		National GNP 196
	Mkr	%	Mkr	%	Mkr	%	Mkr	%	
Gross Fixed Asset Formation	16.050	100.0	16.140	100.0	16.600	100.0	18.250	100.0	19.850
Increase in per cent	100.0		100.6		103.5		113.7		123.7
Annual increase in %			0.6		2.9		10.2		10.0
I Industrial Assets	8.350	52.0	7.870	48.8	7.950	48.0	9.100	49.9	9.550
1 Agriculture	960		1.050		1.050		1.050		1.100
2 Fishing	790		1.860		2.980		2.100		1.650
3 Fish Processing	530		650		715		800		1.000
4 Large-scale Industry	710		930		70		950		1.500
5 Small-scale Industry	1.140		1.200		1.210		2.200		2.200
6 Transport Equipment	2.750		980		685		700		800
7 Commercial Buildings	690		650		660		700		700
8 Various Machinery & Equipment	780		550		580		600		600
II Residential Construction	2.700	16.8	3.100	19.2	3.290	19.8	3.400	18.6	3.800
III Public Works & Buildings	5.000	31.2	5.170	32.0	5.360	32.2	5.750	31.5	6.500
Electric Power, g. & d.	1.510		1.180		1.085		1.300		1.800
SECTION 1									
Gross National Product	52.500	100.0	55.560	105.8	58.185		60.800		63.500
Annual increase in %	9.2		5.8		4.7		4.5		4.5
GFAF in % of GNP	30.6		29.1		28.6		30.0		31.3
	1961		1962		1963		1964		1965
GFAF in % of GNP	23.2		24.7		29.6		31.7		28.8

1) Source: Þjóðarþúskapurinn - Framvindan 1972 og horfur 1973.

and Gross
in % of

National Product 1971 - 2. Forecast 1973 - 80
GNP 1961 - 1970 (1960 prices)

1974		1975		1976		1977		1978		1979		1980	
Mkr	%	Mkr	%	Mkr	%	Mkr	%	Mkr	%	Mkr	%	Mkr	%
18.250	100.0	19.850	100.0	21.275	100.0	22.325	100.0	23.850	100.0	24.800	100.0	26.100	100.0
113.7		123.7		131.5		139.0		148.7		155.0		162.5	
10.2		10.0		7.8		7.5		6.8		4.2		5.2	
9.100	49.9	9.550	48.2	10.775	50.6	11.125	49.9	12.150	50.9	12.500	50.4	13.300	51.0
1.050		1.100		1.150		1.250		1.300		1.350		1.500	
2.100		1.650		1.325		1.400		1.400		1.400		1.600	
800		1.000		1.200		1.300		1.400		1.500		1.700	
950		1.500		1.500		1.400		1.300		1.400		1.400	
2.200		2.200		3.200		3.200		4.000		4.000		4.000	
700		800		900		1.000		1.000		1.100		1.100	
700		700		800		800		900		900		1.000	
600		600		700		775		850		850		1.000	
3.400	18.6	3.800	19.1	4.000	18.8	4.200	18.8	4.500	18.8	4.800	19.4	5.000	19.2
5.750	31.5	6.500	32.7	6.500	30.6	7.000	31.3	7.200	30.3	7.500	30.2	7.800	29.8
1.300		1.800		1.800		1.800		1.800		1.800		1.800	
SECTION 2													
50.800		63.500		66.350		69.350		72.450		75.700		79.100	
4.5		4.5		4.5		4.5		4.5		4.5		4.5	
30.0		31.3		32.1		32.2		33.0		32.7		32.9	
1964		1965		1966		1967		1968		1969		1970	
31.7		28.8		31.0		35.7		34.5		25.9		26.6	

5.7 Demands on the economic policy

Industrial development in the past has to a great extent been concentrated on the processing of fish for export. The processing industry is highly modernized and capital intensive and productivity of labour is of highest international standard.

Even if there are signs of diminishing returns on additional capital inputs productivity in the fisheries is likely to remain much higher than in manufacturing industries and other sectors of the society.

Fluctuations in fisheries have, however, represented a major problem from the point of view of maintaining economic stability: changing climatic and biological conditions and fishing efforts of other nations are factors over which Iceland has little control. Large fluctuations in catches have disrupted economic developments time and again.

The manufacturing industry has been and is still highly dependent upon deliveries to the fisheries sector, or upon demand derived from incomes generated in this sector. Indirectly this fact has had a great influence on the possibilities for development within the manufacturing industry.

The parity of the Icelandic Krona has been fixed primarily with a view to ensuring a reasonable return in the fisheries and fish processing. But as such a parity the small-scale manufacturing enterprises producing mainly for the domestic market could operate only behind high tariffs, which made it possible to keep prices high enough to pay competitive wages and obtain a reasonable return on invested capital.

Through a system of protection and financial support the agriculture, the industry and other sectors have shared the superior profitability in the fisheries sector.

Given the limited possibilities of further expansion in the fisheries and the rapid growth of the labour force, the economic policy must be more industry oriented aiming at a major increase in productivity of labour if full employment conditions are to be maintained.

5.8 Demands on regional industrial development

The principal aims of regional economic policy are both complex and interrelated. They can be summarized very broadly as including, mainly:

- a) The planning of economic development and investment in accordance not only with the need to promote the overall progress of the national economy but also with the diverse needs and the potentialities of the different regions and with the geographical distribution of the population and manpower.
- b) A reduction of the imbalance between regions in the distribution of economic activity and in the levels of income, prosperity and welfare.
- c) The maintenance and encouragement of the social and cultural basis of the life of the regional populations, including the preservation and best use of natural, cultural and amenity resources.
- d) The planning of the physical environment and infrastructure, including housing, communications and other forms of fixed capital in accordance with consistent and coherent national, inter-regional and regional aims and with the economic resources available.

The emphasis given to these varied objectives necessarily differs according to the different circumstances and needs, and such factors as size and the importance of inter-regional disparities.

These varied features of regional economic planning suggest that it is impracticable to treat economic, physical and social planning in isolation from each other. Physical and social development requires the investment of resources and therefore poses economic problems of scale, priorities, of costs and benefits. Economic development influences and is influenced by, physical and social development. A balance has to be struck between all the objectives of policy. Regional planning is therefore essentially an exercise in co-ordination aimed at both improving the economic foundations of a region and meeting its physical and social needs, within the framework of national needs, resources and potential.

In connection with industrial development provision is normally made for direct stimuli for attracting or expanding industrial

activity. Such stimuli may cover new firms, those which have moved from congested areas or existing firms carrying out rationalization and expansion programmes. These direct aids mainly take the form of loans, grants or fiscal exemptions although a wide range of different kinds of measures are used.

The question of the conditions attached to the provision of assistance is closely related to that of its orientation. Subsidies may be given on land, labour or capital or on a combination of these. In other countries the emphasis has been largely on subsidizing investments, but this has the disadvantage that, in the short run at any rate, and before the multiplier effect work through, employment might fall rather than increase. Accordingly, in some countries there has been a discussion of switching the emphasis to the subsidization of labour rather than to the other factors of production. (As part of its total approach to development area incentives, the United Kingdom included in 1967 a measure for subsidizing labour costs in these areas (the Regional Employment Premium) which is guaranteed by Government to run for at least seven years.) With regard to subsidies on capital, there is increasing awareness of the need for reducing the burden of investment in new projects and of operating costs in the earlier years, and this is one of the main reasons for the increasing popularity of grants and grant-like assistance. The question of proper balance between subsidies to capital and to labour may be differently approached in different regions and the answers may change from time to time.

Two areas for subsidies of special importance in this country are transportation and freight costs and the cost for electric power. Transportation and freight costs put an extra burden on production outside the Reykjavík- and Akureyri-areas, and different prices for electric power in different areas of the country complicates competition on equal conditions. (See Table 5.5).

In some countries fiscal concessions are used as a means to promote regional industrial development. Such concessions are used either on a highly-selective basis with a view to promoting adaptation rather than the implementation of new industries, or they may be given for a long run of years. In the early years of a new enterprise profits are generally low so that if the concessions were limited to a few years only, the benefit to the firm might be negligible.

Free depreciation during 5-10 years or extra annual depreciation and tax free reserves for investment are other measures which could be used.

An efficient tool in regional industrial development is the establishment of industrial centres with inbuilt industrial services combined with financial support in investment, product development and export marketing. See Appendix 5.3.

Table 5.5
SAMANBURÐUR Á HOKKRUM RAFORKUVERÐUM 1970-1972
COMPARISON OF SOME ELECTRICITY PRICES

Rafveitur/ Electric Supply Utilities	Heimilisnotkun/Domestic Use 3000 kWh/ ³ herb. íbúð 3 room flat			Stórar vélar/Large Power Ind. 2.500/st. nýt.tími utilization hrs.		
	1 9 7 0 aur/kWh	1 9 7 1 aur/kWh	1 9 7 2 aur/kWh	1 9 7 0 aur/kWh	1 9 7 1 aur/kWh	1 9 7 2 aur/kWh
1. Reykjavík	213	253	279	136	162	178
2. Hafnarfjörður	269	269	299	161	191	210
3. Vatnsleysa	233	276	296	179	214	240
4. Njarðvíkur	233	257	296	191	208	240
5. Keflavík	226	258	286	173	199	215
6. Gerðar	226	258	286	173	199	215
7. Sandgerði	234	273	296	177	202	224
8. Grindavík	212	244	296	159	192	224
9. Eyrarbakki	232	267	297	166	190	205
10. Stokkseyri	232	267	297	166	190	205
11. Selfoss	232	267	297	166	190	205
12. Hveragerði	232	267	297	166	190	205
13. Vestmannaeyjar	257	296	326	176	203	224
14. Akranes	214	230	253	143	160	176
15. Borgarnes	213	231	254	166	170	187
16. Patreksfjörður	282	321	321	158	169	188
17. Ísafjörður	271	305	305	190	202	202
18. Sauðárkrúkur	232	260	290	160	201	220
19. Siglufjörður	224	253	295	161	194	222
20. Akureyri	214	236	270	124	142	163
21. Húsavík	243	287	294	175	195	215
22. Reyðarfjörður	200	222	245	161	178	195
23. Rafm.v.ríkisins	346	364	398	218	219	245
Meðaltal/Average	239	287	294	169	190	209

Miðað við mitt ár/
Mid-year figures

Source: ORKUMÁL, November 1972

6 TENTATIVE PROGRAMME OF ACTION 1973-74

6.1 Activities to be initiated and performed

The activities to be initiated and performed during 1973-74 as a consequence of an acceptance of the basic aims and meaning of the Long-term Industrial Development Plan are put together in seven groups as follows:

6.1.1 Special investigations

- 1 Prepare the governing law for the Industrial Development Centre of Iceland (IDCI).
- 2 Formulate criteria of selection, determine priorities and decide on the establishment of large-scale industrial projects now under consideration.
- 3 Identify and review rules and regulations affecting the manufacturing industry and adapt to new conditions when necessary (including the laws covering the activities in joint stock companies and book keeping in industrial firms).
- 4 Study ways and means for State Financial Support to the manufacturing industry.
- 5 Develop a complete new system for the basic education and further training of all categories of industrial personnel including a new Department of Industrial Engineering at the University of Iceland.
- 6 Study the feasibility of the establishment of branch organized institutions and specialized firms for import of materials and machinery and for export of industrial goods.

6.1.2 Planning and programme preparation

- 1 Review, revise, modify, and complete the Long-term Industrial Development Plan and the Tentative Programme of Action for 1973-74.
- 2 Prepare a Tentative Programme of Action for 1975

6.1.3 Establishment of new Institutions

- 1 The Industrial Development Centre of Iceland (IDCI)
- 2 One Industrial Centre
- 3 Some branch organized institutions or firms for import of materials and machinery and export of industrial goods
- 4 One factoring firm

6.1.4 Education and further training of industrial personnel

- 1 Intensify the training of managers, supervisors and foremen, and specialists in industry.
- 2 Prepare the establishment of an Industrial Engineering Department at the University of Iceland.
- 3 Support on-the-job training within industrial firms.
- 4 Finalize and put into practice the standard system of accounting and cost accounting.
- 4 Prepare text-books and booklets covering various areas of industrial engineering and managerial economics, including procedures, forms, and instructions for introduction.

6.5.1 Advisory services

- 1 Initiate and carry through studies of productivity improvement in selected industries.
- 2 Initiate and carry through studies on product development in selected industries.
- 3 Initiate and intensify market research and export promotion.
- 4 Assist on request industrial firms in all matters connected with production and marketing of industrial products.

6.1.6 Project studies

- 1 Continue the studies on industrial application of perlite, pumic and other volcanic materials.
- 2 Continue the studies of design, standardization, production, ownership, and use of fish boxes.
- 3 Carry out a feasibility study of electro-smelting of ilmenite.
- 4 Follow up the studies on the Sea Chemical Project.
- 5 Prepare for the establishment of an undertaking for drying of seaweed.
- 6 Locate, design, and prepare all documents needed for the establishment of the first Industrial Centre.
- 7 Carry out the studies needed for the large-scale industrial projects given the highest priority.

6.1.7 Productivity improvement within industrial firms

- 1 Prepare a Plan of action for the firm for 1973-74.
- 2 Intensify further training of all employees.
- 3 Start the implementation of the Plan of Action for the firm for 1973-74.

6.2 Co-ordination, direction, and performance of implementation activities and distribution of responsibilities

The co-ordination, direction, and performance of the implementation of the Development Plan can be organized, as a suggestion, in the following way:

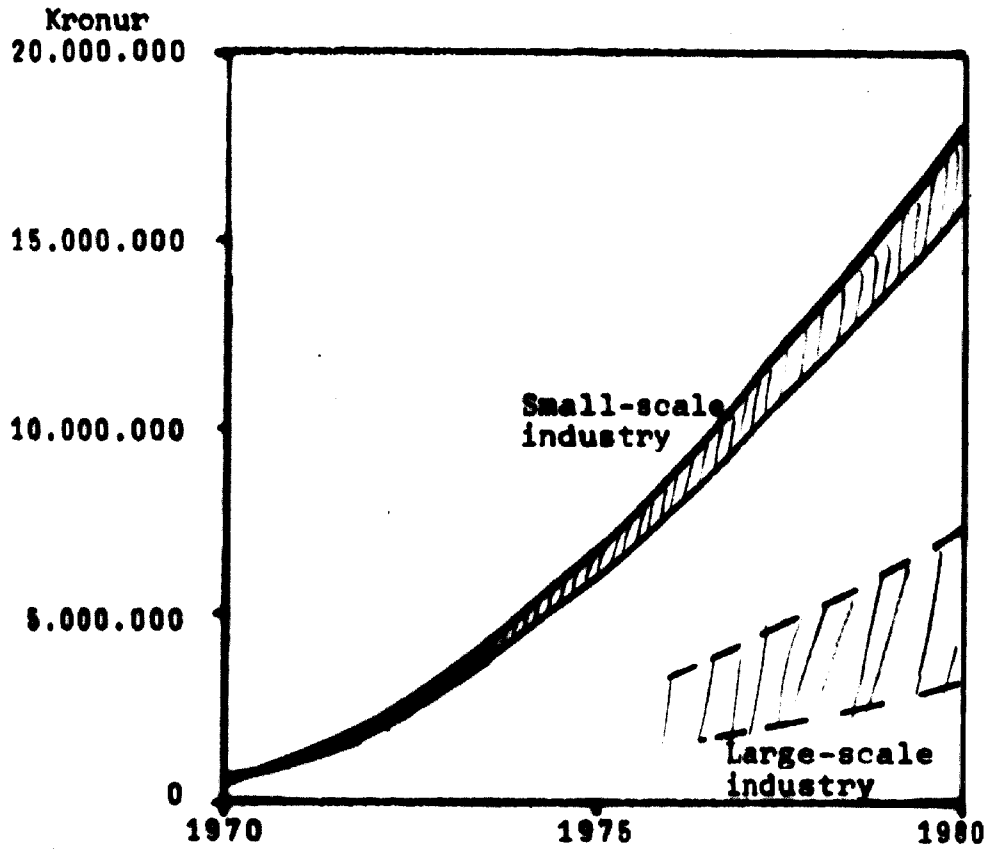
- 1 A Governing Committee is established by the Ministry of Industry for the overall co-ordination and direction. The chairman as well as the secretary must be full time. This committee can from 1 July 1973 constitute the Interim Board of IDCI as shown in Fig. 5.2.4 on page App. 5.2.14. The chairman of the Governing Committee can also be selected for the post as Managing Director of IDCI from 1 January 1974 as shown in Fig. 5.3 page 5.2.1.
- 2 A number of Special Committees are established by the Governing Committee for the performance of special investigations as listed under 6.1.1 above.
- 3 A number of Project Groups are established by IDCI for the planning and programme preparation, training of industrial personnel, advisory services and project studies as listed under 6.1.2, 6.1.4, 6.1.5 and 6.1.6 above.

Distribution of responsibilities:

- 1 The Governing Committee is assigned the responsibility for the overall co-ordination and direction of implementation activities, the assignment of Special Committees, the approval of work programmes, allocation of funds, and the review and follow up of the work of these committees, and, as an Interim Board of IDCI, for the effective utilization of allotted funds.

5.7 EXPORT OF INDUSTRIAL PRODUCTS PER ANNUM

The target level of export per annum in 1980 has been set at 17,000 mill.kronur from small scale-industry and 7.000 mill.kronur from large-scale industry.



The key posts in this organization are the posts of Chairman of the Governing Committee and Managing Director of IDCI and the outcome of combined efforts is to a very great extent depending on the capacity and capability of the man (or men) selected for these posts.

6.3 Time schedule for the implementation activities

As has been pointed out before in this report an early start of the process of development during 1973-74 is of immense importance for a successful fulfilment of the Development Plan objectives.

A time schedule for such an early start is visualized in Fig.

6.1 on the following page.

It should be emphasized, however, that the possibilities for an effective performance of activities in accordance with this time schedule is depending on the prompt establishment and proper manning of the Governing Committee and the capacity and capability inherent in IDCI.

6.4 Manpower requirements

A rough estimate of the manpower requirements is made below. At this stage of development it seems advisable not to make too elaborate estimates as the volume of work to be performed has to be measured from a series of proposals only.

	Number of manmonths	
	1973	1974
1 Chairman of the Governing Committee	10	
2 Members of the Governing Committee	--	
3 Managing Director of IDCI		12
4 Chairman and Members of the Board of IDCI		--
5 New employees at IDCI	96	144
6 New employees at the Export Board	18	36
7 New employees at the B.R.I.	--	--
8 New employees at the I.R.I.	--	--
9 Members of the six Special Committees	--	
10 Members of a number of Project Groups to be selected outside IDCI	--	--
11 Specialist for the administration and execution of further training	--	--

**Fig. 6.1 Time schedule for the implementation activities
1973-74**

	1973	1974
1 Establishment of the Governing Committee	1.2.3.4.5.6.7.8.9	1.2.3.4.5.6.7.8.9.10.11.12
2 Establishment of IDCI	1.2.3.4.5.6.7.8.9	1.2.3.4.5.6.7.8.9.10.11.12
3 Establishment of Special Committees	1.2.3.4.5.6.7.8.9	1.2.3.4.5.6.7.8.9.10.11.12
4 Work of Special Committees	1.2.3.4.5.6.7.8.9	1.2.3.4.5.6.7.8.9.10.11.12
5 Establishment of Project Groups	1.2.3.4.5.6.7.8.9	1.2.3.4.5.6.7.8.9.10.11.12
6 Work of Project Groups on special projects	1.2.3.4.5.6.7.8.9	1.2.3.4.5.6.7.8.9.10.11.12
7 Work of Project Groups on advisory services	1.2.3.4.5.6.7.8.9	1.2.3.4.5.6.7.8.9.10.11.12
8 Work of Project Groups on planning and programme preparation	1.2.3.4.5.6.7.8.9	1.2.3.4.5.6.7.8.9.10.11.12
9 Work of Project Groups on further training	1.2.3.4.5.6.7.8.9	1.2.3.4.5.6.7.8.9.10.11.12
10 Establishment of the first Industrial Centre	1.2.3.4.5.6.7.8.9	1.2.3.4.5.6.7.8.9.10.11.12
11 Establishment of Institutions and/or Specialized Firms for import of materials and machinery and export of industrial goods	1.2.3.4.5.6.7.8.9	1.2.3.4.5.6.7.8.9.10.11.12
12 Establishment of a Factoring Firm	1.2.3.4.5.6.7.8.9	1.2.3.4.5.6.7.8.9.10.11.12

6.6 Costs of implementation of the Development Plan 1973

The costs of implementation during 1973 have been estimated on the basis of the tentative work programme. The intention is to show the magnitude of funds needed only, and, for natural reasons, it is a rough estimate as rather few figures have been based on real work programmes.

	<u>1,000 kronur</u>
<u>Special investigations</u> (page 6.1)	
Overall costs of six Special Committees	2,000
<u>Planning and programme preparation</u> (page 6.1)	
To be performed by IDCI	-----
<u>Establishment of new institutions</u> (page 6.1)	
The industrial Development Centre (App. 5.2.21)	38,000
One Industrial Centre (no investments 1973)	----
Branch-organized institutions (")	----
One Factoring Firm (")	----
<u>Further training of industrial personnel</u> (page 6.2)	
To be performed by IDCI	----
<u>Advisory Services</u> (page 6.2)	
To be performed by IDCI	----
<u>Project studies</u> (page 6.2)	
To be performed by IDCI	----
<u>The Governing Committee</u> (page 6.3)	
Salaries for the Chairman and Secretary (full time 1 March - 31 December 1973) and five Committee Members	1,900
Expenses	<u>1,100</u>
	3,000
<u>State Financial Support to Industrial Firms</u>	
State financial support to industrial firms for productivity improvement and product development	<u>10,000</u>
<u>Total</u>	<u>53,000 kronur</u>

For the development of export-oriented industries UNDP has allotted the following amounts for 1973:

UNDP/UNIDO	126.050 US dollars	12,000,000 kronur
UNDP/UNCTAD	65,050 US dollars	<u>6,000,000 "</u>
	<u>Total</u>	<u>18,000,000 kronur</u>

The overall additional funds to be utilized in the implementation of the Industrial Development Plan during 1973 can be summarized as follows:

	Alt. 1	Alt.2 ¹⁾
Estimated additional funds for IDCI and the Governing Committee	53,000,000	46,000,000
UNDP/UNIDO and UNDP/UNCTAD	<u>18,000,000</u>	<u>25,000,000</u>
<u>Total</u>	<u>71,000,000</u>	<u>71,000,000</u>

¹⁾ In Alt. 2 it is assumed that part of the costs for the feasibility study of electro-smelting of ilmenite - 7,000,000 kronur - will be financed through UNDP/UNIDO.

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ICELAND,

LONG-TERM DEVELOPMENT PLAN
FOR
THE MANUFACTURING INDUSTRY
1973-1980

VOLUME 2



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New York

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VOLUME II

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APPENDIX 1

INDUSTRIAL DEVELOPMENT PLANNING

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1 THE CONCEPT OF DEVELOPMENT PLANNING

1.1 Introduction

The main objective of the industrial development plan is to increase the competitive power of Icelandic industrial enterprises. This is a complicated process and Icelandic industries have a long way to go.

The process of industrial development in a country can, to a greater or less extent, be directed by the Government. As one extreme one can select the industrial development in USA during the period 1865-1925. Government actions, both Federal and State Governments, were based on a pronounced laissez-faire policy and attempts to direct the development process, for instance through anti-trust laws, had a very limited impact.

In the initial stages the big industrialists were heavily influenced by the philosophy introduced by Herbert Spencer and his American follower, the political economist William Graham Sumner, who accepted completely Spencer's theories of evolution and its application in the social and economic field. He also applied Spencer's "survival of the fittest" in political economy and often quoted is the following sentence of his:

"Let us be understood that we cannot go outside of this alternative: liberty, inequality, survival of the fittest; not-liberty, equality, survival of the un-fittest. The former carries the society forwards and favors all its best numbers; the latter carries society downwards and favors all its worst numbers."

As an opposite extreme there is the Sovjet Industrialisation Process from 1928 and onwards, which is based on a complete centralization of power and directed in detail by the

5.1.2 Demands on various areas for 1980

The Icelandic industry is in a stage of transition from handicraft production on order to industrial manufacturing for stock.

To reach the targets for 1980 requires a series of substantial changes and improvements in many areas of activity. The outcome of this part of the development process depends to a great extent upon the mutual connection of changes and improvements, timely implementation and the overall co-ordination.

A model of an overall plan of industrialization has been prepared based on the following two basic principles:

1 Specialization of functions

In the process of industrialization the responsibility for the fulfilment of established targets are decentralized. A number of institutions, agencies, marketing firms and industrial firms, each perform one specialized function in one distinctive area of activity: wholesalers for the supply of materials, general agencies for supply and maintenance of machinery, industrial firms for production, wholesalers and branch-organizations for marketing of goods, and the whole industrial infrastructure for all kinds of services and financial support.

2 Specialization in the manufacturing of industrial products.

In the process of manufacturing the firms are concentrating their effort on a very limited number of products utilizing all the advantages of specialization.

The basic ideas behind this model of industrialization are:

- optimum utilization of limited resources during the planning period;
- an adequate introduction of new industrial goods on the world market;
- the need for an instrument for balanced actions of development in various areas.

Government. The first one in a long series of five-year plans was introduced in 1928 and well-known is the comprehensive long-term plan for 1960-1980. Based on a philosophy of socialism a hierarchy of plans are prepared dealing in detail with industrial problems down to firm level. The planning procedure includes a continuous follow-up and a very strict control.

Government planning was in many western countries during the thirties and fourties very often mixed up with socialism and there was a very strong opposition from commerce and industry towards government interference in industrial development. Nowadays, however, it is generally accepted that Government support is a necessary prerequisite for industrial development.

1.2 The Concept of Economic Planning

Preparation of a plan means forming a view of the future. In the context of industrial development planning the planning period should be short enough to facilitate realistic prognosis but long enough to cover large scale investments. Five years have been found to be a reasonable period.

The view of the future must be more than a collection of projects and programmes. It ought to form a coherent whole, co-ordinating economic factors, activities of different bodies and various sectors of the society, and eliminating internal contradictions and major inconsistencies.

Every real plan presupposes, to a varying degree, a desire to transform the future and to mould it in a particular way. The plan is not merely a forecast of the future, its purpose is to deliberately influence the course of events. To this end the plan contains descriptions of selected target areas, formulation of targets; and choices and priorities.

The plan should combine objective expectations with an affirmation of will. The plan should, however, be regarded not only as a set of objectives, but as a strategy providing for responses needed to deal with various kinds of unforeseen events.

In this connection the terms "Indicative Planning" and "Imperative Planning" have been used. "Indicative Planning" means formulation of guiding principles and general terms of reference, outlining the overall course of action. "Imperative Planning" add to this detail instructions and targets on firm level and includes furthermore a more strict follow up and government control.

There are also the terms "Macroeconomic Planning" and "Microeconomic Planning". "Macroeconomic Planning" considers the society as a whole with its most important units and sectors, whereas "Microeconomic Planning" considers individual sectors, regions, industries, or even industrial enterprises.

It is essential that each objective of the plan should be combined with suitable actions providing means of achieving it. Throughout the planning period it is also essential that its progress should be kept under review, and that authorities have adequate means of dealing with any obstacles. This implies that the plan should not be a formal document but a programme of action, which is binding for the whole administration.

The plan is nothing if it is a purely technical device, however sophisticated it may be as an academic exercise. It is only worth something if it reflects real determination. Determination first of all on the Government's part, since it is the Government which in principle has the means of economic policy of achieving it. Determination too, at least implicitly, on the part of majority of the population who endorse its stated objectives and the vision of the future which the plan provides.

1.3 Hierarchy of Development Plans

An Industrial Development Plan is, or should be, an integrated part of a well-articulated set of perspectives, plans and programmes. The foundation of this set are BASIC VALUES AND PRIMARY OBJECTIVES accepted by the majority of citizens and the final target area is LIVING CONDITIONS FOR ALL CITIZENS not only in the existing but also in coming generations.

The Long-Term Plan of Industrial Development has to be co-ordinated with the Perspectives of Social Development and it should include a Short-term Programme of Action for the first two years of the plan period. The Annual National Budget can then for actual areas be based on facts and figures in the Short-Term Programme.

Perspectives, plans and programmes are all influenced by the political and economic situation on the International and the Domestic scene and by the conditions on the World Market for industrial products.

The hierarchy of plans and the areas of influence are visualized in fig. 1.1 on page App. 1:5.

1.4 Planning for Whom?

One of the primary objectives in development planning in all countries is economic growth. Economic growth as such is a matter of intertemporal distribution of public and private consumption or, in other words, a problem of choice between consumption today or consumption sometime in future. An acceleration in economic growth thus means a temporary decrease of the current consumption possibilities. It can also be observed that the rate of economic growth in a country is now generally considered rather as a result of the balance of consumption at different points of time than a measure of economic and technical efficiency.

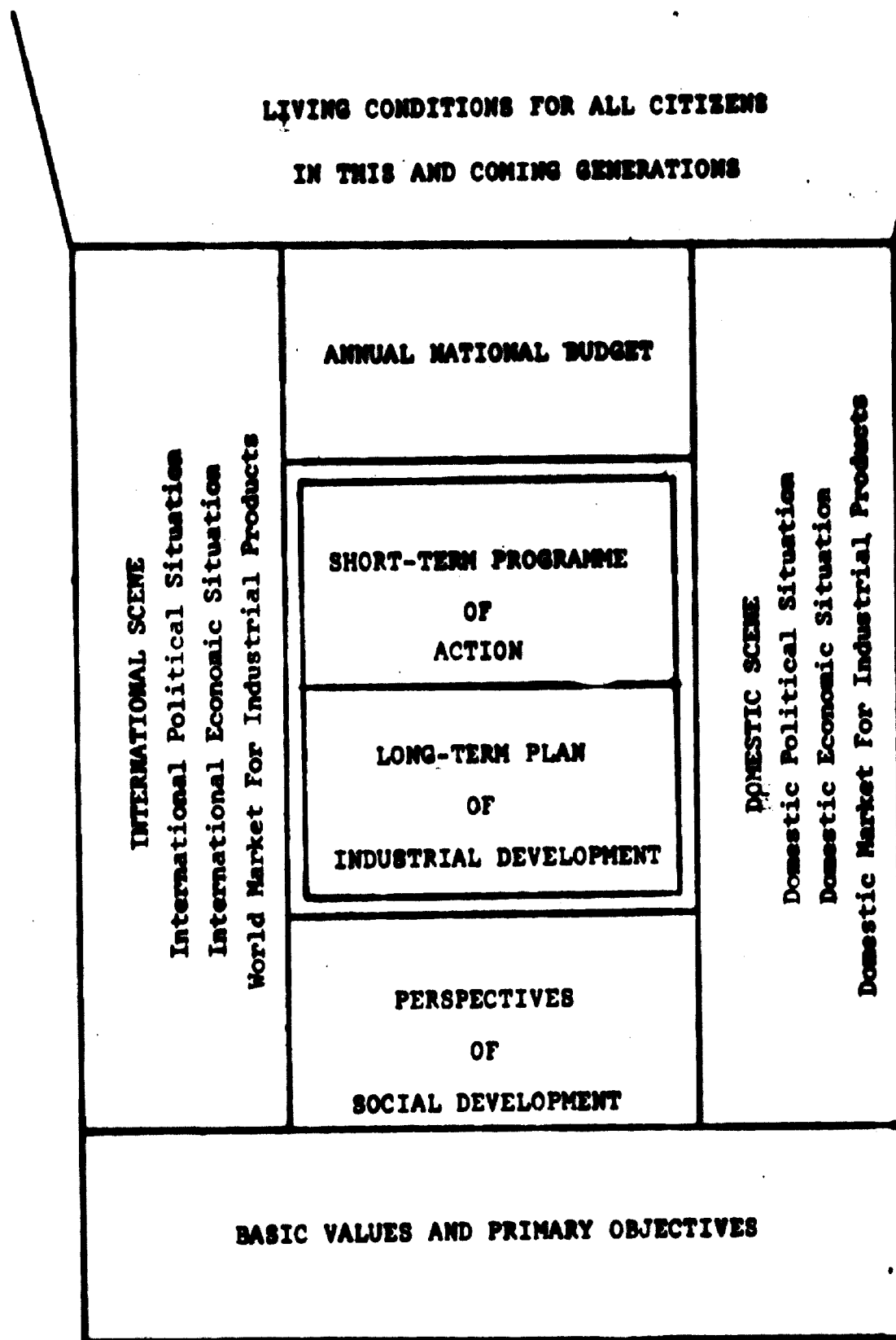


Fig. 1.1 Hierarchy of development plans

Economic growth is thus to a great extent determined by the ratio of public and private savings and the corresponding volume of investments. In this connection it is not only the volume of conventional investments (in industry, agriculture, fisheries, etc.) that counts, but also investments in education and training, research and development, and other parts of the social and industrial infrastructure.

(The definition of saving: accumulation of wealth through postponement of consumption).

Before the determination of the volume of savings out of the Gross Domestic Product (GDP) (partly achieved through taxation of private consumption) the political decision makers have to decide: for whom are we planning? The preferences for economic growth varies with the age of the individual and the expected remainder of his length of life. The young portion of the population has more to gain from economic growth based on limited consumption today whereas for elderly citizens only short-term investments with quick return are advantageous.

The political decision makers must also take into consideration the interests of the coming generations and their demands and expectations. It is their responsibility to secure a balanced development of the economic and social life even if necessary actions come into collision with the interests of the existing generation.

2 LONG-TERM DEVELOPMENT OBJECTIVES

2.1 Formulation of Long-term Development Objectives

The basic objectives to be formulated for the long-term development work within the Icelandic industry cover the following areas:

- employment
- economic growth
- price stability
- balance of payments
- living conditions for all citizens.

These objective areas are all closely related and thus it is not possible to formulate the objectives for one area without considering the problems within other areas. For example, it is difficult to achieve price stability and full employment simultaneously or maximum economic growth without certain limitations in the individual's conditions of life.

The relationship between and the primary qualifications for the different objective areas are visualized in Fig. 1.2 along with the primary prerequisites, the current demands in Iceland, and the actions to be taken within each area. This is just an outline and a base for further discussion. The final formulation of long-term objectives is not a part of this study.

A BASIC OBJECTIVES	B PRIMARY QUALIFICATIONS	C PRIMARY PREREQUISITES	D	EQ
1 Full employment	1.1 Inflation to a certain extent must be accepted	1.1 Industrial enterprises with competitive power 1.2 Adequately trained personnel 1.3 Enterprising spirit	.1 Adequately trained personnel .2 Properly trained personnel .3 A positive attitude towards enterprises	
2 Economic growth	2.1 Certain limitations in the individual's conditions of life must be accepted 2.2 Greater sensitiveness to economic disturbances in the society must be accepted	2.1 An increase of production bigger than the increase of population 2.2 Perpetual increases of production per man hour 2.3 Satisfactory shares of markets at home and abroad 2.4 A proper balance between performance and conditions of work (compensation, security of work, environment of work)	.1 A sufficient per capita income .2 A moderate rate of population growth .3 More varied production	
3 Price stability	3.1 Unemployment to a certain extent must be accepted	3.1 Reasonable price developments within the country 3.2 A homogeneous increase of production per man hour in all enterprises whether producing for exports or for the home market 3.3 A proper balance between performance and demands for higher compensation in all sectors of the society	.1 A proper balance between performance and demands for higher compensation in all sectors of the society .2 Government intervention in certain sectors	
4 Balanced foreign payments	4.1 Discrimination to a certain extent of enterprises producing for the home market must be accepted	4.1 A proper balance between exports and imports 4.2 Constantly increasing exports	4.1 Special incentives for certain industries 4.2 Preference for investment in certain industries 4.3 Certain forms of import control	
5 Good and equal living conditions for all citizens	5.1 Certain limitations in the economic growth must be accepted	5.1 Equal employment possibilities for women and men 5.2 Good employment possibilities for older and handicapped people 5.3 Balanced regional developments 5.4 A positive attitude from everyone towards working conditions and environmental care of all kinds 5.5 Balanced distribution of income	5.1 A proper balance between performance and demands for higher compensation in all sectors of the society	

SECTION 1

REQUISITES

D CURRENT DEMANDS

E MEASURES TO BE TAKEN

...rises with compe-
...d personnel
...it

- 1.1 Adequate training of labour, super-
visors, specialists and managers
- 1.2 Proper supply of investment capital
- 1.3 A positive attitude towards
entrepreneurial activities

- 1.1 To establish an Industrial Development
Centre
- 1.2 To establish an adequate capital
market
- 1.3 To support financially the establish-
ment of new industrial enterprises

...duction bigger than
...pulation
...es of production

- 2.1 A substantial increase in production
per man hour
- 2.2 A more favourable structure in
various industries
- 2.3 More adequate industrial services of
various kinds in such areas as
product development, material test-
ing, marketing, financing and pro-
ductivity improvement

- 2.1 To organise a drive of productivity
improvement in all firms
- 2.2 To adapt the structure of industry to
current competitive conditions
- 2.3 To establish funds for financial support
of these activities
- 2.4 To simplify clauses on tariffs and taxes
- 2.5 To establish institutions for industrial
services

...s of markets at
...between perfor-
...ons of work
...curity of work,
...ork)

- 3.1 A proper balance in public spending
on export production and home
market production
- 3.2 Governmental control of prices to a
certain extent

...developments

...crease of produc-
...in all enterprises
...for exports or for

...between perfor-
...is for higher tom-
...ctors of the

...between exports

...sing exports

- 4.1 Special emphasis on development of
industrial products for export
- 4.2 Preference for exporting firms to
investment capital
- 4.3 Certain demands on quality control
of imported goods

- 4.1 To support financially product develop-
ment and export promotion
- 4.2 To establish quality standards for
certain imported industrial goods

SECTION 2

...possibilities for

...possibilities for
...oped people
...developments
...e from everyone
...conditions and
...re of all kinds
...tion of income

- 5.1 A proper balance in public spending
on development in various sectors
and regions of the society

- 5.1 To evaluate and balance basic
objectives

2.2 Full employment and price stability

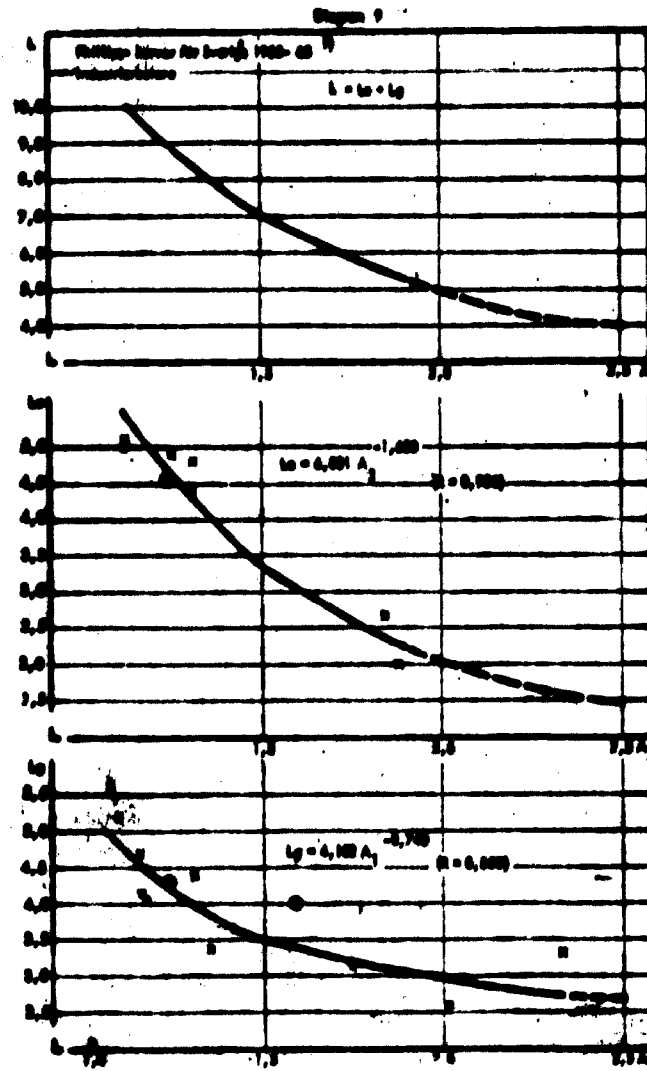
If the long-term objective is formulated as full employment there might be difficulties in the area of price stability. This problem has been widely discussed in economics for a long time.

In a celebrated article that appeared in 1958, Professor A.W. Phillips set out to illustrate how the law of supply and demand is applied with respect to wage increases. Taking the unemployment percentage as a measure of the strength of demand relative to the available supply of labour, Phillips argues that:

"When the demand for a commodity or service is high relative to the supply of it we can expect its price to rise, the rate of rise being greater the greater the excess demand. Conversely, when the demand is low relative to the supply we expect the price to fall, the fall being greater the greater the deficiency of demand. It seems plausible that this principle should operate as one of the factors determining the rate of change of money wage rates, which are price of labor services".

When he plotted the data on changes in money wage rates and unemployment in the United Kingdom over almost a century up to 1957, Phillips found a significant and remarkably stable relationship between the change in money wages and the level of unemployment.

In the diagram in fig. 1.3 this theory is applied to Swedish conditions during the period 1955 - 65. The diagram should be interpreted with cautiousness, especially outside the interval of actual observations. One gets, however, the impression that increases both in wages agreed upon in the central agreements and "löneglidning" are very sensitive to the conditions on the labour market, especially when the percentage of unemployment is low (1.0 - 1.5%).



Horisontell axel = arbetslöshetsprocent, vertikal axel = procentuell årlig lönesökning (L₀ lönesökning, L₁ avtalsmässig lönesökning, L total lönesökning).

Rita. Tabell 9, tabellåtag. 1) Den faktiska lönesökningen 1955-67 anges med ringar i diagrammet.

Fig. 1.3 The relationship the change in money wages and the level of unemployment in Sweden 1955 - 1965.

The limited resources are managerial capability, specialist knowledge and money.

During the planning period there will be a pronounced shortage of capable managers and of all kinds of specialist knowledge in all areas of industrial production and industrial services. It is obvious that only with a very high specialization of functions it will be possible to achieve a balanced process of industrial development.

The establishment of service institutions, investments in physical facilities and machinery, the financing of industrial services and the financial support to various industrial activities will cause a big demand of money, especially during the first years of the planning period before the accumulation of capital will have any effect. Specialization of functions as well as specialization in manufacturing within industrial firms will to a great extent simplify the financing of all these investments and expenditures.

One of the consequences of the increased productivity of labour will be a sharp increase in the export of industrial goods and, furthermore, from industries which are at present producing for the Icelandic market only. To introduce new industrial goods on foreign markets is a very intricate business in itself but in this special case it is a matter of another dimension - to introduce within a couple of years industrial goods from several Icelandic industries on new markets in several countries.

Mistakes made by one firm may cause difficulties not only for other firms in the same branch of industry but also for firms in other industries. Instead of decentralizing the responsibility for export marketing to all industrial firms it seems to be necessary to centralize these activities to a few export organizations (branch organizations or whole sale houses).

A small number of qualified specialists can much more efficiently solve all the problems connected with export marketing. They can also be made responsible for a continuous control of product design, product quality and the proper fulfilment of delivery times, especially during the first years of the planning period.

3 LONG-TERM DEVELOPMENT PLANNING IN SOME COUNTRIES

Long-term development planning in the sense of indicative or imperative planning is a rather new government activity. The first five-year plan was established in the Sovjet Union for the years 1928/29 - 1932/33. After World War II the same type of imperative planning was introduced in several East-European countries.

Some West-European countries started long-term investigations and in some cases long-term indicative planning in connection with the reconstruction of national economies after World war II and the utilization of the Marshall Funds. These countries were France, Holland (industrial development planning), Norway and Sweden. In the sixties long-term planning was introduced in Belgium, Greece, Ireland, Spain and Great Britain. In Iceland a Draft Development Programme for the period 1962-1966 was prepared

In the following pages a short description will be given of the system of development planning used in France, Holland, Norway and Sweden and some short notes about the Icelandic five-year programme.

3.1 Development Planning in France

Development planning was introduced in France in 1946 shortly after the liberation. Since then five five-years plans have been put into effect of which the latest reached its terminal year in 1970.

The first plan was in effect a programme of investment in the major sectors which was intended to reconstruct the foundations of the French economy. The second and third plans were far more complete production plans, covering all sectors of the economy and co-ordinating sectorial objectives. The IVth plan and even more the Vth include perspectives for the trend in prices, incomes, savings, and financial flows.

The evolution has therefore been in the direction of more complete, more detailed, and more coherent planning.

France is a country with a market economy and planning does not claim to be a substitute for the market. The plan seeks on the contrary to play the role of a market survey generalised on a national scale. It represents a coherent picture of the future for which the various economic decision-makers can make provision. The plan proposes therefore to reduce the uncertainty of the future and to make it easier to adapt to changes which are inevitable consequences of economic growth.

The plan is not only a forecast of the probable future. It also contains a set of aims and targets. In presenting the plan to the Parliament, the Government undertakes to use it as a framework for its investment programme and as an instrument for the orientation of economic expansion and social progress.

The preparation of the plan is a collective endeavour. Representatives of the Government, industry and trade unions all take part. For this purpose a complex machinery of committees and working groups has been set up for concerting the views of all the parties concerned. It has been estimated that in all about 3.000 persons take part in the preparation of a plan during a period of about 3 years.

The French plan relates to industrial sectors and not to industrial enterprises. Except in a small number of highly concentrated sectors, it does not set objectives for individual enterprises. The authorities intervene only when there is clearly a considerable risk of disequilibrium.

These general characteristics show that the French plan is a complex mixture of spontaneous and normative elements. Each part of it combines forecasts and objectives. It is a representative example of indicative planning.

The body responsible for formulating the plan is the "Commissariat Général du Plan". For some years it has been directly responsible to the Prime Minister. The "Commissariat" is, however, not directly responsible for the execution of the plan, which is the task entrusted to the various ministries, but it is responsible for reporting of progress made.

3.2 Development Planning in Holland

Long-term planning of industrial development was introduced in Holland 1952 and the first five-year plan covered the period 1953/57. In order to achieve a continuous follow up and a stabilization of the long-term economy a comprehensive system of short-term planning has later been introduced. For this purpose an econometric model has been developed consisting of 32 equations and as many variables. Variables for primary objectives are the surplus (deficit) in the balance of payments, the employment, the investment level, the share of salaries and wages in the GDP, and the price level. Among the independent variables the following can be mentioned: direct and indirect taxes, government expenditures, the level of salaries and wages, gross fixed capital formation, imports and exports, transportation costs, and rate of interest.

The model has been developed by a planning bureau, which is an interdepartmental government body. This bureau is responsible for the annual follow up and determination of expected outcome in various target areas as a result based on forecasted changes in independent variables.

3.3 Development Planning in Norway

The first long-term perspectives, prepared by Statistisk Centralbyrå, contained some alternatives of economic development after the World War II. An Appendix to the National Budget for 1945/46 presented alternative figures for the GDP, the balance of trade, public and private consumption and investments for the period 1946-50. The aim was just to show alternatives of economic development in connection with the changeover from a war to a peace economy.

The first, as well as the second plan 1949-52, were not ratified by the Storting but the Government regarded it as a part of the government programme and utilized the basic principles of the plan in order to carry through the proposed comprehensive investment programme.

The following three long-term plans, 1954-57, 1958-61 and 1962-65 dealt primarily with the utilization of resources for investments, public and private consumption and, to a great extent, with regional development, especially the development of Northern Norway.

Sofar the long-term plans had been just guide-lines for the preparation of the annual state budget. From 1963, however, the responsibility for long-term development planning was given to a department in the Ministry of Finance and, at the same time, a new system for the long-term planning (4 year periods) was introduced.

Based on preliminary estimates of the total national income the Government makes a tentative distribution of means for the various budget areas. Each Ministry is then responsible for the preparation of their part of the long-term plan.

The first result of this new system was presented as the plan for 1966-69, in which plan the first year's figures were identical with the national budget for 1966. The same system has been used for the long-term plan 1970-73.

3.4 Development Planning in Sweden

The first long-term analysis of the economic development in Sweden appeared as an appendix to the national budget in 1946 and dealt with the development of GDP and public finances during the period 1947-52. This analysis was made within the Ministry of Finance.

In 1948 the perspectives were widened. A committee of experts was given the responsibility to study the whole economic development from 1947 to 1952 and the result of this study became the first long-term development plan. The same type of committee prepared the following three plans but from 1955 and onwards the planning has been carried out in the Ministry of Finance.

The long-term planning in Sweden can be characterized more as a series of forecasts, to a certain extent containing recommendations, rather than detailed plans for economic development. The analysis is based on a series of detailed inquiries and discussion with representatives for industry and commerce and various organizations in the private and public sector. With all facts and figures in hand a consistent prognosis is prepared for the economy as a whole, remaining contradictions and inconsistencies are discussed, and different alternative directions evaluated.

To a certain extent these prognoses could be called hypotheses or projections; one tries to explain or forecast what will happen in some sectors if something (exports or productivity) develops in a certain direction.

This type of long-term development planning is a very modest form of indicative planning. No production targets are formulated and normally there are no attempts from the Government to persuade the private sector to direct their decisions in accordance with planned figures. Generally the Government has not even accepted the prognoses as official government policy. The chairman of the above mentioned committees, Ingvar Svennilsson, made 1965 the following comments to this:

"It has not been part of the Swedish planning process to go back to the various economic units (after collecting data) and negotiate a revision of their plans according to the integrated national perspective. This would be regarded as an unsound intervention in the competitive system. Firms and sectors are expected to adjust to the market development that actually follows, guided by the information they receive in the published national projection ... The national projection creates an 'image' of economic growth that has a backing in Government policy. This 'image' will stimulate industry to plan for its long-term expansion and make it possible to do it more realistically. In this way, national projections may contribute to create a better balanced economic growth".

The terms "plan" and "planning" are not widely used. The title of the latest analysis is: "The Swedish Economy 1971-1975 and the General Outlook up to 1990. The 1970 Long-term Survey." The main purpose of this survey and the overall approach is described in the introduction to the survey as follows:

"The main purpose of this survey has been to specify the demands on economic policy that will arise from these goals and to confront these demands with the restriction that will operate during the period. The results presented here are not to be taken as proposals for plans for the coming five-year period, either for the economy as a whole or for the government sector. Our main intention has been to clarify relationships between different parts of the economy and, in the form of conditional forecasts, describe the consequences of alternative goals. The report should thus be regarded as a basis for decisions concerning economic policy.

Of course the Government cannot determine its approach to these problems simply by selecting here and now only one of the reported alternatives as a plan for development 1970-1975 and then following this during these years. For one thing the Swedish economy is far too exposed to various disturbances that cannot yet be foreseen and, for another, the alternative developments calculated here are far too uncertain. The material presented here should be regarded instead as a basis for a choice of strategy in economic policy during the next five years. By this we mean that the nature of economic policy during the next few years must be determined in the light of the goals that are set up for the five-year period as a whole. In one or two years

time a reappraisal will have to be made in the light of actual development, and new decisions may have to be taken with the help of additional experience gained in the interval.

The methodological procedure adopted for this survey largely follows the pattern for the last two surveys. The purpose of the method is to obtain a total consistent pattern of development in the Swedish economy for each constellation of given goals. In the process, allowance is made for the current economic and technical restrictions, which means for instance that the demand for labour does not exceed the forecast supply, that the total demand for goods and services is compatible with the country's productive capacity and that the rising demand of the public sectors during full employment is accompanied by an equally large reduction of demand from other sectors."

3.5 Development Planning in Iceland

In 1961 three Norwegian experts at the command of the Icelandic Government prepared a "Draft Development Programme for Iceland 1962-1966". The Programme was prepared in close collaboration with all Ministries and various National Institutions, especially Frankvamdabanki, Hagstofa and Sedlabanki.

The Draft Development Programme covers such areas as Production, and Investments, Exports, Imports and Balance of Trade, Finance, Population and Employment, and the following sectors: Agriculture, Fishing and Fish Processing, Manufacturing Industries, Construction, Power, Education and Research, and Social Services.

In the Handbook "Iceland 1966" the Development Programme is described as follows: (pages 219-220)

To follow up the stabilization programme of 1960 the Government adopted in April 1963 its first long-range economic programme for the years 1963-1966. The programme envisaged a 4 per cent annual rate of economic growth and stressed the need for economic stability. It also indicated the conditions under which stability could be achieved.

-1:8-

More particularly, the programme envisaged greater private and public investment, the latter notably in the fields of electric power, transportation, schools and residential housing. It aimed at a rate of growth of public consumption considerably above that of national product, while private consumption was expected to increase at a slower rate than the national product. The programme stressed the need for imposing better order and coordination upon public decision-making in this respect. In continuation of the long-range programme specialized investment programmes have been prepared annually for important branches of the public sector. Public investment credit funds and some large-scale private industrial projects have also been covered. Programmes of this kind, improving internal co-ordination as they do, are intended to provide an important means of managing aggregate demand as well as improving the allocation of resources for investment.

During the period covered by the long-range programme developments have been different in important respects from what the original programme envisaged. The national product, and national income in particular, have grown much faster than expected, mainly as a result of the strong performance of the fishing and fish processing industries, and sharp rises in wages and salaries have led to increases in aggregate demand with the result that private consumption and investment have increased at much higher rates than expected.

The Government had intended to have a second four-year programme, for 1967-70, prepared in 1967. However, several factors induced it to abandon the idea.

The big problems in forecasting may be illustrated by comparing forecasts of the growth rate of the major demand components in the "Economic Programme 1963-66" with the actual outcome.

Table 1. Growth of Major Demand Components, 1963-1966
Forecast vs. Actual Outcome
Per cent

	Average annual real growth rate	
	Forecast	Outcome
Gross national product	4.0	9.0
Private consumption	3.8	10.3
Public consumption	5.7	7.3
Gross fixed asset formation	6.1	14.9

Source: OECD National Accounts and (Icelandic) Economic Programme 1963-1966.

4 "MANAGEMENT, MOTIVES AND SOCIETY"

In order to indicate some characteristics in the Icelandic way of thinking some quotations are made from a thesis prepared by Sveinbjörn Eggert Peterson: "Management, Motives and Society, A Study of the Relationship Between Sociological Variables and Some Attributes of Personality Among the Upper Classes in Iceland", Massachusetts Institute of Technology, 1970. The purpose of the study was to inquire into the relationship between sociological variables and managerial attitudes and we will just quote some of his findings:

"Participation is a multi-faceted phenomenon. There is also a suggestion in the statistical data that a belief in participation is an attribute of the Icelandic elite. Participation ranges from a personal responsibility to be involved in the immediate task, through membership in a variety of organizations, to a keen interest in all that is happening in the world." (page 219).

SEP notes as a peculiarity of Icelandic Economic organization "the plurality of organizations when economic common sense would suggest one would do." And he quotes Sallé:

"To form groups seems for the Icelanders to be a vital necessity. The contradiction with that fierce individualism which we have already remarked is merely apparent. ... Individualism is able to flourish nowhere better than in a well organized society." (Michel Sallé: "La Vie Economique et Politique en Islande", 1968).

And SEP gives an example:

"There are six commercial banks, each with branches throughout the country, serving a population of 200,000. Three of these are owned outright by the state, and the state has a minority interest in the fourth. One bank is privately owned and another is owned by the co-operative movement. If one takes into account that for decades "government was the co-operatives", then the national government is involved in five of the six." (p.222)

SEP also quote Bjarni Benediktsson, the Prime Minister, who once explained it in this way:

"Here is more than one state bank that carries on the usual commercial banking functions since men have not been willing to agree that control over that capital which is at the bank management. It was not thought enough, that the bank management be so divided to give expression of different points of view, but rather, it has seemed necessary to have many banks to quiet the fear of monopoly, and to make it less likely that the request of any loan applicant would be rejected as unreasonable. ... The people like to have a choice." (p.222)

SEP gives another example and some comments:

"In recent years, about half of the total catch of demersal fish has been processed into frozen fish. The largest single market for Iceland's frozen fish is the United States, and Iceland is second only to Canada in exports of frozen fish to the U.S.A. But in tackling this market, 1,000 times larger than themselves, the Icelanders employ two separate organizations. One has its U.S. Headquarters in Harrisburg, Pennsylvania, the other in Cambridge, Maryland. One is a union of the privately owned freezing plants, the other a co-operatives. I suggest, however, that there is a more basic psychological reason: the paternalistic view of authority and the basic mistrust of those outside one's immediate circle of intimate personal acquaintances effectively limits the size of organization which can be efficiently managed for the efficient style of Icelandic management requires that the manager be personally able to have contact with the furthest corners of his organization." (p.222-223)

And again SEP quote Bjarni Benediktsson:

"Above all, it is the smallness of the population which has set its mark on Icelandic national life Because of the smallness of our society, all transactions among men here at home are more personal than elsewhere. And more than that. Because each knows the other, or knows something about him, many people think that all or most administrative decisions are taken from a personal point of view." (p.223)

And SEP gives the following comments:

"Undoubtedly, the smallness of the population has heightened the importance of the individual to the whole society; it has also made possible a social structure which depends on each person knowing, or knowing of, almost every other person. The unifying element is personal knowledge of others." (p.223)

Specialization in manufacturing within individual firms is of such importance for the productivity of labour that there are no needs to put forward all the advantages. On the contrary one could say that if a satisfactory level of specialization in production within individual firms is not achieved there will be no possibilities to reach the targets formulated for 1980.

The model has been visualized in Fig. 5.1.

This model just shows the overall approach to be used in industrial development especially in the development of the industrial infrastructure. It is of course up to the individual firm to decide what shall be the responsibilities of the firm and what shall be bought from outside service institutions. A fundamental aim in all decision-making during the first years of the planning period is to achieve a satisfactory balance in investments and actions in various activities in the process of industrialization.

Too large investments in advisory services without corresponding investments in product development and export marketing may cause unemployment and too much effort put into export marketing without a substantial improvement in product quality and industrial discipline could spoil export possibilities for a long period of time. Examples can be manifolded.

All areas of activity are interrelated and a continuous follow up of investments and actions is of great importance. Almost any investment in some area without a corresponding investment in some other area(s) may cause severe disturbances in the society. The model may serve as a good instrument in the process of follow up.

The implementation of such a process of specialization of functions and manufacturing is, indeed, a very complicated one. It has to be based on free will with an intention to co-operate for the fulfillment of a common target. Full understanding of the content and importance of various actions, reliable information, confidence in common goals, acceptance of the idea of co-operation, and state financial support to individual firms are some of the ingredients needed for a successful implementation.

**6 ESSENTIAL INGREDIENTS IN AN INDUSTRIAL DEVELOPMENT
STRATEGY IN ICELAND**

Summarizing from preceding paragraphs the following list can be produced covering the essential ingredients in an industrial development strategy in Iceland.

- 1 A foundation of generally accepted basic values and primary objectives.
- 2 A constructive attitude towards industrial development from politicians and the Althing, state and communal authorities, representatives for agriculture, fishery, and other sectors of the society and from the public in large.
- 3 A constructive attitude from industrialists towards professional management and improvement of managerial techniques - eventually at the sacrifice of the system of family-owned companies.
- 4 Realistic recognition of needs and weaknesses.
- 5 A set of laws, rules and regulations affecting industry adapted to development requirements.
- 6 The existence of an adequate industrial infrastructure (institutions for applied research, technical and advisory services, teaching and training, and a vital capital market)
- 7 Careful definition and redefinition of development targets at frequent intervals.
- 8 Firm intention and corresponding power to influence development towards development objectives and targets.
- 9 Instruments with which development can be steered.
- 10 Institutions for continuous evaluation of performance against explicit criteria.

6 BASIC PREMISES FOR DEVELOPMENT PLANNING IN ICELAND

The following guide lines are suggested for discussion and reformulation:

- 1 The primary aim of the plan is to increase the competitive power of Icelandic industrial enterprises.
- 2 The plan is an instrument to assist politicians and industrialists in steering industrial development so that this aim can be implemented in best possible way.
- 3 The plan will be discussed in the Althing and be an integral part of the Government's programme.
- 4 Point of departure shall be a set of objectives based on an overall view of economic, social and human conditions - not focused on economic growth only.
- 5 The plan shall be based on the idea of centralized planning and decentralized decisions.
- 6 The plan shall be in a limited way indicative but in no way imperative: relating to industries - not to industrial enterprises.
- 7 The plan shall not be only a forecast on probable future but it shall contain a set of aims and targets.
- 8 The plan shall be flexible enough to allow adjustments of the timetable for the implementation of measures: the list of planned measures is given but the timetable of implementation must be adapted to circumstances and the scale of specific measures may have to be adapted to the actual situation. The plan must be flexible but not so flexible that it becomes meaningless.
- 9 Regional development must be taken into consideration eventually at the sacrifice of optimal industrial efficiency. Aims and targets may be differently formulated in different regions.
- 10 Governmental evaluations and controls shall be in the form of what is termed indirect control, which means working with or through the market mechanism; direct controls, which means ignoring or evading the market shall be avoided.
- 11 In the overall approach and in the formulation of aims and targets it is a matter of course to take into sincere consideration the characteristic features of the Icelandic society.

3.1.1 Population and population trends

The total population of Iceland at the close of 1970 was 204,578. According to estimates made this figure will have risen to about 230,000 by 1980.

Changes in population during recent years have been characterized by a large expansion of the age group 15-19 years. This trend will continue through the next few years. The relatively large supply of young labour with more advanced education must be regarded as a favourable feature of population development. The number of school-children between 7-14 years will also continue to expand rapidly, though at a decreasing rate. Figures for children and young people in the typical ages for education and training are given in Table 3.1.

Table 3.1.1 Number of persons at education age

	7 - 14 years	15 - 19 years	7 - 19 years
1950	19.700	12.200	31.900
1955	25.000	11.500	36.500
1960	30.200	14.500	44.700
1965	34.200	18.000	52.200
1970	36.900	20.400	57.300

From fig. 3.1.1 it can be noticed that the 0-15 years age groups are almost double the number of the 30-45 year groups.

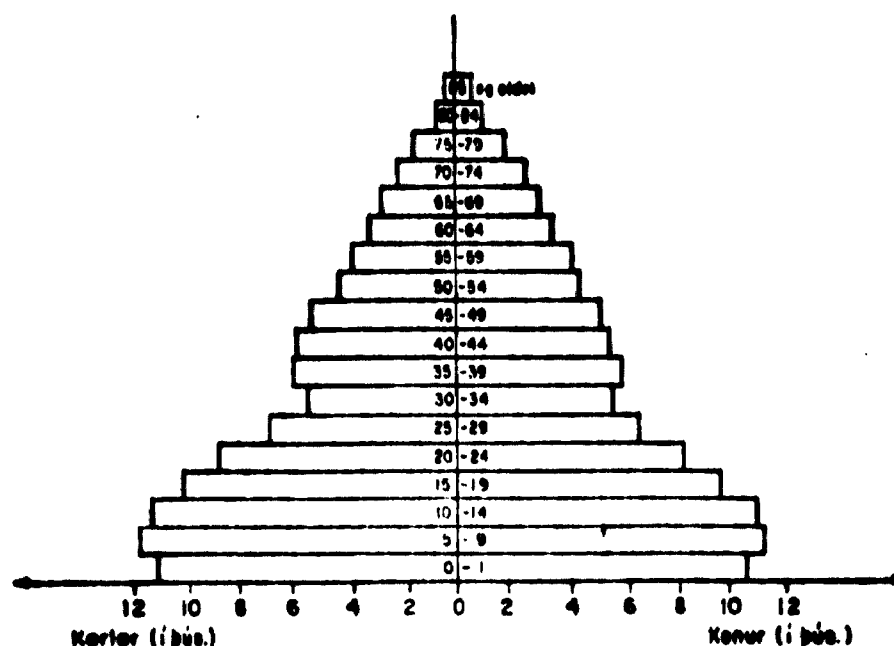


Fig. 3.1.1 The age composition of the Icelandic population

3.1.2 Occupation

Developments in the age group 15-69 years which almost entirely cover the economical active population are of special interest. On the basis of the population census of 1 December 1960 the Statistical Bureau has prepared a survey of the population's distribution by economic sector in 1960. The survey is based on a sample study and the figures must be treated with some reserve.

Table 3.1.2 Population distribution in 1960. Persons born in 1945 and earlier.

	Number of persons		
	March	July	November
Classified by economic sectors	65.850	73.350	67.350
Not classified by economic sectors			
Housewives	28.975	28.175	28.000
Daughters at home	525	425	600
Students, schoolchildren	7.700	1.300	6.125
Pensioned persons, etc	9.575	9.825	9.575
Others	2.375	1.925	2.250
Omitted from the sample	900	900	900
Not classified by economic sector	50.050	42.550	48.550
Total according to population register	115.900	115.900	115.900

It is clear from Table 3.1.2 that seasonal movements in employment have been very strong and that activity is greatest during the summer. The increase in employment falls mainly in agriculture and construction. There is, however, a considerable transfer of labour between the individual sectors. This is shown in detail in Table 3.1.3. While there was an addition to the active working population between March and July of about 7.500 people (Table 3.1.2), Table 3.1.3. records a total of 23.000 persons who moved from one job to another during the course of the year 1960. The figures refer only to transfers from one economic sector to another and not to moves within each sector. The table is based on a sample which covers approximately 4 per cent of the adult population and the figures must therefore be treated with reserve.

Table 3.1.3 Persons active in more than one economic sector in 1960 or who were inactive part of the year. Persons born in 1945 or earlier. 1)

Main occupation	Secondary occupation											Total	
	(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9)	(10)		(11)	(10-11)
	Agri- cult.	Fish- ing	Fish proc. ind.	Other man. ind.	Con- struc- tion	El. and water supply etc.	Trade and comm.	Transp. and comm.	Serv- ices	Work for def. base	Total sec. occup.	Not econ- active	Total
1. Agriculture	x	250	300	125	450	-	100	-	150	-	1375	1825	3200
2. Fishing	150	x	325	250	500	25	25	250	75	50	1650	675	2325
3. a) Fish processing industry	150	400	x	200	325	-	100	50	125	-	1350	2675	4025
b) Other manufacturing industry	225	175	450	x	175	-	100	125	125	75	1450	1400	2850
4. Construction	300	225	450	175	x	-	50	125	50	-	1375	1100	2475
5. Electricity and water supply etc.	-	25	25	25	-	x	25	25	-	-	125	50	175
6. Trade	175	175	150	125	50	25	x	75	225	25	1025	1975	3000
7. Transport and communications	50	125	175	100	100	-	50	x	25	25	650	725	1375
8. Services	400	125	150	100	150	-	100	50	x	-	1075	2225	3300
9. Work for defence base	-	75	-	25	75	-	-	-	25	x	200	75	275
Total	1450	1575	2025	1125	1825	50	550	700	800	175	10275	12725	23000

1) Preliminary figures based on a sample study.
2) Housewives, students, pensioned persons, etc.

They should, even so, furnish a good illustration of magnitude of transfers.

The labour circulation is a real problem for manufacturing industries. Some figures from a sample investigation from 1961 can be used to illustrate this problem (Table 3.1.4).

Table 3.1.4 Number of man-years utilized and number of persons employed in some branches of industry (1961)

	No. of man/years of 48 weeks	No. of persons	Average length of employment per worker during year
Biscuit making	125	322	3.5 months
Chocolate and sugar products	102	349	6.2 "
Margarine	43	60	6.5 "
Other foods and beverages	58	129	5.2 "
Spinning and weaving mills and carpet factories	280	611	5.4 "
Knitting mills	127	241	6.2 "
Shoe factories	103	345	5.8 "
Ready-made clothing	786	1581	5.6 "
Paints and varnishes	96	135	6.5 "
Soap, detergents etc.	55	87	6.3 "
Electro-technical ind.	55	72	9.1 "
Total	1970	3973	6 months

These figures must be regarded as illustrative, but they show that the labour force in these industries is characterized by an unusually high degree of instability. The figures show that the average worker stays in the same factory only half a year before leaving to find new employment. Recent findings indicate that there are some improvements but that the problem does still exist.

3.1.3 The potential labour force

The number of men and women in different age groups in the potential and in the actual labour force during the period 1969 - 1985 are presented in Tables 3.1.6 and 3.1.7. From these tables the following abstract is made (Table 3.1.5).

Table 3.1.5 The distribution of men and women in the potential and the actual labour force in different age groups in 1970

Age groups	Men		Women		1)
	Potential Number %	Actual Number %	Potential Number %	Actual Number %	
15 - 19	10.523 16	6.314 60	9.629 16	5.777 60	
20 - 24	9.110 14	8.199 90	8.208 13	3.694 45	
25 - 49	30.000 46	29.100 97	28.325 46	8.498 30	
50 - 69	15.306 24	14.541 95	15.403 25	4.621 32	
Total	64.939 100	58.154 90	61.565 100	22.591 32	

1) The actual labour force in per cent of the potential labour force
The corresponding figures for Sweden were in 1965:

Age groups	Men			Women		
	Potential labour force	Actual labour force	%	Potential labour force	Actual labour force	%
15 - 64	2.601.247	2.101.470	81	2.555.204	1.131.716	44

Table 3.1.6 The potential and the actual labour force
in age groups - forecast to 1985: men

Karlar:	Fjöldi á starfsaldri										Atvinnufólk			Alls karla og konur 15-69
	15-19	20-24	25-49	50-69	Alls 15-69	15-19 60%	20-24 90%	25-49 97%	50-69 95%	Karlar 15-69	Konur 15-69			
1969	10.293	8.835	29.372	15.036	63.536	6.176	7.952	28.491	14.284	56.903	22.590	79.493		
1970	10.523	9.110	30.000	15.306	64.939	6.314	8.199	29.100	14.541	58.154	23.128	81.282		
1971	10.753	9.385	30.628	15.578	66.344	6.452	8.446	29.709	14.799	59.407	23.667	83.074		
1972	10.983	9.660	31.256	15.849	67.748	6.590	8.694	30.318	15.056	60.658	24.206	84.864		
1973	11.213	9.935	31.884	16.120	69.152	6.728	8.941	30.927	15.314	61.911	24.745	86.656		
1974	11.444	10.210	32.509	16.400	70.563	6.866	9.189	31.534	15.580	63.169	25.284	88.453		
1975	11.490	10.439	33.342	16.669	71.940	6.894	9.395	32.342	15.835	64.466	25.760	90.226		
1976	11.536	10.667	34.175	16.937	73.315	6.922	9.600	33.150	16.090	65.762	26.238	92.000		
1977	11.581	10.895	35.007	17.204	74.687	6.949	9.805	33.957	16.344	67.056	26.715	93.771		
1978	11.627	11.123	35.838	17.473	76.061	6.976	10.011	34.763	16.599	68.349	27.191	95.540		
1979	11.676	11.352	36.668	17.746	77.442	7.006	10.217	35.568	16.859	69.650	27.668	97.318		
1980	11.577	11.398	37.695	17.988	78.658	6.946	10.258	36.564	17.089	70.857	27.998	98.855		
1981	11.477	11.444	38.723	18.226	79.870	6.886	10.300	37.561	17.315	72.062	28.327	100.389		
1982	11.487	11.488	39.748	18.465	81.188	6.892	10.339	38.556	17.542	73.329	28.657	101.986		
1983	11.278	11.534	40.773	18.706	82.291	6.767	10.381	39.550	17.771	74.469	28.983	103.452		
1984	11.108	11.583	41.800	18.948	83.439	6.665	10.425	40.546	18.001	75.637	29.264	104.901		
1985	10.914	11.484	42.929	19.054	84.381	6.548	10.336	41.641	18.101	76.626	29.513	106.139		

Efnahagsstofnun 14/5/70 SG/SBE

App. 3.1.6

Table 3.1.6

Table 3.1.7 The potential and the actual labour force
in age groups - forecast to 1985: women

Kornur:	Fjöldi á starfsaldri					Atvinnufólk					Alls karlar og konur 15-69	
	15-19	20-24	25-49	50-69	Alls 15-69	15-19 60%	20-24 45%	25-49 30%	50-69 30%	Konur 15-69		
1969	9.629	8.208	28.325	15.403	61.565	5.777	3.694	8.498	4.621	22.590	56.903	79.493
1970	9.885	8.486	28.898	15.697	62.966	5.931	3.819	8.669	4.709	23.128	58.154	81.282
1971	10.141	8.764	29.471	15.991	64.367	6.085	3.944	8.841	4.797	23.667	59.407	83.074
1972	10.397	9.042	30.044	16.285	65.768	6.238	4.069	9.013	4.886	24.206	60.658	84.864
1973	10.653	9.320	30.617	16.579	67.169	6.392	4.194	9.185	4.974	24.745	61.911	86.656
1974	10.908	9.600	31.190	16.872	68.570	6.545	4.320	9.357	5.062	25.284	63.169	88.453
1975	10.979	9.855	31.994	17.133	69.961	6.587	4.435	9.598	5.140	25.760	64.466	90.226
1976	11.050	10.111	32.796	17.396	71.353	6.630	4.550	9.839	5.219	26.238	65.762	92.000
1977	11.121	10.366	33.601	17.657	72.745	6.673	4.665	10.080	5.297	26.715	67.056	93.771
1978	11.192	10.621	34.403	17.919	74.135	6.715	4.779	10.321	5.376	27.191	68.349	95.540
1979	11.263	10.875	35.207	18.180	75.525	6.758	4.894	10.562	5.454	27.668	69.650	97.318
1980	11.140	10.946	36.205	18.419	76.710	6.684	4.926	10.862	5.526	27.998	70.857	98.855
1981	11.016	11.017	37.203	18.660	77.896	6.610	4.958	11.161	5.598	28.327	72.062	100.389
1982	10.892	11.088	38.202	18.902	79.084	6.535	4.990	11.461	5.671	28.657	73.329	101.986
1983	10.768	11.158	39.198	19.141	80.265	6.461	5.021	11.759	5.742	28.983	74.469	103.452
1984	10.563	11.229	40.196	19.380	81.368	6.338	5.053	12.059	5.814	29.264	75.637	104.901
1985	10.442	11.107	41.323	19.511	82.383	6.265	4.998	12.397	5.853	29.513	76.626	106.139

App. 3.1:7

Table 3.1.7

3.1.4 Number of persons employed and distribution of employment

There are no statistics available over the number of persons employed in various economic sectors. The statistics in this area are based on accident-insured work-weeks, where computed man-years are the same as the number of work-weeks times 1/52. The distribution of employment by sectors during the period 1963-1971 is presented in table 3.1.9.

From Table 3.1.9 the following abstracts is made giving the details in the development since 1963. (Table 3.1.8).

Table 3.1.8 The Distribution of employment by sectors 1963 - 1971

	1963	1964	1965	1966	1967	1968	1969	1970	1971
Primary Sector	20.3	19.4	19.7	18.6	16.6	16.8	16.9	16.7	17.1
Agriculture	13.7	12.6	12.5	12.8	12.8	13.0	12.9	12.0	11.0
Fishing	6.6	6.8	6.1	5.8	6.0	5.8	6.0	6.7	6.1
Secondary Sector	49.4	46.2	49.4	47.6	47.1	46.2	45.7	45.4	46.3
Fish processing	9.9	9.9	9.4	8.4	7.3	7.2	6.2	6.0	6.1
Manufacturing	17.9	17.5	17.1	17.1	16.6	15.9	16.5	17.0	17.7
Energy	0.4	0.5	0.5	0.5	0.5	0.5	0.7	0.6	0.7
Construction	10.6	11.9	11.9	12.1	13.5	13.7	11.5	10.0	11.3
Transport	9.6	9.4	9.5	9.5	9.2	9.0	6.8	6.5	6.5
Tertiary Sector	31.3	31.4	32.9	33.6	34.1	35.0	35.4	35.9	36.6
Trade and Commerce	13.7	13.3	14.2	14.6	14.6	14.0	13.5	13.5	13.8
Financing	2.8	3.0	3.2	3.5	3.7	3.9	4.0	4.2	4.4
Services	14.9	15.1	15.5	15.7	15.8	17.1	17.8	18.2	18.4

The average rate of unemployment has after the recession been rather low, in 1969 2.5%, 1970 1.3% and 1971 0.7%.

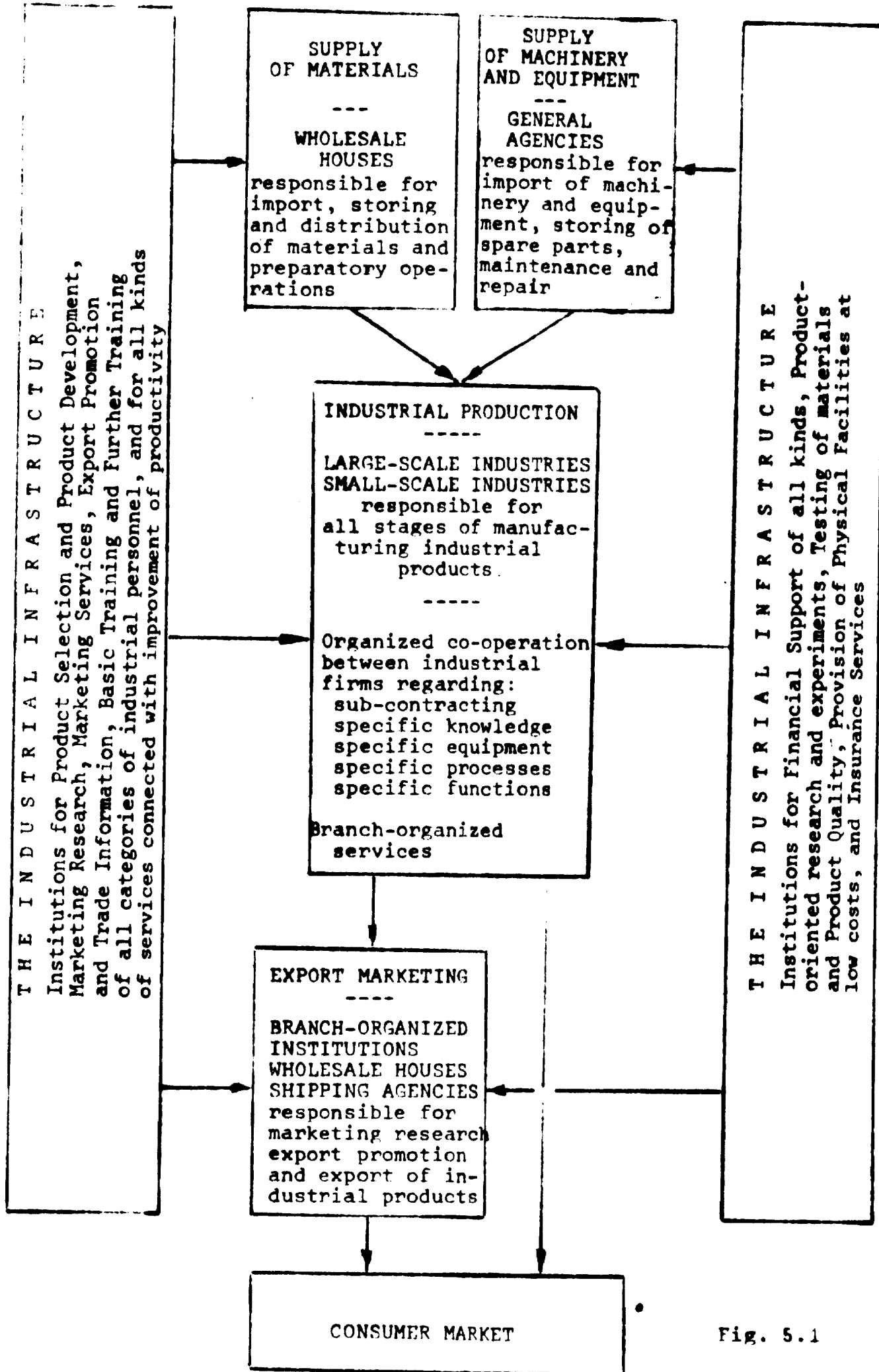


Fig. 5.1

Table 3.1.9

71
 Distribution of employment by economic activities
 (based on 100,000 man-years of efficient and full work-weeks)

Computed man-year = number of weeks \times 52

I.C.I.C. DIVISION	Computed man-years of efficient and full work-weeks															
	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974				
Agriculture, hunting, forestry and fishing of which: Agriculture and hunting	13.72	14.06	14.10	14.37	14.46	14.50	14.77	15.00	20.3	18.4	18.7	18.6	18.8	18.9	18.7	17.1
Forestry and logging	3.25	3.75	4.58	4.66	4.83	4.83	4.85	4.85	10.55	10.55	10.55	10.55	10.55	10.55	12.0	11.8
Fishing	4.46	4.01	4.60	4.51	4.61	4.60	4.60	4.60	6.65	6.65	6.65	6.65	6.65	6.65	6.7	6.1
2 Mining and quarrying	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3 Manufacturing of which: Fish processing	18.77	19.08	19.78	19.70	18.41	17.61	19.36	20.65	27.0	27.4	26.5	25.5	23.9	24.7	25.5	24.8
Other manufacturing	6.08	7.17	7.12	6.43	5.84	5.56	6.40	6.67	9.9	9.9	9.4	8.4	7.3	7.2	8.0	8.1
Electricity, gas and water	12.06	12.71	12.95	13.31	12.77	12.25	12.35	14.00	17.9	17.5	17.1	16.6	15.9	16.5	14.5	17.7
4	0.30	0.41	0.37	0.40	0.41	0.41	0.37	0.42	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.7
5	7.17	8.03	8.00	9.38	10.40	10.60	8.98	7.10	6.5	11.9	12.1	13.5	13.7	11.5	10.8	11.3
6	9.22	9.04	10.77	11.27	11.29	10.89	10.60	12.00	13.7	13.3	14.2	14.8	14.8	13.3	13.5	13.6
61 Wholesale and retail trade and restaurants and hotels	2.06	2.06	3.43	3.55	3.81	3.63	3.40	4.2	4.2	4.2	4.5	4.6	5.0	4.7	4.4	4.5
62 Retail trade	5.37	5.04	6.00	6.20	5.90	5.70	5.70	7.7	7.6	7.6	8.0	8.0	7.7	7.2	7.4	7.4
63 Restaurants and hotels	1.19	1.19	1.26	1.32	1.40	1.40	1.46	1.6	1.6	1.6	1.7	2.0	1.9	1.9	1.7	1.4
7	6.06	6.70	7.17	7.33	7.87	7.82	6.87	6.86	9.6	9.6	9.5	9.5	9.2	9.0	8.5	8.5
8	1.07	2.10	2.42	2.73	2.86	2.89	3.13	3.20	3.0	3.2	3.5	3.7	3.9	3.9	4.2	4.4
81	1.00	1.00	1.19	1.32	1.40	1.45	1.46	1.5	1.5	1.5	1.6	1.7	1.8	1.9	1.9	2.0
82	0.06	0.11	0.13	0.19	0.20	0.22	0.23	0.25	0.25	0.27	0.27	0.28	0.28	0.28	0.28	0.28
83	0.07	0.09	0.70	0.82	0.95	0.92	1.04	0.7	0.8	0.8	0.8	1.1	1.2	1.3	1.5	1.6
9	18.00	18.04	11.00	12.10	12.14	13.31	10.00	12.20	14.0	15.1	15.8	15.7	15.0	17.1	18.2	18.4
91	2.41	2.62	2.73	2.67	2.86	3.05	3.20	3.6	3.6	3.6	3.6	3.5	3.7	3.9	4.0	3.8
92	0.20	0.20	0.22	0.24	0.24	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
93	4.00	5.19	5.04	5.00	6.19	7.01	7.28	7.2	7.1	7.2	7.2	7.6	8.8	9.0	10.0	10.3
94	0.45	0.50	0.75	0.81	0.86	0.88	1.04	0.7	0.8	0.8	1.0	1.1	1.2	1.3	1.2	1.4
95	1.28	1.50	1.06	1.55	1.91	1.91	1.95	1.9	2.1	2.1	2.1	2.0	1.8	1.8	1.8	1.8
96	0.06	0.06	0.00	1.01	0.53	0.00	0.00	0.05	1.2	1.2	1.2	1.3	0.0	0.0	0.9	0.8
PERSONS IN CIVILIAN EMPLOYMENT - TOTAL	87.50	72.50	75.71	77.33	78.93	77.63	78.20	81.60	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1) Total employment in farming reduced by 2/3 of the assumed work-weeks of farmers since, since most commonly the wives are engaged for 52 weeks a year.

From the last line in Table 3.6 it can be found that the total number of man-years has increased from 67.500 in 1963 to 81.660 in 1970. The further increase during the period 1970-1980 has been estimated at 17.000 - 18.000 persons. The reasons for this estimate has been explained as follows:

"The age composition of the Icelandic population is relatively youngish, the 0-15 year age groups being almost double the number of the 30-45 year groups. (see fig. 4 on page 12). From this it follows that the labour force will continue to grow at a high rate of 2 per cent although the growth of overall population has slowed down to below 1.5 per cent per annum. Due to an adverse balance of migration, the actual rate of population growth, as distinct from the natural rate, has fallen further still. These recent changes are largely the outcome of cyclical factors, and the balance of migration is obviously improving again, but official projections taking the most recent trends into account have not been finalized yet. The projected increase of labour force will, however, remain relatively little changed by these recent trends and will result in some 22 per cent net increase over the decade now started, or by 17-18.000 people.

(*"Iceland, General Economic Review, 1971, p. 63*).

3.1.4 Volume of labour in hours

The statutory working week has changed from 48 hours in 1960 to 44 hours in 1965, 44 hours in 1970, and 40 hours in 1971. Since 1960 two 15 minutes coffee-breaks a day are paid for. There are no statistics available showing the mean working hours per week. The mean working week means the statutory working week plus overtime and minus absenteeism shorter than one week. Regarding the volume of absenteeism in Icelandic industry there are no reliable statistics available but some indications can be received from Swedish labour statistics. Table 3.1.8 shows the changes in number of persons not at work as a percentage of number employed during the period 1965-1969. The figures refer to absenteeism of more than a week. As can be seen in the table there is an increase in absenteeism of 1,2 per cent in total over the period. There is a tendency towards increased absenteeism in many industrialized countries.

Table 3.1:10 Absenteeism 1965-1969. No. of persons not at work as a percentage of no. employed.

	1965	1966	1967	1968	1969
Men	5.3	6.0	5.6	6.4	6.3
Married women	8.0	7.3	8.5	9.1	9.6
Single women	6.2	6.3	6.9	6.8	7.1
Total	6.0	6.3	6.4	7.1	7.2
Total no. absent ¹	224,900	238,900	240,200	267,500	275,000

¹ Excl. those on holiday.

Source: Labour force surveys 1965-1969.

The number of holidays for industrial labour has increased from 18 days in 1960 to 21 days in 1965 and 1970 and 24 days in 1971. The reduction of working hours will presumably continue in some form during the seventies. If we estimate this reduction to be of the size of an extra week's holiday and if we further assume that the number of hours overtime will be unchanged and that absenteeism increases with 2 percent in ten years we can get the following comparison:

Table 3.1:11 Change in working hours over the period 1960-1980

	1960	1970	1971	1971 ³⁾	1980	1980 ³⁾
Statutory working week, hours	48	44	40	37.5	40	37.5
Number of hours overtime ¹⁾	2	2	2	2	2	2
Average absenteeism in % ¹⁾	3	7	7	7	9	9
Number of holidays	18	21	24	24	30	30
Number of working days per annum ²⁾	2.300	2.070	1.870	1.765	1.800	1.690

- 1) Estimated figure
- 2) Without considering extra holidays
- 3) Excluding two coffi-breaks

During the period 1960 - 1980 the reduction in the number of working hours per annum seems to be almost 30 per cent.

3.1.6 Some problems connected with labour

An inadequate labour market

For several branches of industry there does not exist an adequate labour market in Iceland as in other industrialised countries. In accordance with tradition, handicrafts have an important position in Iceland, and altogether there are 61 approved handicraft trades. No special divided line is drawn between industrial trades and handicraft trades.

The vocational training in Iceland is regulated by two Acts, i.e. the Act on Apprenticeship training of 25 May, 1949, that was brought into force from 1 January 1950, and the Act on Vocational school that was brought into force from 1 October 1955. The Act on apprenticeship training regulates the conditions of training in the workshop. The Act embraces the whole country and includes all ages.

The Guilds of handicrafts include by tradition both masters and journeymen. In collaboration with these organisations, training schemes have been drawn up in twelve trades, but in other trades there are no special schemes.

In an industry with highly specialised production processes the requirements on labour and labour training are quite different from what is the case in handicraft and artisan trades. There are already investigations under way aiming at a reorientation of the basic education and further training of industrial labour and it should be emphasised that in the process of industrialisation an adequate labour market is one of the primary prerequisites.

Regional industrial problems

Relative dependence on agriculture and fishing in Northern and Eastern Iceland is greater than for the country as a whole. Incomes are below average in these regions, while variations in the fish catch lead to considerably more unemployment than in other parts of the country. There is also a seasonal unemployment problems as the fish catch is concentrated to particular parts of the year. The problems are increased by the low density of population and difficulty of communication outside the Reykjavik area. These factors have resulted in net emigration from the country to the towns and from the regional centres to Reykjavik. Extrapolations suggest that if no action were taken almost half of the growth of population outside the capital would migrate to the Reykjavik area. As this migration would probably be concentrated to the more active section of the population the burden of providing basic infrastructure development for small communities would be considerably increased.

Table 3.1.12 Demographic, Employment and Income Data by Region

	Reykjavik area	North	North West	West	South	East	Total
Per cent of total population, 1970	58.6	15.7	4.9	6.3	8.8	5.3	100
Percentage growth in population, 1960-1970	22.2	9.0	-3.6	12.1	13.7	11.6	16.4
Net migration as per cent of popu- lation growth, 1965-1969 ¹	+ 31	-35	-95	-10	-30	-30	0
Unemployment as per cent of popu- lation, 1969	0.6	2.4	0.5	0.7	0.3	1.3	1.0
1970	0.3	1.8	0.2	0.2	0.2	0.9	0.5
Proportion of labour force in fishing industry, 1969	4.7	9.1	19.0	11.5	11.5	27.8	14.3
Percentage deviation from mean income for whole country, 1969	+ 5.7	-9.5	-6.4	-7.1	-4.7	-15.2	0

¹ Based on extrapolation of 1960-1965 experience
Source: The Economic Institute and Hagstofa.

Table 3.1.13 Distribution of Employment by Sector and Region
Per cent

	Northern Region, 1965	Eastern Region, 1968	Whole Country, 1968
Agriculture	31.0	27.0	13.0
Fishing	7.6	12.1	5.8
Fish processing	10.3	17.6	7.2
Other manufacturing	15.2	7.9	13.8
Construction	8.7	7.8	13.3
Electricity, gas, water, etc.	0.6	0.1	0.9
Transport, storage and communications	5.1	7.7	9.1
Commerce	9.7	9.1	15.0
Other services	11.6	10.7	19.9
Total	100.0	100.0	100.0

Source: The Economic Institute.

APPENDIX 3.2

THE CAPITAL MARKET IN ICELAND

A series of tables prepared and commented upon by
Kristinn Hallgrímsson

3-1 Incomes, consumption, and savings in households 1960-1970.

Table 3-1 shows the composition of private consumption expenditure, 1960-1968, by commodity and service, both at current market prices and at market prices of 1960. More detailed information about methodology used to collect these data, and a further analysis of the structure of private consumption is found in Eiríka A. Fríðrikadóttir, "Einkaneysla á Íslandi 1957-1967" (Private Consumption in Iceland 1957-1967), Fjármálatíðindi, Vol. 17, No. 2 (1970), pp. 115-129. Separate incomes and saving of households are yet unavailable, but private sector saving and incomes are given in Tables 3-10-A and 3-10-B.

3-2 Communities: income, expenditures, investments, borrowing 1960-1970.

Table 3-2 Communities: income, expenditure, and saving 1960-1970.
Sources: Current income and current expenditure (and saving) 1960-1968: The Statistical Bureau of Iceland: Communal Finance (Sveitarsjóðarrokni-
gar), 1953-1962, 1963-1965, 1966-1968. Saving 1969 and 1970 based on preliminary estimates made at the Central Bank of Iceland based on a sample of the accounts of individual communes. Fixed capital formation by communities is given in Table 3-10-A.

3-3 Government: income, public consumption, investments, transfers, borrowing 1960-1970.

See Tables 3-3-A and 3-3-B.

3-4 Profits, investments, self-financing, borrowing 1960-1970 in private business.

Unavailable.

3-5 Total fixed assets formation and sources of saving 1960-1970.

Total fixed assets formation given in Tables 3-5-A and 3-5-B.
Gross savings by economic sector in Table 3-10.

3-6 The credit market 1972.

Final figures for 1972 are not available. Table 3-6 gives sectoral breakdown of credit by deposit institutions outstanding at end of 1970 and 1971.

3-8 The capital market 1972: problems and opportunities: Prospects for 1980.

See: Table 3-8-A Consolidated cash flow of investment credit funds, pension funds, and the unemployment insurance fund, 1969, 1970, 1971, 1972 (estimated), 1973 (projected). Table 3-8-B: Cash flows of investment credit funds 1969-1973. Table 3-8-C Cash flows of individual investment credit funds 1972 (estimated). Table 3-8-D Cash flows of individual investment credit funds, projection 1973. Table 3-8-E Cash flow of pension funds 1969-1973. Table 3-8-F Cash flow of the unemployment insurance fund. See also Table 3-8-G: Establishment and Enlargements of Limited Liability Companies 1971.

Explanations. H.L.F. Initial share capital and increased share capital.
O.R.H. Paid initial share capital and increased share capital as of the time the information was gathered.

Footnote 1): There included increased share capital of the Icelandic Aluminum Co. Ltd., Icel. kr. 100,0 millions.

Footnote 2): Increased share capital of the Icelandic Aluminum Co. Ltd. not included.

Landbúnaður: Agriculture. Sjávarútvegur: Fisheries. Verslun: Commerce.

Iðnaður: Manufacturing Industries. Söngúngur: Communications.

Lánastofnanir: Credit Institutions. Verktakar: Contractors.

Þjónusta: Services. Samtals: Total.

Source: The Official Gazette.

Table 3-10-A Expenditure on gross domestic product, and gross national product, and gross domestic saving by sector, 1960-1970. Current prices.

Table 3-10-B Same as Table 3-10-A, but expressed in 1960 prices.

These tables are supplemental to previous tables, and provide additional information about components of the consumption, investment and saving aggregates in the gross domestic product. Sources: published material from the Economic Development Institute, except in the following instances:

- a) local government consumption = public consumption expenditure - central government expenditure
- b) private other fixed capital formation = private capital formation - private residential capital formation
- c) public fixed capital formation and all sub-categories thereof are based on data submitted by the Economic Development Institute.
- d) gross domestic saving = fixed capital formation + net increase in stocks + external balances on goods and services
- e) gross private saving = gross domestic saving - gross public saving
- f) gross municipal government saving. See comments on Table 3-8.

Table 3-1

B. Commission of Private Commission expenditures.

Source: Economic Development Institute

Million Pesos. 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
1. Food	1 552	1 700	2 281	2 550	3 136	3 704	3 800	3 800	3 800	3 800	3 800
2. Beverages	280	268	266	272	280	287	290	290	290	290	290
3. Tobacco	221	221	202	136	235	235	235	235	235	235	235
4. Clothing and other personal effects	709	800	1 033	1 396	1 597	1 861	1 871	1 871	1 871	1 871	1 871
5. Rent and water charges	1 118	1 250	1 303	1 636	2 123	2 572	2 572	2 572	2 572	2 572	2 572
6. Fuel and light	310	263	263	263	263	263	263	263	263	263	263
7. Furniture, furnishings and household equipment	367	367	367	367	367	367	367	367	367	367	367
8. Household operation	156	156	170	237	300	356	419	460	460	460	460
9. Personal care and health expenses	324	324	452	550	750	895	1 120	1 246	1 246	1 246	1 246
10. Transport and communication	878	878	878	1 150	1 333	1 525	1 675	1 675	1 675	1 675	1 675
11. Recreation and entertainment	367	367	367	367	367	367	367	367	367	367	367
12. Miscellaneous services	139	139	167	205	252	295	330	360	360	360	360
13. Expenditure of residents abroad	137	137	137	137	137	137	137	137	137	137	137
14. Expenditure of non-residents in the country	-66	-66	-66	-66	-66	-66	-66	-66	-66	-66	-66
15. Net value of gifts in kind sent abroad	..	..	..	..	..	..	..	..	..	..	..
Commission expenditures of households and private non-profit institutions	5 667	6 272	7 822	8 876	11 260	13 219	16 073	17 600	18 013	21 358	27 607

By commodity and service

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
1. Food	1 396	1 396	1 297	1 646	1 555	1 595	1 700	1 707	1 707	1 707	1 707
2. Beverages	280	270	260	265	267	271	271	271	271	271	271
3. Tobacco	161	161	161	161	161	161	161	161	161	161	161
4. Clothing and other personal effects	561	676	707	877	1 302	1 333	1 302	1 302	1 302	1 302	1 302
5. Rent and water charges	892	1 077	1 020	1 126	1 126	1 101	1 101	1 101	1 101	1 101	1 101
6. Fuel and light	266	266	266	271	266	266	266	266	266	266	266
7. Furniture, furnishings and household equipment	361	360	360	363	360	360	360	360	360	360	360
8. Household operation	170	167	160	167	160	160	160	160	160	160	160
9. Personal care and health expenses	302	300	300	301	307	307	307	307	307	307	307
10. Transport and communication	560	566	566	561	560	560	560	560	560	560	560
11. Recreation and entertainment	336	317	301	372	360	336	336	336	336	336	336
12. Miscellaneous services	100	121	106	167	100	106	106	106	106	106	106
13. Expenditure of residents abroad	137	137	137	137	137	137	137	137	137	137	137
14. Expenditure of non-residents in the country	-66	-66	-66	-66	-66	-66	-66	-66	-66	-66	-66
15. Net value of gifts in kind sent abroad	..	..	..	..	..	..	..	..	..	..	..
Commission expenditures of households and private non-profit institutions	5 667	6 272	7 822	8 876	11 260	13 219	16 073	17 600	18 013	21 358	27 607

At market prices of 1960

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
1. Food	1 396	1 396	1 297	1 646	1 555	1 595	1 700	1 707	1 707	1 707	1 707
2. Beverages	280	270	260	265	267	271	271	271	271	271	271
3. Tobacco	161	161	161	161	161	161	161	161	161	161	161
4. Clothing and other personal effects	561	676	707	877	1 302	1 333	1 302	1 302	1 302	1 302	1 302
5. Rent and water charges	892	1 077	1 020	1 126	1 126	1 101	1 101	1 101	1 101	1 101	1 101
6. Fuel and light	266	266	266	271	266	266	266	266	266	266	266
7. Furniture, furnishings and household equipment	361	360	360	363	360	360	360	360	360	360	360
8. Household operation	170	167	160	167	160	160	160	160	160	160	160
9. Personal care and health expenses	302	300	300	301	307	307	307	307	307	307	307
10. Transport and communication	560	566	566	561	560	560	560	560	560	560	560
11. Recreation and entertainment	336	317	301	372	360	336	336	336	336	336	336
12. Miscellaneous services	100	121	106	167	100	106	106	106	106	106	106
13. Expenditure of residents abroad	137	137	137	137	137	137	137	137	137	137	137
14. Expenditure of non-residents in the country	-66	-66	-66	-66	-66	-66	-66	-66	-66	-66	-66
15. Net value of gifts in kind sent abroad	..	..	..	..	..	..	..	..	..	..	..
Commission expenditures of households and private non-profit institutions	5 667	6 272	7 822	8 876	11 260	13 219	16 073	17 600	18 013	21 358	27 607

5.2 Demands on the individual firm

The demands on the individual firm can be formulated to be increased competitive power with the same or rather an increased number of employees.

The demands on the competitive power of the firm and ways and means to be used in its accomplishment is to a great extent determined by the nature of the objectives established for the firm. These objectives are of two types: objectives of the firm as an integrated part of the national economy and objectives of those who are involved in the activities of the firm. For an Icelandic firm in the prevailing situation the primary objectives at national level are:

- to create employment possibilities
- to produce for export
- to contribute properly to the GDP

At firm level the objectives of the firm are formulated out of a series of interests manifested by the parties involved:

- the owners
- the board of directors
- the employees
- the management group
- the customers
- the suppliers
- the granters of loans
- the competitors
- the public
- the state authorities
- the communal authorities

The formulation of the objectives of the firm is one of the primary tasks for the management. It is a complicated process and a process where all employees should be involved. In this process could also be included the co-ordination of national objectives with those at the firm level. Harmony of objectives is one of the primary prerequisites for an efficient process of industrialization.

TABLE 3-3-A

Table F Current Government Income and Expenditure
Fiscal years - Calendar years
Kz. million

	1968	1964	1962	1960	1958	1956	1954	1952	1950	1948	1946	1944	1942	1940	1938	1936	1934	1932	1930		
Current revenue	2 379	1 700	2 208	2 683	3 297	4 308	5 315	5 885	5 885	5 885	5 885	5 885	5 885	5 885	5 885	5 885	5 885	5 885	5 885	6 748	
Direct taxes	1 121	1 121	1 135	1 190	1 201	1 374	1 522	1 522	1 522	1 522	1 522	1 522	1 522	1 522	1 522	1 522	1 522	1 522	1 522	1 522	1 522
Indirect taxes	2 252	1 685	2 682	2 498	2 987	3 815	4 794	4 935	4 935	4 935	4 935	4 935	4 935	4 935	4 935	4 935	4 935	4 935	4 935	4 935	5 348
Other	26	12	16	34	29	-4	79	111	111	111	111	111	111	111	111	111	111	111	111	111	69
Current expenditure	1 585	1 373	1 304	1 503	2 705	3 675	3 688	3 688	3 688	3 688	3 688	3 688	3 688	3 688	3 688	3 688	3 688	3 688	3 688	3 688	3 688
Purchase of goods and services	431	438	546	716	882	1 062	1 300	1 300	1 300	1 300	1 300	1 300	1 300	1 300	1 300	1 300	1 300	1 300	1 300	1 300	1 300
Subsidies	672	437	537	627	1 084	1 084	1 275	1 078	1 078	1 078	1 078	1 078	1 078	1 078	1 078	1 078	1 078	1 078	1 078	1 078	1 078
Interest	3	6	3	6	7	10	9	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Current transfers	379	482	548	634	861	917	1 077	1 344	1 344	1 344	1 344	1 344	1 344	1 344	1 344	1 344	1 344	1 344	1 344	1 344	1 344
Depreciation and other operating provisions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grain Savings	884	417	689	789	591	1 110	1 637	1 264	1 264	1 264	1 264	1 264	1 264	1 264	1 264	1 264	1 264	1 264	1 264	1 264	1 264
Grain food cost formation	89	96	101	214	239	302	313	485	485	485	485	485	485	485	485	485	485	485	485	485	485
Surplus on Current and Foreign Investment Account	137	249	274	233	570	748	1 304	776	776	776	776	776	776	776	776	776	776	776	776	776	776
Lending, net	286	271	128	101	88	-89	-34	-144	-144	-144	-144	-144	-144	-144	-144	-144	-144	-144	-144	-144	-144
Net capital transfers to other sectors	189	116	153	301	489	617	816	984	984	984	984	984	984	984	984	984	984	984	984	984	984
OVERALL BALANCE¹	80	-68	197	81	-251	218	582	-44	-44	-44	-44	-44	-44	-44	-44	-44	-44	-44	-44	-44	-44

1. According to OECD definition.
 2. Excludes interest on foreign debt.
 3. Excludes net lending.
 4. Net change in foreign debt and cash balances.
 Source: Statistical information to the OECD.

TABLE 3-3-B

Table 7. Current Government Income and Expenditures
Fiscal Year - October 1967
In millions

	1965	1966	1967	1968	1969	1970	1971
Current revenues	2,089	3,297	4,188	5,363	5,989	6,782	7,428
Individual income taxes	189	328	394	522	729	1,023	1,207
Corporate income taxes	2,499	2,967	3,803	4,741	4,985	5,289	5,289
Other taxes	34	20	91	70	111	470	200
Current expenditures	1,989	2,766	3,493	3,495	4,304	5,116	5,002
Defense	745	822	1,022	1,200	1,350	2,029	2,123
Nondefense	1,244	1,944	2,471	2,295	2,954	3,087	2,879
Interest on national debt	60	7	20	9	12	307	300
Interest on other government securities	-	-	-	-	-	-	-
Current surplus	100	531	695	868	685	666	426
Current deficit	-	-	-	-	-	-	-
Current total	2,089	3,297	4,188	5,363	5,989	6,782	7,428
Current total and transfers	2,089	3,297	4,188	5,363	5,989	6,782	7,428
Current total revenues and other government accounts	405	301	349	334	375	428	488
Current total expenditures and other government accounts	305	294	329	325	363	428	488
Current total surplus	100	531	695	868	685	666	426
Current total deficit	-	-	-	-	-	-	-

The data for 1968 are preliminary, based on the 1968 estimates of the current year, 1968-69, according to the latest available information. The data for 1969 are preliminary, based on the 1969 estimates of the current year, 1969-70, according to the latest available information. The data for 1970 are preliminary, based on the 1970 estimates of the current year, 1970-71, according to the latest available information. The data for 1971 are preliminary, based on the 1971 estimates of the current year, 1971-72, according to the latest available information.

March, 1978.

Table 3-2-1

1. Formation of Gross Domestic Capital Formation

Source: Economic Development Institute

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
1. Fixed capital formation	2 485	2 105	2 000	2 063	2 079	2 000	2 000	2 000	2 000	2 000	2 000
A. Land	76	80	86	115	172	169	160	225	261	261	260
B. Buildings	570	542	636	609	1 001	1 261	1 715	1 800	1 801	1 801	1 800
C. Non-residential buildings	603	537	667	622	1 072	1 276	1 702	1 800	1 807	1 800	1 800
D. Other construction and work	637	626	667	715	808	1 153	1 600	1 876	1 803	1 803	1 800
E. Transport equipment	267	206	278	266	728	678	797	888	943	1 000	742
F. Machinery and other equipment	726	276	576	927	881	881	1 200	1 400	1 400	1 400	1 400
2. Increase in stocks ¹⁾	-89	262	-136	-171	88	811	88	88	-276	160	-303
Gross domestic capital formation	2 405	2 266	2 719	2 062	2 000	2 817	2 887	2 888	2 724	2 860	2 697

In terms of constant price
at constant price of 1968

In terms of constant price
at constant price of 1968

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
1. Fixed capital formation	2 000	1 900	2 270	2 071	2 000	2 000	2 000	2 000	2 000	2 000	2 000
A. Land	76	80	86	90	120	120	80	120	120	120	120
B. Buildings	570	542	640	600	700	700	600	600	600	600	600
C. Non-residential buildings	607	576	642	600	600	600	600	600	600	600	600
D. Other construction and work	637	626	672	576	672	672	600	600	600	600	600
E. Transport equipment	267	206	323	266	672	615	600	600	600	600	600
F. Machinery and other equipment	726	266	600	700	600	600	600	600	600	600	600
2. Increase in stocks ¹⁾	-89	270	-130	-160	20	200	20	20	-100	20	-80
Gross domestic capital formation	2 000	2 100	2 100	2 000	2 000	2 000	2 000	2 000	2 000	2 000	2 000

1) Increase in inventories and stocks of export products only.

Table 3-6-B

Source: Economic Development Institute

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
1. Fixed capital formation	2,000	2,200	2,400	2,600	2,800	3,000	3,200	3,400	3,600	3,800
A. Agriculture, forestry and fishing	100	100	100	100	100	100	100	100	100	100
B. Mining and quarrying ¹⁾	500	500	500	500	500	500	500	500	500	500
C. Manufacturing ²⁾	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900
D. Construction	400	500	600	700	800	900	1,000	1,100	1,200	1,300
E. Electricity, gas and water	100	100	100	100	100	100	100	100	100	100
F. Transport, storage and communication	100	100	100	100	100	100	100	100	100	100
G. Wholesale and retail trade ³⁾	100	100	100	100	100	100	100	100	100	100
H. Hotels, restaurants and real estate ⁴⁾	100	100	100	100	100	100	100	100	100	100
I. Government of dwelling	100	100	100	100	100	100	100	100	100	100
J. Public administration ⁵⁾	100	100	100	100	100	100	100	100	100	100
K. Services ⁶⁾	100	100	100	100	100	100	100	100	100	100
L. Increase in stocks ⁷⁾	100	100	100	100	100	100	100	100	100	100
Grand totals capital formation	2,000	2,200	2,400	2,600	2,800	3,000	3,200	3,400	3,600	3,800
2. Increase in stocks⁷⁾	100	100	100	100	100	100	100	100	100	100
Grand totals capital formation	2,100	2,300	2,500	2,700	2,900	3,100	3,300	3,500	3,700	3,900

1) Increase in livestock and stocks of export products only.
2) Includes and reconstructions are included in item C.

TABLE 3-6

**Table 14. Sectoral breakdown of credit by deposit institutions
(Million of dollars)**

	Credit outstanding at end of year		Change
	1959	1960	
Private and government institutions	14,000	15,091	+1,091
Private	12,500	13,500	+1,000
Government	1,500	1,591	+91
Federal Reserve Bank	1,000	1,000	0
Other Federal Reserve Banks	500	591	+91
State and city banks	1,000	1,000	0
Savings banks	1,000	1,000	0
Trust companies	500	591	+91
Other financial institutions	500	591	+91
Finance companies	500	591	+91
Insurance companies	500	591	+91
Other non-deposit institutions	500	591	+91
Other	500	591	+91
Total	1,500	1,591	+91
Total	14,000	15,091	+1,091

SKULDAKKI ÍSLANDS
Rekjuhljóðid

Tölur 3-8-4

29. október 1970

Tafla 1.

**Samantekt¹⁾ á skuldasöluáætlunum skuldasöluáætlunanna,
 1970-1972 og 1971-1972.**

Millj.kr.	1970	1971	1972	Ástlan 1971	Op 1972
A. VARNAR ÞÁTTUR:					
1. Eigin framlag, nettó	570	557	1000	1101	1000
1.1 Innbergðir vaxtir og afbætur	204	200	204	200	200
1.2 Greiddir vaxtir og afbætur	-110	-90	-107	-110	-110
1.3 Kostnaður, styrkir, laun o.fl.	-60	-60	-64	-60	-67
2. Fræðing	1000	1001	1001	1100	1000
2.1 Frá ríkisskattveitingu	600	600	670	1100	1000
2.2 " sveitarfélögum	0	0	0	100	100
2.3 " öðrum	400	400	331	0	0
3. Tekin lán (lág + stam)	1000	0	1000	1000	0
3.1 Innvið lán	1000	0	700	1100	0
3.2 Erlend lán	0	-	300	0	...
4. Til réttstæðna =	2000	2000	2000	2000	2000
B. SKULDAKKI ÞÁTTUR:					
6. Ván	2000	2000	2000	2000	2000
7. Breyting á eignum (minna -)	0	0	-0	-0	0
8. Fjárfesting	-	-	-	-	1000

1) Líklegt hefur verið fyrir íslýðis viðskiptum þessara eðlis.

Seðlabanki Íslands
Rekstráttaleið

Tölur 1-8-8

30. október 1978

Tafla 3.

SEÐLABANKI ÍSLANDS

(Millj.kr.)

	1977	1978	1978	Antinn 1978	Spá 1978
A. Eignami lífingami					
1. Eignir framlag, nettó	220	417	400	407	410
1.1 Innbergðar eftirgegnir	220	797	800	801	1137
1.2 Innbergðir ventir	001	001	000	000	1000
1.3 Greiddar eftirgegnir	-771	-400	-010	-070	-070
1.4 Greiddir ventir	-004	-040	-070	-000	-010
1.5 Eign., styrkir, o.fl., nettó	-00	-100	-100	-101	-174
2. Skatttekjur og framlag	000	004	007	1000	1000
2.1 Frá ríkisskattveitingum	000	000	700	000	1107
2.2 Frá sveitarfélögum	00	04	01	00	70
2.3 Frá öðrum	11	201	100	0	100
3. Tekin löng lán (frá öðrum en Framv. sjóði), allt	1000	070	1000	1700	1100
3.1 Frá ríkisskattveitingum	001	-	00	010	-
3.2 Frá vískaþingum	107	000	010	000	000
3.3 Frá Seðlabanknum	100	0	00	00	-
3.4 Frá atvinnuleysisbætur	07	104	174	100	100
3.5 Frá lífsryðingum	10	70	70	110	100
3.6 Frá stjórnsýslum	200	000	007	411	070
3.7 Annar innlent	00	100	01	00	70
3.8 Innlent lán, samtals	1000	070	000	1000	1100
3.9 Erlent lán, samtals	200	-	001	010	...
4. Tekin bréðingulán, nettó	0	-04	00	100	-000
5. Uppruni - réttindum	2000	2100	2070	2000	2070
B. Eignami lífingami					
6. Stíln, allt	1000	070	007	0070	0070
6.1 Löng lán	1000	1000	000	0070	0070
6.2 Bréðingulán, nettó	00	01	00	-	-
7. Breyting í sjóði (mínus -)	007	00	-100	-000	-
8. Þjálfun	-	-	-	-	1000
8.1 w/stíln	-	-	-	-	1000
8.2 w/halla fyrra árs	-	-	-	-	00

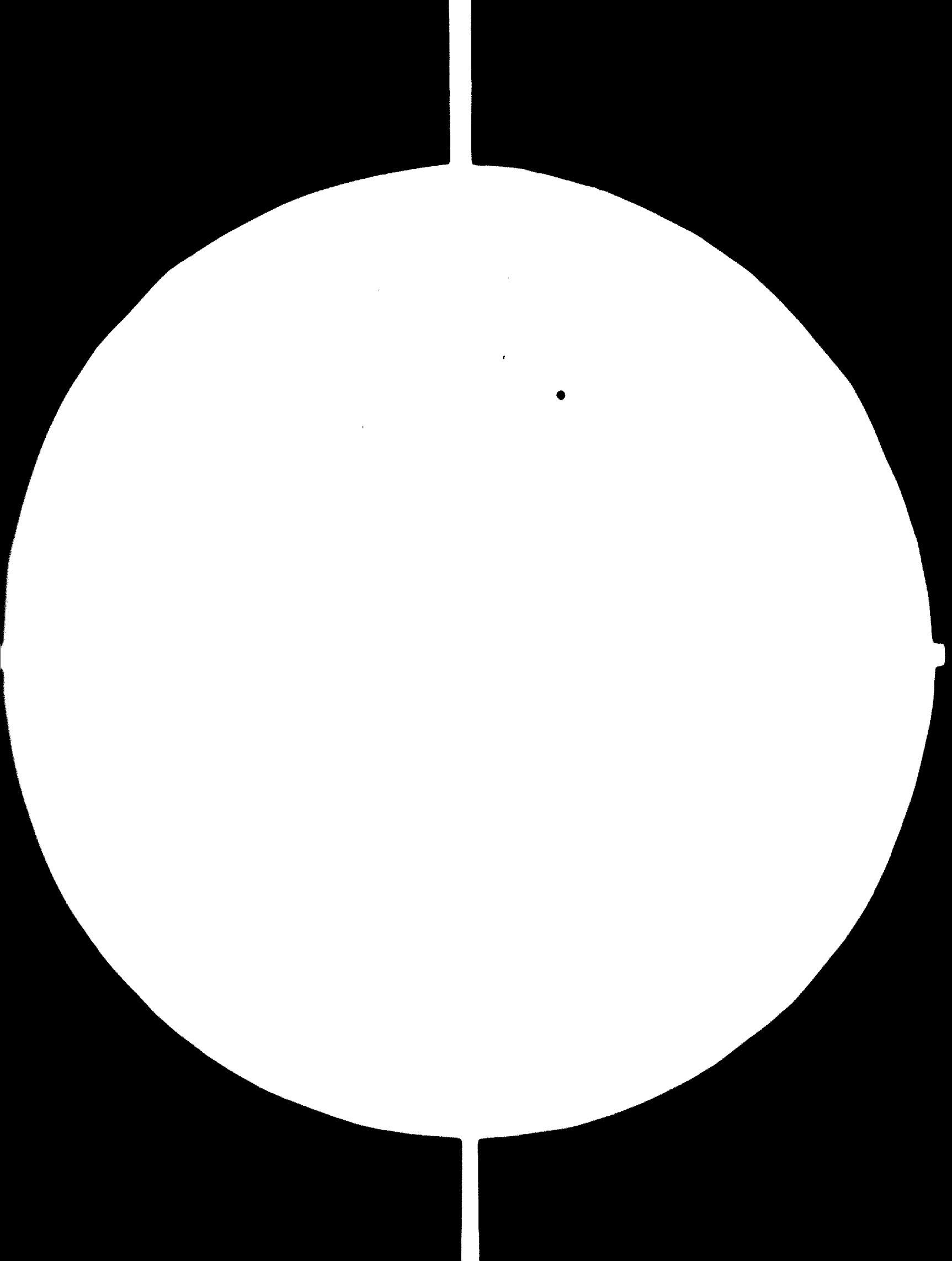
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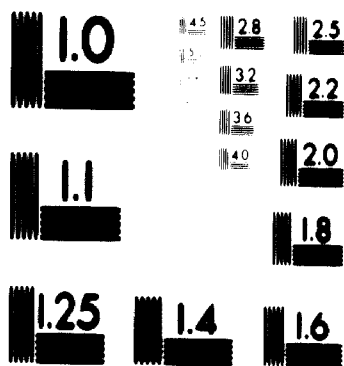
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3 OF 4



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS
STANDARD REFERENCE MATERIAL 1010a
(ANSI and ISO TEST CHART No. 2)

24 x
F

engineering drawings in many instances result in the manufacture of many items in batches whose constituent items show dimensional differences through non adherence to tolerance limits.

- c) DELIVERY - Delivery is slow due to limited capacity and lack of production planning. They are also unreliable as manufacturers tend to make unrealistic promises to customers which they know they can not keep.
- d) AFTER SALES SERVICE - Although guarantees exist, many manufacturers are reluctant to render the services to which these guarantees commit them. After sales service is thus inadequate due to attitude, lack of service facilities and low profitability as many firms omit to include adequate provisions for after sales service in their selling price calculations.

3. EXPORT OPPORTUNITIES;

Some of the existing products possess export potential especially items connected with the fishing industry. Hydraulic winches are an example of such products having good quality acceptable price and incorporate technical features specially adopted to customer needs. To improve the competitive position of the metalworking sector and augment the currently very narrow range of saleable products two basic changes in the structure of this industry will have to be introduced.

The first change involves a reorganisation of the current raw material supply. This involves the elimination of small batch inefficient buying practices which raise unnecessarily the price of imported raw materials. Another need is the establishment of efficient casting facilities for both ferrous and non ferrous metals. A small foundry using scrap metal augmented by imported pig iron and or scrap would meet present requirements. Once electromelting of ilmenite is introduced some 15,000 tons of locally produced pig iron would become available.

The second major change in the metalworking sector requires firms to specialise. Specialisation by product however is not sufficient in Icelandic conditions. A considerable degree of specialization

by process is also required. Metal casting, tool and die making, heat treatment, galvanizing, electroplating etc. should be performed by specialist firms. These are common requirements which can only be performed economically on a sub-contract basis as with few exceptions none of the existing metal manufacturers have sufficient throughput to justify capital expenditure on their own plant for these purposes.

THE LEATHER INDUSTRY (INCLUDING LEATHER GOODS).**1. SIZE AND STRUCTURE**

- a) The leather industry sector is largely based upon the tanning of sheepskins. Small quantities of horse and cow hides are also tanned but on only a very limited scale. A revival of mink farming will add to the raw materials available for leather product processing. There are four tanneries, three of which, account for approximately 90 to 95% of total output. Two of them are at Akureyri and the other at Sandarkrókur, have been newly re-equipped with modern production machinery.
- b) The total number of man years employed in tanning and leather products was 95 in 1968.
- c) The value added per man year was 356.000 kr. in 1968.
- d) The existing product range consists of tanned fleeces processed to varying degrees of finish. The majority of these skins are finished in suede either with long or cut wool facings.
- e) The industry's capacity is roughly 500.000 skins per annum leaving some 200.000 to 300.000 skins for export. These are mostly exported as unprocessed salted skins. A small number to-date has been exported in wet-blue a trend which can be expected to grow as the new plants begin to utilize their installed capacity more effectively. Leather products exported to date consist mainly of: rugs, suede jackets, coats, caps, gloves etc.

2. COMPETITIVE POSITION

- a) PRICE - The price of Icelandic tanned products, especially that of fleeces on a suede backing is competitive. This due to the fact that the tanneries specialize to a large extent on this type of product and that skins are a by-product of meat production.
- b) QUALITY - The quality varies widely being determined by the varying quality of raw skins and the efficiency of individual tanneries.
- c) DELIVERY - Delivery is usually good but quantities are restricted by the rather limited supply of good quality locally produced skins. Output could be augmented by tanning imported skins.

3. EXPORT OPPORTUNITIES

As has been mentioned already raw skins, tanned processed pelts and some leather goods are being exported. The potential for increasing these exports even further exists if output and product specialisation are intensified. The extent to which expansion will take place however, will be determined by raw material supply on the one hand and new product development especially in the leather goods sector on the other. Local raw materials can be augmented through imports, which a large sector of hitherto only marginally exploited leather products is available for development.

Leather gift articles such as belts, leather bound photograph and stamp albums, wallets, purses, handbags, travel goods to name but a few, could be made in Iceland. The market for these products has been expanding rapidly all over the world and good quality products of distinctive design would find a ready market. The main advantage of the development of this type of industry in Iceland lies in the fact that these products can be manufactured competitively on a small scale industry basis in practically any part of the country. By their nature the manufacture of these products is labour intensive requiring only small capital outlays for simple machinery (i.e. sewing machines, small presses, cutting tables etc.) and could therefore be located in pockets of either

chronic or seasonal unemployment on a regional basis.

The products which would generate the largest demand for employment are purses and handbags. These products would not only employ workers in the actual manufacturing process but could also have a multiplier effect in the metalworking sector by creating demand for local manufacture of zip fasteners, press studs, buckles, frames etc.

App. 2.2.8

chronic or seasonal unemployment on a regional basis.

The products which would generate the largest demand for employment are purses and handbags. These products would not only employ workers in the actual manufacturing process but could also have a multiplier effect in the metalworking sector by creating demand for local manufacture of zip fasteners, press studs, buckles, frames etc.

THE WOOL INDUSTRY

1. SIZE AND STRUCTURE

- a) The wool industry in Iceland is currently based upon local raw materials. The relatively fixed size of the sheep population, which is reared primarily for meat, determines the size and quality of the annual supply of raw wool. Some 700.000 to 800.000 fleeces yield approximately 1.100 tons of wool of varying quality.
There are at the present time 2 spinning plants, 3 weaving plants, 5 carpet making plants and 19 knitting firms in Iceland which utilize this wool.
- b) The total number of man years employed by this sector of industry was 617 in 1968. Of this total spinning and weaving (including carpet making) accounted for 402 man years and knitwear 215 man years.
- c) The value added has increased greatly in this sector in recent years. This has been mainly due to an extension of export markets for selected Icelandic wool products.
- d) The existing product range consists of yarn, cloth, carpets, blankets and knitwear.
- e) Exports of woollen products have begun to develop in recent years. The main products exported to-date are blankets to the U.S.S.R. and knitwear to the U.S.A. and Western Europe.

2. COMPETATIVE POSITION

- a) PRICE - Spinning and weaving of standard products is un-competative in price. These functions only survive as a result of high tariff protection which once removed would render these operations completely uneconomic by international standards.
- b) QUALITY - The quality of exported items is acceptable.
- c) DELIVERY - With the renewal of production equipment delivery has now become acceptable as the shortages in spinning and weaving capacity were augmented.

3. EXPORT OPPORTUNITIES

- a) The export potential of this industry is very strong as long as emphasis on distinctive Icelandic design is maintained. Icelandic knitwear already sells well in the U.S.A. and Western Europe as a result of its distinctive design. An adaptation of similar design features to say carpets could also prove highly successful. A test market in tourist shops could test the validity of such new designs.

THE FURTEURE INDUSTRY (INCLUDING FIXTURES)

1. SIZE AND STRUCTURE

- a) The furniture and fixture industry consists of some 320 firms who for the most part are engaged in the production of both categories of product. The vast majority are very small one man businesses with craftsmanship as their main feature. Only 7 employ over 20 man years and these together with a few smaller establishments form the most progressive part of the industry.
- b) The industry employed 1340 man years in 1968 of which the 20 largest companies accounted for 404. Turnover per man year in 1970 was 785.000 Kr. in these 20 firms.
- c) The value added per man year was Kr. in 19
- d) The product range manufactured includes the full complement of furniture and fixtures.
- e) Small quantities of chairs have been exported but to date these exports have been on a test market rather than permanent basis.

2. COMPETATIVE POSITION

- a) PRICE - Raw materials which are all imported are well above competitive prices and thus raise the cost of the final product. Price control, intended to limit Mark ups on imported raw materials and prevent price rises has the opposite effect of discriminating against rational purchasing policies. It becomes more profitable for the importer to buy high priced raw materials well above market prices rather than to purchase at the lowest cost. The user i.e. the furniture manufacturer on the other hand thus finds himself at an automatic cost disadvantage of serious proportions both in home, and especially export markets as the average material costs of this sector are 42% of total costs.

b) QUALITY - The best Icelandic furniture compares favourably with imported products in quality. The bulk of local products, however, does not reach this high standard.

c) DELIVERY - Delivery is slow as the capacity of individual firms is very restricted.

3 Export Opportunities

Although export opportunities are limited individual items of special design could find sales outlets abroad. The industry is very diffused both in terms of number of enterprises and variety of products produced by each of these small manufactures. Some amalgamations or mergers would greatly improve the viability of this industry and a greater degree of product specialization is required. As an import substitution industry its products are acceptable and will continue to supply a high proportion of local needs.

THE PLASTICS INDUSTRY

1. SIZE AND STRUCTURE

- a) Some 21 firms are currently engaged in the manufacture of plastic products from imported raw materials i.e. P.V.C. polyethelene etc. Most firms are very small, producing a heterogeneous product range.
- b) Although the total number of man years employed is still low (181 in 1968), it is one of the rapidly expanding industrial sectors with increases in output of up to 30% per annum in recent years.
- c) The value added per man year in 1968 was 318.000 kr.
- d) The building industry and packaging have been the main customers for this output and the product range therefore, reflects the needs of these sectors. Existing products include items such as insulation material, hoses, pipes, home utensils, electrical line installations, light fittings, plastic bags, bottles, containers, floats etc.
- e) To-date, no direct exports of plastic products have been achieved, but packaging material sold to airlines, the duty free port at Keflavik and the fish processing industry is exported indirectly.

2. COMPETATIVE POSITION

- a) PRICE - The industry has been able to compete in the home market at acceptable prices but this position would alter if the current 15% tariff was lowered. The 5% import duty on raw materials, the duties on imported production equipment and the additional raw material transport costs make Icelandic plastic products uncompetative in foreign markets.
- b) QUALITY - The overall quality of products is acceptable in the home market but are often lacking in competative design.

- c) DELIVERY - Due to the existance of some spare capacity delivery for home market demand is good. Any new large and sustained demand for additional output however, could only be met by increased investment in new plant.

3. EXPORT OPPERTUNITIES

Existing products are not exported as the cost disadvantage incurred by Icelandic manufactures due to double transport costs, duty on raw materials and high cost low productive labour preclude a competative price in international markets. The only export prospects in this industry could arise out of selling items with special design features which could overcome this inbuilt cost disadvantage.

THE CERAMIC INDUSTRY

1. SIZE AND STRUCTURE

- a) This industry consists of two firms both of which started to manufacture lava ceramics on a handicraft basis. One of these companies has now been converted to line production with Czechoslovak equipment.
- b) In 1971 some 100 man years were employed in this sector of which 90 were employed by the large firm.
- c) Total output was some 35 million kr. of which 30 million was produced by GLIT.
- d) The product range consists of distinctively designed ceramic articles such as plates, ashtrays, ornamental vases, lamps, etc.
- e) Approximately 8 million kr. were exported in 1971, a further 16 million sold to tourists and the balance sold in the home market.

2. COMPETITIVE POSITION

- a) PRICE - Being of a highly special design these products are highly competitive and even obtain a price advantage through uniqueness.
- b) QUALITY - is good in both durability and design.
- c) DELIVERY - capacity installed is well below demand and therefore delivery problems for large orders could arise.

3. EXPORT POSSIBILITIES

These products are already exported both directly and indirectly and the potential demand is unlimited in the foreseeable future. The rate of expansion will depend to a large extent upon ability to supply this latent demand.

The main markets are EFTA, E.E.C. and North America.

PAINTS, LAQUERS AND ALLIED CHEMICALS.

1. SIZE AND STRUCTURE.

- a) The total number of firms was 5 in 1968.
- b) Total man years employed 102 in 1968.
- c) The value added per man year was 390.000 kr.
- d) The product range conforms to demand in the building and decorating sectors and has shown a steady growth.
- e) Paints are exported to the USSR under special conditions.

2. COMPETATIVE POSITION.

- a) **PRICE** - Being produced from entirely imported raw materials these products are not competitive internationally but do compete in Iceland with the help of high tariffs.
- b) **QUALITY** - No problem in quality.
- c) **DELIVERY** - delivery is no real problem except from an organisational point of view.

3. EXPORT POSSIBILITIES.

Except in exceptional circumstances export potential is very limited in this industry as costs are well above international competitive levels.

APPENDIX 3.4

REGIONAL ASPECTS ON INDUSTRIAL DEVELOPMENT

A brief description of the objectives and scope and the concepts of regional development policies in the Nordic countries. Based on "The Regional Factor in economic development", OECD, 1970.

1 INTRODUCTION

Negative factors such as lack of natural resources, unfavourable climatic and geographic features have always placed some regions at a disadvantage in relation to other regions in the same country. Initial disadvantages of this kind have led to others such as inadequate social services and infrastructure and the absences of employment opportunities.

The motivation for regional development policies arises basically in connection with one or another of the following categories of problems: unemployment in certain parts of the country (high level of unemployment; lack of employment opportunities; instability of employment; threat of future employment), excessive outward migration (especially of people of working age) leading to a deterioration in the population structure and a progressive underuse and decline of social assets, marked disparities in per capita income, extreme unevenness in the distribution of population and resources. These problems emerge from underlying structural imbalances and have, as post-war experience has demonstrated, for the most part to be solved through national policies aimed at maintaining high levels of demand in the economy as a whole.

This implies that regional policies form part of national policies and must be considered in the context of national policies. All kinds of national economic and social policies have regional implications, the role of regional economic policy being essentially based on the recognition that the process of economic growth is uneven in time and space. Regional policy is not solely designed to provide relief to depressed areas; it is part of the broad approach to the

attainment of general economic and social goals. On the practical level, it is important for regional policies to cover not only the problem areas but also the expanding ones. Areas which are now prosperous may well show symptoms of depression in the future.

While the broad aims of the regional development policies of different countries are very similar, the characteristics and scope of the individual policies differ markedly. The specific policies adopted in each country and the resources devoted to the programmes will depend on the nature and scale of the problems encountered, the objectives in view, the level of economic and social development and on institutional and political factors. The modification of an existing regional pattern of economic development and growth prospects is essentially a long-term task. To be effective, therefore, regional policies must be based on a comprehensive approach that takes account of long-term population growth and movement, and economic and technological trends in which the various elements of national and regional policies are co-ordinated.

2 REGIONAL PROBLEMS IN NORDIC COUNTRIES

The over-riding characteristic of the Nordic group of countries, apart from Denmark which, however, faces special problems because of the large number of islands of which it is composed, is the vastness of the area, the wide differences in climatic conditions and vegetation and the low density of population. These conditions give rise to particular problems, amongst others, with regard to communications, agricultural production and the development of manufacturing industries. A small number of core-areas can be distinguished where the rate of economic growth is very rapid. But outside the core-areas the economy, in great tracts of the Nordic area, is in general dominated by scattered, mainly primary, industries undergoing radical transformation or in decline. This development involves an outflow of population to the industry and services of the core-areas and also from rural to urban areas within the different areas. By and large the main problem regions in Finland, Norway and Sweden are

to be found in the north, are remote from the core-areas, and have a hard climate and a one-sided industrial structure involving a constant risk of unemployment or underemployment.

Against this general background, differences in degree and structure of economic and social development give rise to important qualitative and quantitative differences in present and anticipated regional problems in each country. SWEDEN, which has one of the world's highest levels of per capita income, is faced, in addition to the problems listed above, with a number of problems associated with affluence: the difficulty of providing people remaining in depopulated areas with a standard of services equivalent to that available in other parts of the country; the highly developed and expanding motorisation of the population; the increase in the amount of built-up area per capita; an unplanned use of land resources. NORWAY'S regional development problems largely stem from the dispersed type of settlement and geographic and topographic conditions causing an imbalance between employment and production. The agriculture, forestry and fishing sector accounted in 1960 for one-fifth of total employment but for only 9% of GNP. These factors explain the extensive internal migration, especially after the last war, leading to more concentrated settlement. Two distinct features are particular to DENMARK'S regional problems: the dominance of Copenhagen where 35% of the whole population lives, and the far-reaching effects on the growth pattern of the population and of economic activity arising from structural changes in agriculture.

The principal problem of FINLAND'S development regions is that their productive activity lacks efficiency which manifests itself in the fact that primary production is dominant. In 1967 the primary sectors (agriculture, forestry and fishing) accounted for 15% of GNP but 27% of total employment. In agriculture the respective figures were 9% and 23%. In addition, it is characteristic of these regions that traditional industries grow slowly and labour is being released from agriculture. This results in unemployment and emigration from development regions. Additional problems are caused by the high birth rate in the North, the low income level and the substantial dispersion between different income groups.

3 THE OBJECTIVES AND SCOPE OF REGIONAL DEVELOPMENT POLICIES

3.1 The general approach

While most countries have had policies to help depressed areas for a number of years - many being started during the inter-war depression years - there has recently been much new thinking on the subject and reappraisals of the role of Government. In many cases these have led to drastic changes in policy. A common feature of this new approach in the various countries is that Governments are increasingly thinking in terms of regional development policies rather than in terms of aid to depressed areas. The basic reason for this development is two-fold. On the one hand, it is becoming increasingly apparent that the growth policies to which many countries are committed can leave pockets of excessive unemployment and low income which are politically, socially and economically undesirable and can themselves impede the success of growth policies. On the other hand, it has become necessary to include in regional policy the strong regions so as to be better able to define their prospects and their participation in economic development as a whole.

In all countries the original aim of regional policy was to combat unemployment in selected areas by means of specific measures and was essentially motivated by social welfare considerations. While such considerations remain important, the economic factor has in many countries become the main driving force behind regional policy. In many instances sectoral planning e.g. housing, communications, education, hospitals, etc. is far more developed than co-ordination between the sectors and regional policy aimed at securing harmonious economic development, particularly in the public sector, is therefore largely concerned with securing co-ordination between the sectors at regional and local level. A major objective is therefore to balance regional and local claims to resources and to give the executive authorities the possibility of making long-term plans on the basis of reliable

estimates of available means. Other major motives for regional policies can also be discerned. The increasingly numerous and complex conflicts concerning land use, e.g. the rival claims of industry, agriculture, recreation and nature preservation, have led in many cases to nationally inspired physical planning and to increasingly close integration of physical planning with regional planning.

The principal aims of regional economic policy are, in consequence, both complex and interrelated. They can perhaps be summarized very broadly as including, mainly:

- a) The planning of economic development and investment in accordance not only with the need to promote the overall progress of the national economy but also with the diverse needs and the potentialities of the different regions and with the geographical distribution of the population and manpower.
- b) A reduction of the imbalance between regions in the distribution of economic activity and in the levels of income, prosperity and welfare.
- c) The maintenance and encouragement of the social and cultural basis of the life of the regional populations, including the preservation and best use of natural, cultural and amenity resources.
- d) The planning of the physical environment and infrastructure, including housing, communications and other forms of fixed capital in accordance with consistent and coherent national, inter-regional and regional aims and with the economic resources available.

The emphasis given to these varied objectives necessarily differs according to the different circumstances and needs of each country, and such factors as size and the importance of inter-regional disparities.

These varied features of regional economic planning suggest that it is impracticable to treat economic, physical and social planning in isolation from each other. Physical and social development requires the investment of resources and therefore poses economic problems of scale, priorities, of

costs and benefits. Economic development influences and is influenced by, physical and social development. A balance has to be struck between all the objectives of policy. Regional planning is therefore essentially an exercise in co-ordination aimed at both improving the economic foundations of a region and meeting its physical and social needs, within the framework of national needs, resources and potential.

Regional policy, therefore, is mainly concerned with overall economic and social growth, and not merely with restructuring, and is geared to the central objective of economic growth as well as the correction of imbalances in regional employment and incomes.

3.2 National objectives in Nordic countries

Several examples of the shift in regional policy aims from exclusive concern with alleviating unemployment in the less favoured regions to the wider concept of stimulating potential development in suitable parts of the country are to be found in Scandinavia.

Each country undertakes its regional development policy on a strictly national basis, although co-operation is taking place on a number of joint projects under the auspices of the Nordic Council, and the role of regional policy in general economic and social policies naturally varies from one country to another, but all regard the locational planning of public investment in infrastructure and social services as being central to regional policy. The basic aims of regional development policy are similar: to promote a distribution of economic resources that is conducive to full employment and growth and which enables people living in different parts of the country to share in the general progress of the nation.

In NORWAY regional policy and national economic policy are very closely related. This is because regional problems concerning settlement patterns and industrial structure are so widespread that they represent vital national problems.

Regional policy is aimed at promoting better regional balance and alleviating readjustment problems arising from structural changes in the economy.

After the cessation in 1961 of the ten year North Norway Programme (covering 12% of the population and 35% of the land area), there has not been any new designation of development areas. The Regional Development Fund provides assistance of different kinds to economically weak districts in all parts of the country. It is up to the administration of the Fund, acting within the criteria laid down by Parliament, to decide which location or area is eligible for assistance.

In the case of SWEDEN, two long-term objectives have been formulated for regional policy with regard to the distribution of resources and the location of industry and commerce. First, to promote a distribution of economic activity that leads to the country's capital and labour resources being fully utilized and distributed in such a way as to favour rapid economic progress. Second, to contribute to an equitable distribution of the rising standard of living and the provision of satisfactory social and cultural services to people in different parts of the country.

The most important means to reach these goals is an effective regional planning, guiding and co-ordinating the allocation of resources. Under a new system of economic support for location purposes instituted for a trial period of 5 years from 1st July, 1965 assistance is primarily intended for the aid area but, subject to Governmental authorization, may be used in other parts of the country where major employment problems are expected or have arisen because of the closing down of an enterprise in connection with rationalization or for similar reasons and where it is deemed necessary to support an industrial centre with an unbalanced economy. The aid area covers the northern part of the country which has less than 20% of the total population but covers two thirds of the country.

In DENMARK the aim of policy, as defined in the 1967 Revised Regional Development Act, is to foster economic growth in areas where such growth is needed for the population to share in the general economic, social and cultural progress of the nation. The Act stipulates that it is the duty of the Board to advise the Minister of Commerce on designation. The Act does not include any criteria as to how this should be done, but a variety of criteria such as income, unemployment, growth in population, urbanization, decline in agricultural production, are likely to be used. When the legislation came into force in 1958 it applied to the whole of Denmark apart from Copenhagen. With the improvement in employment it has been narrowed to a limited area and at present covers 35% of the land area and 25% of the population.

In accordance with the 1966 legislation the development regions in FINLAND - designated on the basis of development indicators - comprise the whole east and north, parts of the central and western areas and the archipelago in the south-west. It comprises 79% of the total area and 40% of the population but is divided into two zones, one being subject to stronger measures than the other. The zones were designated according to their distance from the industrialized part of the country, mainly in the south-west. However, the determination of new boundaries for the development regions and zones is now under consideration.

The Committee report of the Regional Development Board which was presented to the Cabinet in May 1969, included proposals for new development region boundaries. These were determined on the basis of the stage of development attained by each commune; more than 40 variables were used for measuring this. The preparation of the proposals for the new legislation on development regions has been based mainly on the principle that the solution to these problems is to be found in the pursuance of a policy aimed at developing a new structure of production in these regions. Development policy is consequently directed at concentrating productive activity in those industries whose products enjoy increasing demand,

which have good competitive power, and which will be able to absorb labour as it is released from the traditional sectors. In order to change the production structure it is essential that a sufficient share of the resources devoted to development work should be directed to those centres in the region which are capable of development as the result of already possessing a diversified industrial structure and a developed service network.

4 BASIC CONCEPTS OF REGIONAL DEVELOPMENT POLICIES

In the NORDIC countries the policy of assistance to depressed regions has evolved in the direction of a regional development policy integrated in the context of the national economy and aimed at stimulating the regional potential where it exists. This implies a policy of redistribution of economic resources to contribute to full employment and growth. Thus in the peripheral regions, problems of unemployment, depopulation and inadequate services are being tackled by concentrating public measures in districts where conditions are considered most suitable for economic growth while at the same time measures are taken to assist the residual populations and those wishing to migrate. It is recognized that in the long run there is no way of preventing many rural areas and even urban areas from losing population to those parts of peripheral regions where there are employment opportunities (growth points), and to the expanding areas in other parts of the country. The emphasis given to each of the elements of policy - stimulation of growth centres in problem areas, assistance to residual populations, labour mobility inducements - varies from one country to another.

Co-ordination of physical planning with the allocation of resources is under development in all the Scandinavian countries and has advanced further in Norway, and to some extent also in Sweden, than in the other countries, although numerous problems subsist.

In DENMARK the emphasis has been placed on location policy, the major aim being to reduce economic and social disparities between groups of population. As a step towards integration and co-ordination of the government's investment policy a National Planning Committee was set up in 1961 with the task of establishing policies for the allocation of funds for public works where these will have a decisive effect, in determining industrial location and future urbanization. With the recent introduction of 3-year budgeting and impending perspective budgeting covering 10-15 years, regional development policy is likely over the coming years to become more closely integrated with economic and physical planning. Overall physical planning for larger areas than individual municipalities is only to a limited extent legally obligatory, but in several parts of the country voluntary regional planning by groups of local government units is taking place. Attention is currently focussed on the delineation issue which is closely linked to reform of the administrative system.

NORWAY has the longest history of regional development policy but has, perhaps, the most complex problem of all the Scandinavian countries. More so than elsewhere in Scandinavia regional problems concerning settlement patterns and industrial structure, because they are so widespread, have to form part of national policy. National fiscal, budgetary and investment policies are also supported by a wide range of regional policy instruments. Increasing attention has been given to the integration of regional policy guidelines and measures into the Annual National Budget and the Four Year National Programme and to the regional co-ordination of infrastructure investments.

By Act of Parliament of 18th June, 1965, all communes will have to work out an integrated advisory plan for land use within the commune as well as plans for main infrastructure investments. Communes forming a geographical and economic unit are required to co-operate together (within "planning regions", generally composed of 4-7 communes). In each of the 18 counties a planning section has been set up to deal

with regional problems in the county and to co-ordinate and guide physical planning within and between communes. Although there are so far no arrangements for overall physical planning at the national level, four Planning Commissions have been set up to present integrated advisory plans for eight counties (including Oslo) in south-eastern Norway, the greater part of western Norway, the Trondelag region, and North Norway, respectively.

Preliminary work has been done on the regionalization of national plans, the starting point being to broaden the perspective of the sectoral plans and budgets prepared at county level. Special attention is given to the regional co-ordination of infrastructure investments. The complexity of Norway's problems is illustrated by the fact that for the time being no complete scheme has been worked out on future urbanization and growth area policy. These questions touch strongly on local and political interests and there are divergent views as to whether preference should be given to large or small centres or whether expanding areas should be given more attention than declining ones. In order to gain experience one growth centre, or one growth area, has been designated in each of the 15 counties outside the Oslo area.

SWEDEN, to a greater extent than the other countries, and in some respects in contrast to them, has followed a policy of promoting the transfer of labour from the sparsely populated parts of the country to the expanding areas. This is partly because it is widely accepted by government, industry and labour that it is necessary not only to facilitate but also to promote structural changes in order to maintain full employment and a rising standard of living, and partly because Swedish experience has been that only a relatively small number of places are going to be attractive to industry and people. Great importance is attached to social welfare measures taken to alleviate the situation of residual populations, mainly older people loath to leave their life-long environment, in the sparsely populated areas. Extensive use has been made of relief works to provide job opportunities for people living in these areas.

In Sweden the most important communities from the point of view of services have been classified "A" centres. There are 70 such centres, normally with a population of at least 30,000 inhabitants, i.e. the minimum number required for a secondary school and many other services. In the aid area there are 20 such places, most of them coastal towns, and about 75% of the new job opportunities have been or will be created in them.

Regional planning has until now mostly taken place on a sectoral basis (e.g. roads, housing, etc.) in line with long-term economic planning while co-ordination between the sectors has to some extent been lagging behind. Such co-ordination has primarily been effected through the physical planning of the communes or groups of communes. The ability of the communes to fulfil this task has been strengthened by the new division of the country into blocks of communes, which was completed in 1964. It was further decided that co-ordination between the communes and between the different planning sectors of the state authorities as a basic element of regional policy should mainly be carried out in co-operation between communal and state authorities under the supervision of the provincial governor's office. This work resulted in 1967 in a provisional form of county planning. Of particular interest in the work being carried out at county level is the attempt to give a more quantitative and specific content to planning in the form of "frames" for the future population to be planned for in various areas, indicating the need for dwellings, schools, road, etc., and calculations for employment in the various sectors of the economy according to assumptions made under different alternatives. In response to the increasing conflicts between industry, recreational interests and the preservation of nature, work has been started on national land utilization planning.

In FINLAND, although since the 1930's regional aspects have been taken into account in national economic policy, the broad lines of an overall regional development policy have only recently been formulated. At the beginning of 1965 the

Committee entrusted with this task submitted a provisional report in which primary importance was given to designating development areas, to questions of vocational training and financial incentives for industry. The first step was taken with the decision to enforce the present laws on development regions for 1966-1970. However, this did not as yet constitute the formulation of a coherent overall regional development policy with clearly defined aims. The Regional Development Board was founded in 1966 for continued research and the planning of regional development policy. The committee report of the Board presented to the Cabinet in May 1969 constitutes the first overall regional development plan for Finland. In the preparation of the report an effort was made to increase the participation of the development regions in discussions regarding their problems as well as in decision-making. Special provincial research officers have, inter alia, been appointed to the provincial offices in the development regions in order to define the aims of each region and the ways of achieving them. In addition, the planning of land use, which in Finland is entrusted to federations of regional planning, is now being co-ordinated with the planning of general social policy and, especially, with other types of regional planning. Consequently, efforts are being made to increase the co-operation between central and district Government officials, on the one hand, and the various planning bodies, on the other. Regional economic planning as such will be inaugurated in about 1973.

5 ADMINISTRATIVE CO-ORDINATING BODIES

In the Nordic group of countries only Denmark and Norway have set up bodies specifically for the purpose of implementing regional policy.

In DENMARK, the Regional Development Board is charged with administering the 1967 Revised Regional Development Act and is solely responsible for the administration of financial aid. The designation of development areas is undertaken by the Minister of Commerce. In NORWAY, the Regional Development Fund is charged with the provision of assistance for establishing

new activities in areas having special employment difficulties or a weak industrial base with a view to increasing employment and obtaining an efficient utilization of labour. The Fund's scope of activity is considerably wider than the processing of applications for financial support. Thus it assists in the investigation of industrial possibilities, takes action to assist the realization of these possibilities and draws the attention of the competent authorities to problems which need to be resolved in order to strengthen economic development in the districts. Its resources are used in accordance with guidelines drawn up by the Government from time to time. The main co-ordination work is carried out by the Ministry of Local Government and Labour.

In SWEDEN, the central agency for industrial location is the National Labour Market Board which undertakes advisory and information services, economic and labour market surveys and acts as the executive body with regard to financial aid. At Government level, industrial location is handled by the Ministry of Housing and Labour. The Government has appointed a Location Committee with the task of discussing regional problems and giving advice to the Government. It consists of representatives of industry and commerce, the employer and employee organisations, the unions of local authorities and certain central government authorities.

The FINNISH Government body responsible for the planning of regional development policy and the preparation of the proposed measures in the Regional Development Board. Its members represent, inter-alia, the central government, central municipal organisations, industry and research institutions as well as the different regions of the country. Within the development regions social policy is planned inter-alia by the province research officers for regional development and, as far as land use is concerned, by Federations of Regional Planning. The implementation of regional development policy measures is entrusted to the Ministry of Commerce and Industry, The Ministry of Communications and Public Works and the Ministry of Finance. There is no Government body in Finland responsible for both the planning and implementation of regional development policy.

6 SPECIFIC MEASURES FOR IMPLEMENTING REGIONAL DEVELOPMENT
POLICIES

Three broad categories of measures are used to implement regional policy: those bearing on the development of infrastructure, which may not only be specific but also cover the co-ordination of public investment programmes in general, those with manpower mobility, education, vocational training, aids to adaptation and welfare and those concerned with stimulating the expansion of industry in selected parts of the country. To some extent, these categories overlap with one another. Moreover, it is not always possible to isolate all the measures of official assistance affecting regional policies. This is especially so in countries where the integration of regional policy into national economic policies has been carried furthest. For instance, when assistance is given to sectoral activities such as the re-organisation of shipbuilding or tourism, account is taken of the regional aspects. Furthermore, some countries give priorities to development areas.

Amongst the Nordic group of countries, NORWAY has a system of providing financial aid to weaker communes of up to 70% of total costs for infrastructure investments aimed at strengthening the employment and structural base of the economy. DENMARK, FINLAND, and SWEDEN do not provide special assistance for infrastructure development out of regional development funds. Co-ordination between the sectors (e.g. roads, schools, housing, etc.), is primarily effected through planning. In Denmark, the Regional Development Fund may recommend to the appropriate authorities that communications and similar facilities be provided in order to promote development.

All countries attach great importance to the training and re-training of workers in designated development areas both to combat unemployment and to encourage industrialists to locate in them. Great attention to these problems has been paid in Sweden where the concept of an active manpower policy has been carried furthest and where regional policies are an intricate part of manpower policies. Sweden does not link relocation allowances to the firm but to the individual.

Allowances are given to people who leave the aid area, as well as to those moving to growth centres within it. Since 1963 around 10,000 people per year from the northern parts of the country have obtained special transfer grants to take up jobs in the central and southern areas. However, at the same time over 6,000 people per year obtained such grants for moving to jobs within the northern area.

In FINLAND special transfer grants have been used to encourage people to move from under-employment areas to regions where work is available. Both in 1967 and 1968 such grants were allocated to almost 5,000 workers in one form or another. Inter-professional mobility has also been encouraged through special training courses and increased vocational education in the development regions. Enhanced attention is likely to be given to measures directed towards labour in future regional development policy.

In DENMARK an Act of February 1969 makes provision for financial support for the training and education of manpower in development areas. The financing of regional development is normally made possible through a central fund supplemented by additional resources, from regular budgetary appropriations, State, provincial, and local authorities, or from other funds for supporting nationwide aspects of governmental policies, e.g. general industrial or sectoral.

In SWEDEN the Labour Market Board which is entrusted with the application of regional development policies as well as manpower policies has a budget of around 2,000 million Swedish crowns. This is equivalent to 1.5% of the total national income or 5% of the central government expenditure. For a five year period starting from the second half of 1965 a programme for investment grants and loans has been made available. The total financial aid according to this programme has been made available. The total financial aid according to this programme has been successively revised and amounts now to 1,000 million crowns during the period 1st July 1965 - 1st July 1970. On the 1,100 million crowns 200 million are made available in the form

of grants. However, the use of investment reserve funds in Sweden (and in Norway also) involves an element of tax subsidy which cannot readily be calculated.

In NORWAY expenditures are centralized in the Regional Development Fund which between 1952 and 1968 disbursed 1,250 million Kr. in loans and guarantees. In the earlier years, disbursements were relatively small but by 1968 had risen to 244 million kr.

In DENMARK from 1958 to the present time, 344.2 million Kr. of loan guarantees were given. Guarantees for loans for working capital amounted to 3.25 million Kr. Loans to local authorities for industrial building amount to 79.3 million Kr. and the miscellaneous capital grants to 6 million Kr. State expenditure is of the order of 27 billion Kr. so, in comparison, the expenditure for regional development is very modest. This is also borne out by the comparison with industrial investment which amounts to 2 billion Kr. per annum. It should be noted that the loan guarantees which are the main form of incentives in Denmark (and are also of great importance in Norway) do not involve the use of Government funds.

As far as FINLAND is concerned it is very difficult to give an estimate of the financial support given to regional development because it is largely granted within the ordinary expenditures of the different ministries. The relative amount of State aid to the development regions is dependent in many cases - as are State grants to communes - on the stage of development of the region; underdeveloped areas are supported to a greater extent than those representing a more advanced stage. State regional development aid in the form of subsidized interest rates and tax reductions has so far been rather modest. In the next few years, however, support in this form is expected to exceed 10 million US dollars annually.

Stofnbanki Íslands
Rekstráttir

TABLE I-B-E

22. október 1970

Tala 1.
REKSTRÁTTIR JÁFNUMANA
(Millj.kr.)

	1968	1969	Dr.-b.-t. 1969	Áttán 1969	Op 1969
A. Eignar fjáframtal					
1. Eignar framlag, nettó	600	500	670	600	700
1.1 Eignarlag af borgun	200	200	200	200	200
1.2 Eignarlag af vaxta	200	200	200	200	200
1.3 Annars, nettó	-20	-20	-20	-20	-20
2. Framlög (af skilgreindum líköpum)	600	600	600	600	600
2.1 Líköp	600	670	600	600	670
2.1.1 Sjálfstjórn	200	200	200	200	200
2.1.2 Atvinnurekandi	200	200	200	200	200
2.1.3 Aðrir framlög atvinnurekanda	200	270	200	200	270
2.2 Líköp af vaxta	-200	-200	-200	-200	-200
2.3 Eignarlag af líköpum	-20	-20	-20	-20	-20
3. Eignar - réttur	600	600	670	600	670
B. Eignar fjáframtal					
4. Stöð og stöðubreyting	600	670	600	600	670
4.1 701 Sjálfstjórnarmarkaður	20	70	70	20	20
4.2 Annars	580	600	530	580	650
5. Breyting í eignum (áskilnaður -)	0	20	20	20	20

7 THE PROMOTION OF INDUSTRIALIZATION IN DEVELOPMENT AREAS7.1 Direct aids

In the development regions of all the countries studied, in addition to the measures affecting infrastructure, provision is made for direct stimuli for attracting or expanding industrial activity. Such stimuli may cover new firms, those which have moved from congested areas or existing firms carrying out rationalization and expansion programmes. These direct aids mainly take the form of loans, grants or fiscal exemptions although a wide range of different kinds of measures are used, especially for specific purposes, and there are wide inter-country variations in the terms and conditions under which loans and grants are given.

In general, the measures apply to manufacturing and extraction enterprises only, but in a number of countries tourism (hotels, camping sites, etc.) are also included, and in one or two cases commercial establishments also. For the most part, foreign firms enjoy the same advantages as the national ones.

Some countries provide assistance on a far more generous scale than others. Assistance is designed to compensate firms for the additional expenses involved in being located in a development area rather than in the area of their choice, which is generally in a highly-developed part of the country where there are advantages such as easier access to raw materials and markets, availability of skilled labour, infrastructure, the proximity of auxiliary and support industries, etc.

When comparing the position between one country and another, it is useful to bear in mind the underlying concepts of the measures and the ways in which they are applied. The measures taken in each country grow out of the problems. But the solutions adopted may have a motivation outside the problems, e.g. one country may prefer to give subsidies on interest rather than on capital because for political reasons it has not been possible to set up a sufficiently large fund. Another country may feel that the risk of distortion of competition is less with loans and loan guarantees than it is with grants.

In general, the tendency is towards greater flexibility, both in the range of measures adopted and in the conditions attached to them. In some cases, countries which had formerly linked the provision of aid directly to the creation of new jobs have now rescinded or softened these conditions. This is because encouragement is given to the implantation of the new growth industries rather than the old, labour-intensive industries. The new industries are generally less labour-intensive and more capitalintensive than the old ones, but, in the long run, have important multiplier effects on employment. On the whole, it would seem that there are few labour-intensive industries with a growth potential.

The question of the conditions attached to the provision of assistance is closely related to that of its orientation. Subsidies may be given on land, labour or capital or on a combination of these. Up to now the emphasis has been largely on subsidizing investments, but this has the disadvantage that, in the short run at any rate, and before the multiplier effects work through, employment might fall rather than increase. Accordingly, in some countries there has been a discussion of switching the emphasis to the subsidization of labour rather than to the other factors of production. With regard to subsidies on capital, there is increasing awareness of the need for reducing the burden of investment in new projects and of operating costs in the earlier years, and this is one of the main reasons for the increasing popularity of grants and grant-like assistance. The whole question of proper balance between subsidies to capital and to labour deserves further study.

With one important exception - investment reserve funds - the means used for inducing industrialists to go to problem areas are similar in the Nordic countries to those used elsewhere, but the emphasis placed on one or other of them and the total financial burden involved varies considerably from one country to another. As compared with incentives in some other countries they are selective and not automatic. This

involves a considerable amount of individual judgement, but in exercising this the authorities collaborate as far as possible with the banks. Although the credit-worthiness of the individual firm is the primary criterion, caution is used in giving aid to declining branches. The incentives are positive (there are no constraints on location) and once-for-all. A common feature is that for the most part loans and loan guarantees rather than grants are provided. This is mainly because of the risk of distortion of competition. The main exception to this general rule is that in SWEDEN building grants generally not exceeding 35% of total cost may be given.

In DENMARK and NORWAY the principal advantage to the industrialist of the loans and loan guarantees is that they are weakly secured, so providing credit that would not otherwise be available. While in the case of Norway the loans are directly given to industrialists at market rates of interest, in Denmark loans as against loan guarantees to industrialists, are given to the commune for the financing of industrial buildings at subsidized rates of interest and so indirectly benefitting the industrialist. FINLAND'S system of investment credits differs from the Danish and Norwegian systems in that the loans from the usual financial sources are made available at subsidized rates of interest in the development areas and cover a wider range of activities. In its recently-presented report, the Regional Development Board has suggested that the measures to be directed towards firms should mainly be those which will facilitate the establishment of an enterprise or its expansion or re-establishment after a change of location, i.e. to help firms over a "take-off" period. Thereafter no direct aid should be given to enterprises, for the Board considers it inappropriate to give continuous support to firms to help them finance additional costs arising from their geographical location. It should be noted that in all four countries the tourist trade is also eligible for assistance. In Norway public purchase of shares in private firms may be made in special circumstances.

7.2 Fiscal concessions

In eight countries - France, Germany, Italy, the United States, Finland, Belgium, Norway and Sweden - fiscal concessions are used as a means to promote regional development policies. It will be noted that such concessions are used either on a highly-selective basis with a view to promoting adaptation rather than the implantation of completely new industries, or, where the purpose is to promote industrialization, they may be given for a long run of years (e.g. 10-year concessions in Italy). In the early years of a new enterprise profits are generally low so that if the concessions were limited to a few years only, the benefit to the firm might be negligible.

FINLAND

Free depreciation during 10 years on investments made in 1966-70 in the development area. An extra annual depreciation is given in zone I in excess of other allowances. This annual depreciation is 3% of the initial costs of fixed assets procured in connection with the establishment or expansion.

Building investments of the above-mentioned type obtained in the same connection are not considered to be taxable property for taxation purposes for 1966-80.

NORWAY

Setting aside of tax free reserves for investment purposes in lagging areas. When investment takes place part of the reserves is permanently exempted from taxation. These incentives are most favourable for investment in North Norway. As from 1970 a reorganization and an extension of the tax incentive system will take place.

SWEDEN

The Swedish investment reserve funds scheme is primarily designed to level out investments over the various phases of the business cycle. This scheme gives firms the opportunity of making tax-free allocations of profits to special funds

to be used for future investment purposes. The right to benefit from the scheme is reserved for joint-stock companies, economic associations and savings banks. A condition is that a certain part of the fund must be placed in a blocked, non-interest-bearing account with the Central Bank. The rest of the fund remains with the company.

The Government, or by the Government's authorization, the Labour Market Board, decides when the investment funds may be utilized. Authorizations to draw on investment funds imply primarily a fixing of the time during which the funds may be used. Authorizations may be limited to certain types of investments, e.g. building or machinery. They may also be restricted to certain branches of industry or to certain regions.

The Government has also by special permission authorized the utilization of investment funds, through which investments of importance from the point of view of regional development policies have been possible. These permissions are subject to certain restrictions as regards the advantages connected with the utilization of the funds. Thus, the normally included right to an extra tax deduction is not granted. Furthermore, the amount that may be utilized is maximized at 75% of the accumulated funds or future allocations of the firm and must not exceed 75% of the investment costs.

7.3 Industrial zoning

The continuing sharp rises in land values in most industrialized countries is a serious hindrance to the carrying out of urban development and industrialization plans, and various methods to remedy this situation have been adopted, in particular the planning and laying out of industrial expansion zones and the promotion of industrial building for sale or letting.

In these industrial areas (industrial estates, industrial centres) the growing needs for industrial services could be provided for. See also Appendix 5.3: Industrial Centres.

8 ASSESSMENT OF THE IMPACT OF REGIONAL DEVELOPMENT POLICIES

Assessment of the effect of regional policies is complicated by cyclical economic movements and by the changes taking place in economic and social structures, but there are indications, in particular derived from employment and unemployment data, that these policies are having the desired effects, although more markedly in some countries than in others. Recent experience in many countries is that the successes achieved in combating regional unemployment depend to a great extent on the management of the economy on a broad scale. In few, if any countries is it foreseen that serious regional imbalances will be overcome in the short term or that the need will not continue, in the next decade at least, for specific regional policies to ensure that the regions play their full part in national growth.

As might be expected, progress in reducing regional disparities is most noticeable in the countries where expenditure on regional development policies is relatively greater, or where policies have been pursued for long periods. Progress is, in general, faster with regard to industrialization than with regard to standards of living because of a time-gap. One consequence of industrialization in its early stages is an influx of unskilled manpower from rural areas to the towns and this leads to a continuation of the imbalance in the labour market. A further factor is that the increasingly rapid growth of the service sector is adding a new degree of complexity to regional problems, and, insofar as service sectors tend to concentrate in the expanding regions of the country, makes the attainment of an even balance of employment all the harder.

With regard to the governmental measures, it is apparent that more attention will have to be given in the future to the improvement of the social environment in the development areas

since it is increasingly recognized that human and psychological factors are key ingredients of successful regional policies. Vocational training and re-training are also likely to become an increasingly important aspect of regional policies. The need for technically qualified workers is much greater in the new industries.

In the Nordic countries, a general idea of the effects of the regional policies pursued can be obtained from data on new jobs created, even if those figures often don't show the net effect of the measures. In SWEDEN the firms have estimated that the investment incentives given them until now under the programme introduced in 1965 should lead to the creation of 15,000 new jobs have been created since 1958. In NORWAY no exact figure can be given, as action for creating new jobs intermingles with work on strengthening existing employment and special development measures link up with ordinary means. Regional development activities have been increasing from year to year. Subsidized rates of interest have been used in FINLAND for credit schemes through which over 3,000 permanent jobs were provided between the latter part of 1966 and the end of 1968.

9 A REGIONAL INDUSTRIAL DEVELOPMENT FUND

The principles of application of a regional industrial development fund can be illustrated by the following description of the development fund established in Finland in 1971.

Objectives

- 1.1 In order to avoid overconcentration of industry in the already developed southern part of FINLAND and at the same time to encourage the spread of industrial activity to the less developed areas of the country, a special fund was established in the beginning of 1971.
- 1.2 An other objective is to co-ordinate the governments regional policies with those of local authorities.

1.3 As a part of its functions this fund administration is entrusted with the study and selection of the most suitable industries for the development regions. In this connection finance for selected industry sectors such as tourism, forestry nurseries, fur farming, market gardening, fish farming have been considered.

2.0 Qualifications for financial assistance

- 2.1 All projects proposals must be cost effective with eventual selfsustaining profitability.
- 2.2 Priority is given to labour intensive industries, small scale or medium sized, which are either export oriented or substitute imports.
- 2.3 Special attention is given to enterprises with lack of capital and/or need for management aid.

3.0 Services available under the fund

- 3.1 The fund can provide and/or finance feasibility studies and all sectorial investigations or regional development.
- 3.2 The fund can finance studies or give financial support to companies engaged in regional development activities i.e. research establishments, marketing research, compares consultancy services etc.
- 3.3 Prior to a commitment of funds the Fund investigates the viability of projects and the management efficiency of client companies.
- 3.4 A full training program is envisaged under the Fund whereby management, production administrative and marketing training courses can be organized or financed.

- 3.5 In co-operation with established educational authorities the Fund will ensure that the manpower requirements of the developing regions are co-ordinated with supply possibilities.
- 3.6 The Fund is empowered when the need arises to:
- a) Establish new enterprises.
 - b) Grant loans to existing enterprises.
 - c) Buy out existing enterprises to invigorate their activities and then re-sell them as a profitable concern.

4.0 Rules for financial assistance

The application of financial aid is governed by rules which vary according to the nature of the recipient. The Fund provides its own services free of charge. In cases when their services are delegated to outside bodies e.i. training establishments, consultancy agencies etc. the Fund will provide finance up to a maximum of 75% of the total cost. Of this up to 50% (60% in certain regions) is not repayable. For investment and working capital loans of up to 75% are available.

5.0 Interest and amortization

5.1 INVESTMENT CAPITAL - can be financed to a maximum of 20 years at 9.5% interest. During the first four years amortization is free and support on interest payments is provided.

5.2 WORKING CAPITAL - can be granted for a maximum of 10 years at 9.5% interest.

6.0 Guarantees

Normal guarantees are required but in cases where these are not available a State supported Insurance Agency which grants a guarantee at reasonable premiums can be utilized.

APPENDIX 5.1

THE NEEDS OF ASSISTANCE AT FIRM LEVEL

- 1 INTRODUCTION
- 2 NEEDS OF ASSISTANCE IN VARIOUS AREAS
 - 2.1 Physical facilities
 - 2.2 Supply and storing of materials
 - 2.3 Manpower
 - 2.4 Capital
 - 2.5 Management and organization
 - 2.6 Marketing
 - 2.7 Product planning and product development
 - 2.8 Production planning and control
 - 2.9 Production
 - 2.10 Cost accounting and cost control
 - 2.11 Productivity improvement
- 3 THE PROVISION OF ASSISTANCE AT FIRM LEVEL

THE NEEDS OF ASSISTANCE AT FIRM LEVEL1 INTRODUCTION

The current demand from industrial firms for assistance of various kinds differs in many respects from the current needs of assistance and even more from future needs, and there are many reasons for that:

- the size of the firms and the stage of development: many firms are small and just in a stage of changeover from handicraft to industry, from production on order to production for stock, which means a more complicated production process, technologically and economically, and new problems to be solved;
- the structure of the manufacturing industry: the number of large and medium-sized firms is very limited, which means that the natural inflow of know-how into the smaller firms does not exist. The small firms cannot always recognize the real reasons for high production costs and consequently they do not realize the actual needs of assistance in problem solving;
- the prevailing industrial situation with tariff protection and limited competition from industries abroad has had as a result that the incitement for cost reduction within industrial firms has been rather limited and consequently the demand for technical assistance unproportionally low;
- there is a shortage of specialists on industrial engineering in too many firms which means that there is lack of capacity and capability both in the stage of programming and request and in the process of implementation and follow up;
- there are too many gaps in the established system offering industrial assistance, which has had as a result that the process of two-way communication needed has not come into effect;
- in the new industrial situation which will be a result of Iceland's entry into EFTA and the tentative agreement with EEC the needs of assistance of all kinds will be drastically changed both in content and volume.

2 NEEDS OF ASSISTANCE IN VARIOUS AREAS

2.1 Physical facilities

Physical facilities include premises, buildings for production, offices, stores and laboratories, building installations, processing machinery, equipment for handling, moving and storing materials, and facilities for power distribution, factory services, employee services, safety and maintenance.

During the studies carried out in the last two years it has been observed that physical facilities is one of those areas where large reduction of production costs can easily be achieved;

- adequate building design can facilitate a smooth flow of production, reduce the costs of materials handling, and increase the level of utilization of floor area;
- adequate arrangement of processing machinery and well designed and flexible floor layouts based on mechanical handling of materials in storing and production can heavily improve the utilization of manpower and machine capacity;
- a well designed and correctly implemented system of preventive maintenance can assure adequate continuity of operations and maintain factory capacity at minimum costs;
- long-term planning and continuous adaptation of buildings and machinery to production requirements can prevent undesirable interruptions in production.

The needs of assistance specific for this area are:

- advisory services for the preparation of factory and floor layouts, design of systems for materials handling and preventive maintenance, and all stages of implementation;
- specific services, such as heat-treating, electro-plating and tool making;
- leasing of physical facilities at low costs, preferably in industrial centres.

2.2 Supply and storing of materials

The production in many firms is based on imported raw materials and component parts and will be so to a much greater extent in the future.

At present a great many firms are importing both raw materials and component parts for their own use, which means unnecessarily high material costs, unproductive use of manpower, large quantities of materials stored, working capital unprofitably invested in materials, and problems with late deliveries.

Great advantages could be achieved, both at firm level and from national economic point of view, if a small group of effective importers could take care of all imports.

The needs of assistance specific for this area cover:

- continuous supply of raw materials and component parts at short notice and low costs from importers;
- preparatory operations to be carried out by the importers, such as cutting, welding and coating of steel bars and plates or drying, sawing, cutting and painting of timber, wood and wood products;
- all kinds of testing of materials and component parts.

2.3 Manpower

The utilization of manpower in production has found to be unnecessarily low in many firms due to the following reasons:

- the large variety of products produced in each firm;
- inadequate preparatory planning of production (incomplete drawings, quality specifications, work instructions, time schedules, and quality control requirements);
- improper layouts, too much manual handling, insufficient maintenance of machinery, and, in some cases, old machinery;
- insufficient instructions in new operations, mainly due to foremen's inability and lack of time to give proper instructions;
- unsatisfactory human relations partly due to managerial and supervisory incapability to manage;
- the exceptionally high labour turnover in too many firms;

- incapability of managers, supervisors and operators to meet the requirements of industrial production of today.

The needs of assistance ^{specific for} this area cover:

- intensified further training of all kinds for all categories of industrial personnel;
- information conferences and seminars discussing human relation problems;
- written material in Icelandic for self-studies.

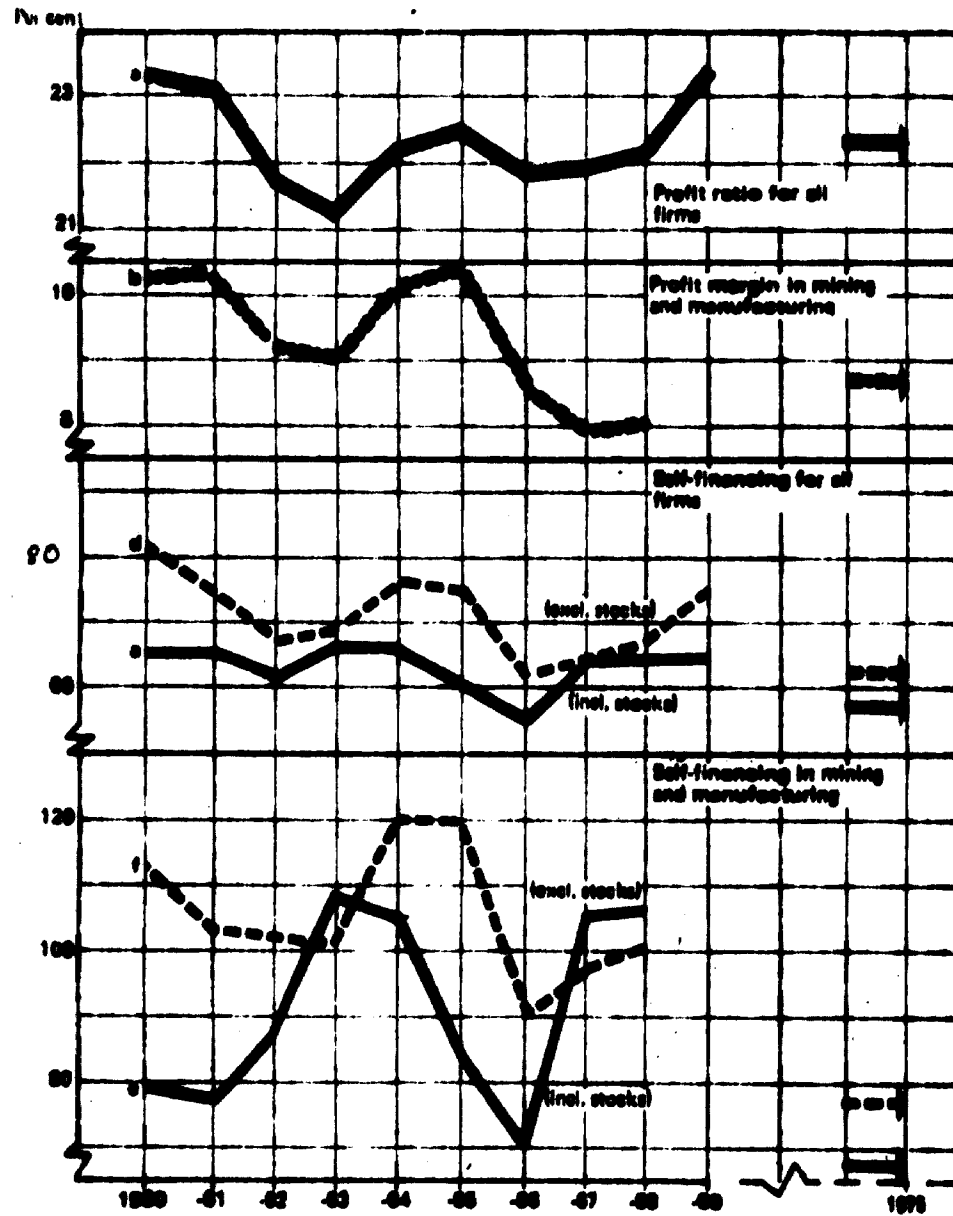
2.4 Capital

Weak points in this area are difficulties to finance investments at low costs, the shortage of working capital and the system normally used for payment of customer bills.

Investments in buildings, machinery and stocks can very seldom be financed by self-earned money. In the past the taxation policy has in fact worked against the financing of investment by earned money. This is a big disadvantage in the competition with firms in other countries. As can be seen in Fig. 5.1.1. the situation for industries in Sweden is more favourable. During the period 1960-69 about 65 per cent of all investments (incl. stocks) were financed by earned money.

The possibilities to get loans for investments have improved but the interest is still quite high. The present system covering credits for working capital seems less satisfactory. The normal way of financing working credits is in the form of short-term bills, to a limited extent also current account credit. An adequate and assured access to working credits is of major importance for the continuity of production and thereby also for productivity and capacity utilization. Shortages of working capital often result in stoppages in production and the uneconomic short-term planning instead of the more effective long-term planning. Moreover, it seems to be the case that the need of working capital and therefor also working credits is of a permanent nature, even if the amounts can vary somewhat from month to month. For this reason, short-term bills are hardly an expedient form for the provision of working credits. It is very time consuming; for the firms, for the customers, and for the the banks. The customers are, furthermore, granted unusual long terms of payment - three to four months have been observed.

Fig. 5.1.1
 Diagram 5.1.1. Corporate earnings and self-financing 1940-1969.



Note: a All firms: profits as a percentage of GDP excl. public production.
 b Gross profits adjusted for stock depreciation as a percentage of turnover.
 c,d,e,f Gross saving as a percentage of fixed and total investments respectively.
 The arrows represent the calculations for 1975.

Source: Central Bureau of Statistics and National Institute of Economic Research.

The needs of assistance in this area cover:

- possibilities for leasing of buildings, processing machinery, and other equipment (see App.5.3: Industrial Centres and App.5.7: Leasing);
- possibilities for utilizing the services of factoring firms (see App.5.8: Factoring);
- easier terms for investments in buildings, processing machinery, other equipment and stocks;
- easier terms for working credits;
- a taxation policy working for the financing of investments by earned money.

2.5 Management and organization

The managers of industrial firms will be the key persons and effective top management the prerequisite number one in the process of progressive industrialization in the future. The efficiency in this field is at present not as good as it could be and the needs of assistance are as important as they are necessary:

- intensified training of managers specifically in managing activities and managing people;
- intensified training of supervisors specifically in managing people;
- qualified assistance from specialists on management and organizational matters;
- written material in Icelandic for self-studies.

2.6 Marketing

The main objective of the process of marketing is to direct the activities of the firm towards customer wants and needs and to balance production volume and growth with market potentials. The process of marketing then becomes the initiating business activity, including the creation of demand, the adaptation of products to customer wants, the development of products and product packages for competitive selling and effective

distribution, marketing research, the promotion of sales, the persuasion of the customer to buy, the selling (transfer of ownership), and the services needed for customer satisfaction.

The process of marketing is obviously a very complicated one, especially when it comes to export marketing. To reach the targets formulated for 1980 it seems to be necessary to assign the primary responsibility for export marketing to specialists organized in branch organizations or whole sale houses. The result of this arrangement would be much greater marketing efficiency, less risk for failures, and better utilization of manpower for industrial production in the individual firms. It is obvious, however, that the final responsibility for an efficient performance has to be shared by the industrial firms and the marketing institutions. An effective co-ordination has to be based on mutual confidence, continuous co-operation and full acceptance of common goals.

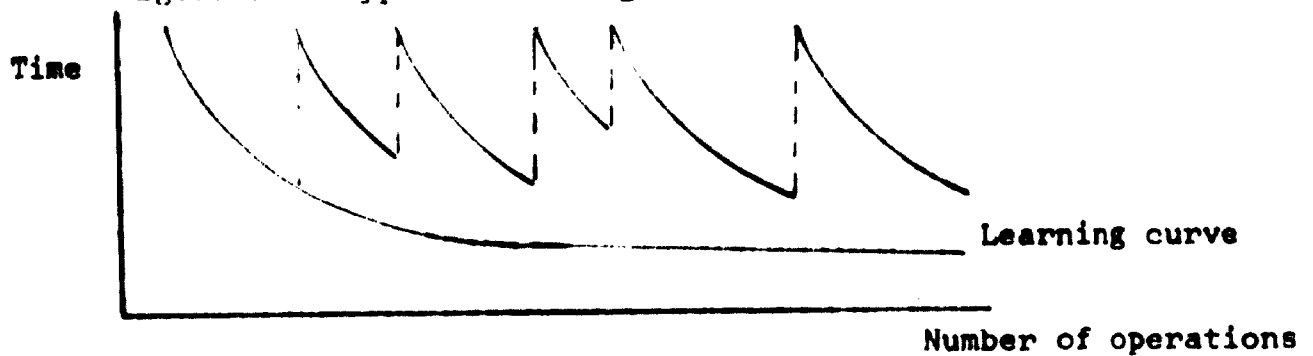
The needs of assistance specific for this area cover:

- shared responsibility for export marketing;
- advisory services in domestic marketing and some aspects of export marketing.

2.7 Product planning and product development

Almost all Icelandic manufacturing firms are trying to produce too many products at the same time or too many varieties of the same product. One of the easiest ways to reach higher competitive power is through specialization in production - and it the only way to go. One of the many advantages is better utilization of manpower, which can be excellently illustrated by the curve in Fig. 5.1.2. If a worker is repeating the same ~~operation many~~ ^{times the operation} time becomes almost constant. If the time for operation number one and onwards are plotted in a diagram one gets what is called a learning curve. If the worker has to change from one operation to another too often one gets a series of curves, which clearly illustrates the difference in utilization of the workers efforts.

Fig.5.1.2. Typical learning curves.



Long-range product planning and the composition of a product programme will be a new activity in many firms and it will be closely connected with product selection and product development.

Selection of industrial products includes search for new products or new uses for existing products, search for licenses and sub-contracts and corresponding negotiations, feasibility studies and marketability testing.

Product development is a continuous process covering a series of phases: the conception of an idea, the formulation of utility objectives, the initial design, the adaptation of prototypes to actual production, the testing of product performance and market acceptability, the testing of materials and component parts, and the subsequent changes and improvement of technical features in order to meet customer demands.

Consequently, product development is an extremely complex activity where the success and effectiveness depends upon a contribution of many functions - product oriented research, engineering, marketing, production, and finance.

In some cases the conception of the idea is the key point (the export of Icelandic fresh water¹), in other cases the process of product development is a very complicated and expensive one. It is obvious that with the great increase in volume of production during the planning period there is only one choice: to assign the responsibility for product selection and product development to one institution working in very close co-operation with all branches of industry and individual firms.

The needs of assistance specific for this area cover:

- shared responsibility for product selection and product development;
- advisory services in long-range product planning and composition of the product programme.

2.8 Production planning and control

The process of production planning deals with the short-range planning of the manufacturing process. Its target is low production costs achieved by effective co-ordination of all activities involved: product and methods development, tooling, materials supply and inventory control, storing and handling of materials, quality planning, quality control, and cost control.

The production budget outlines the course of action. It includes the sales budget, inventory budget, materials budget, purchases budget, and manpower budget, all of them for the next twelve months.

A continuous follow up of time schedules, quality requirements and costs makes it possible to discover delays and mistakes in time and take actions accordingly.

Too much of this is missing in too many firms causing low utilization of manpower, machinery and material, instability in product quality, unnecessary delays in delivery times and high product costs.

The needs of assistance specific for this area are:

- training courses for planning personnel specifically in production planning and control;
- information conferences and seminars for managers and supervisors dealing with production planning and control;
- advisory services in all aspects of production planning and control;
- booklets describing procedures in various areas of sales planning and production planning and control, including forms, instructions, advice for implementation etc..

2.9 Production

If all the activities influencing the efficiency of production described in previous chapters are performed effectively it will be much more simple to produce good quality products in time at low costs. In years to come, however, there will be in many firms a great need of work simplification, problem solving and cost reduction in all fields of production.

The needs for assistance for this specific area are:

- training courses for industrial personnel dealing with work simplification, problem solving, and cost reduction in industrial production;
- information conferences and seminars for managers and supervisors in work simplification, problem solving and cost reduction;
- written material in Icelandic for self-studies.

2.10 Cost accounting and cost control

The preparation of budgets is a part of production planning and an essential tool for budget preparation is cost accounting. In long-term planning, product selection, and all kinds of decision-making a clear understanding of cost elements and cost variation is of great help.

The accounting systems now in use in industrial firms mainly serve the needs of the taxing authorities and, consequently, all requirements for budgeting and cost control are very seldom met.

A governmental committee has been established for the preparation of a standard accounting system based on the latest Norwegian edition of "Kontoplan - NS 4100". Such a plan is a very good start and with a unified system of accounts and procedures the training of accountants and implementation of cost accounting will be greatly simplified.

The needs of assistance specific for this area are:

- advisory services in connection with the implementation of a standard accounting system;
- training courses for accountants in cost accounting and cost control;
- information conferences and seminars for managers and supervisors dealing with cost accounting and cost control.

2.11 Productivity improvement

Work simplification, activity sampling, value analysis, systematic problem solving and cost reduction studies are effective tools in the never ending process of productivity improvement. It is not feasible, however for small-scale manufacturing firms to employ specialists capable of utilizing these tools. They must rely on services from consultants, branch-organized institutions or other service institutions.

The needs of assistance specific for this area are:

- advisory services in all fields of productivity improvement;
- information conferences and seminars for managers and supervisors dealing with various aspects on the process of productivity improvement.

3 THE PROVISION OF ASSISTANCE AT FIRM LEVEL

The needs of assistance today and in the future in various areas within an industrial firm have been surveyed in the previous chapters. From this survey it is possible to recognize four kinds of industrial services which must be provided through the industrial infrastructure in the future:

- 1 Performance activities
- 2 Advisory activities
- 3 Supporting activities
- 4 Development activities.

The activities within each group are as follows:

1 Performance activities

- 1.1 Supply and storing of materials and preparatory operations;
- 1.2 Import, maintenance and repair of machinery, tools and equipment and storage of spare parts;
- 1.3 Selection and development of industrial products;
- 1.4 Marketing research, sales forecasting, initial market selection; and export promotion;
- 1.5 Export marketing of industrial products;
- 1.6 Insurance activities connected with industrial activities;
- 1.7 State and communal services related to industry;
- 1.8 Specific services: book-keeping, advertising, tool design and tool making, specific production processes.

2 Advisory activities

- 2.1 Advisory services on technical, economical, managerial, and marketing matters.
- 2.2 Assistance in implementation of projects, processes and programmes.

3 Supporting activities

- 3.1 Basic training of all categories of industrial personnel
- 3.2 Industrial centres with inbuilt services
- 3.3 Financial support: financing investments
 - supplying working capital
 - leasing services
 - factoring services
- 3.4 Institutional support of various kinds.

4 Development activities

- 4.1 Product-oriented research and experiments
- 4.2 Further training of all categories of industrial personnel;
- 4.3 Further training of specialists for infrastructural institutions;
- 4.4 Standardization of component parts, quality characteristics, materials characteristics, and procedures.
- 4.5 Information activities: conferences and seminars, industrial statistics, industrial libraries.

Assistance to individual firms has to ^{be} carefully planned and based on facts about the prevailing situation in the firm, correctly introduced and continuously followed up. If adequately performed any form of assistance will be a good investment.

APPENDIX 5.2

THE INDUSTRIAL INFRASTRUCTURE

- 1 THE CONCEPT OF INFRASTRUCTURE
- 2 THE DUTIES OF THE INDUSTRIAL INFRASTRUCTURE
- 3 INSTITUTIONAL ASPECTS OF THE INDUSTRIAL INFRASTRUCTURE
- 4 INDUSTRIAL DEVELOPMENT CENTRE OF ICELAND (IDCI)
 - 4.1 Identification of IDCI
 - 4.1.1 Objective
 - 4.1.2 Capacity
 - 4.1.3 Capability
 - 4.1.4 Methods of work
 - 4.1.5 Activities
 - 4.1.6 Organization
 - 4.1.7 Status
 - 4.1.8 Establishment: step 1
step 2
step 3
 - 4.2 Work programme for 1973
 - 4.3 Staff requirements for the Industrial Development Institute and the Export Board for 1973
 - 4.4 Capital requirements for 1973

THE INDUSTRIAL INFRASTRUCTURE

1 THE CONCEPT OF INFRASTRUCTURE

In development planning the economic system is normally divided in national and international sectors.

National sectors are sectors from which products cannot be distributed abroad because of prohibitive costs of transportation. International sectors are such sectors from which products are distributed abroad.

A special group of national sectors are regional sectors from which for the same reasons products cannot be distributed to other national sectors.

In this connection infrastructure is considered as one national sector, whose activities are necessary for the efficient utilization of resources in other sectors.

Activities constituting the infrastructure are such as education, public health, power production and distribution, telecommunication, radio, TV, transportation systems and communication facilities, wholesale and retail trade, hotels, restaurants, and personal services.

Similarly the industrial infrastructure is composed of those areas and activities specifically needed for an efficiently working industry:

The most important areas and activities are:

- capital market
- labour market
- power production and distribution
- wholesale trade and general agencies (export, import, as well as domestic marketing)
- transportation systems and communication facilities, shipping agencies
- telecommunication services incl. radio and TV
- communal services (water, electricity, refuse collecting, local communication facilities)
- processing facilities for specific operations (heat treating electroplating)

- materials testing services
- industrial estates
- applied industrial research
- advisory services (technical and economical matters, management, marketing)
- industrial information services (statistics, libraries)
- facilities for training of industrial personnel
- industrial standardization services
- financial services (commercial banks, investment funds, leasing, factoring)
- specific industrial services (book-keeping bureaus, accountants, patent agencies, designers, legal services, type-writing offices, construction bureaus)
- insurance services.

2 THE DUTIES OF THE INDUSTRIAL INFRASTRUCTURE

For the implementation of an intensified process of industrialization in Iceland a model of action has been presented in chapter 5, Volume I, based on specialization of functions and specialization of production within individual firms.

To reach the targets formulated for 1980 it seems evidently that a high level of specialization has to be achieved in both aspects during the planning period. The possibilities to reach a high level of specialization of production is, however, to a great extent depending upon the capacity and capability of all those institutions that are assisting the industry in various areas. In Appendix 5.1 it has been clearly explained that in some areas, for instance import of materials and machinery, product development, and export marketing, the responsibilities for execution have to be assigned to special institutions and in other areas the needs of assistance from specialists is of great importance for the productivity of the firm.

The overall co-ordination of activities within the industrial infrastructure is visualized in Fig. 5.2.1.

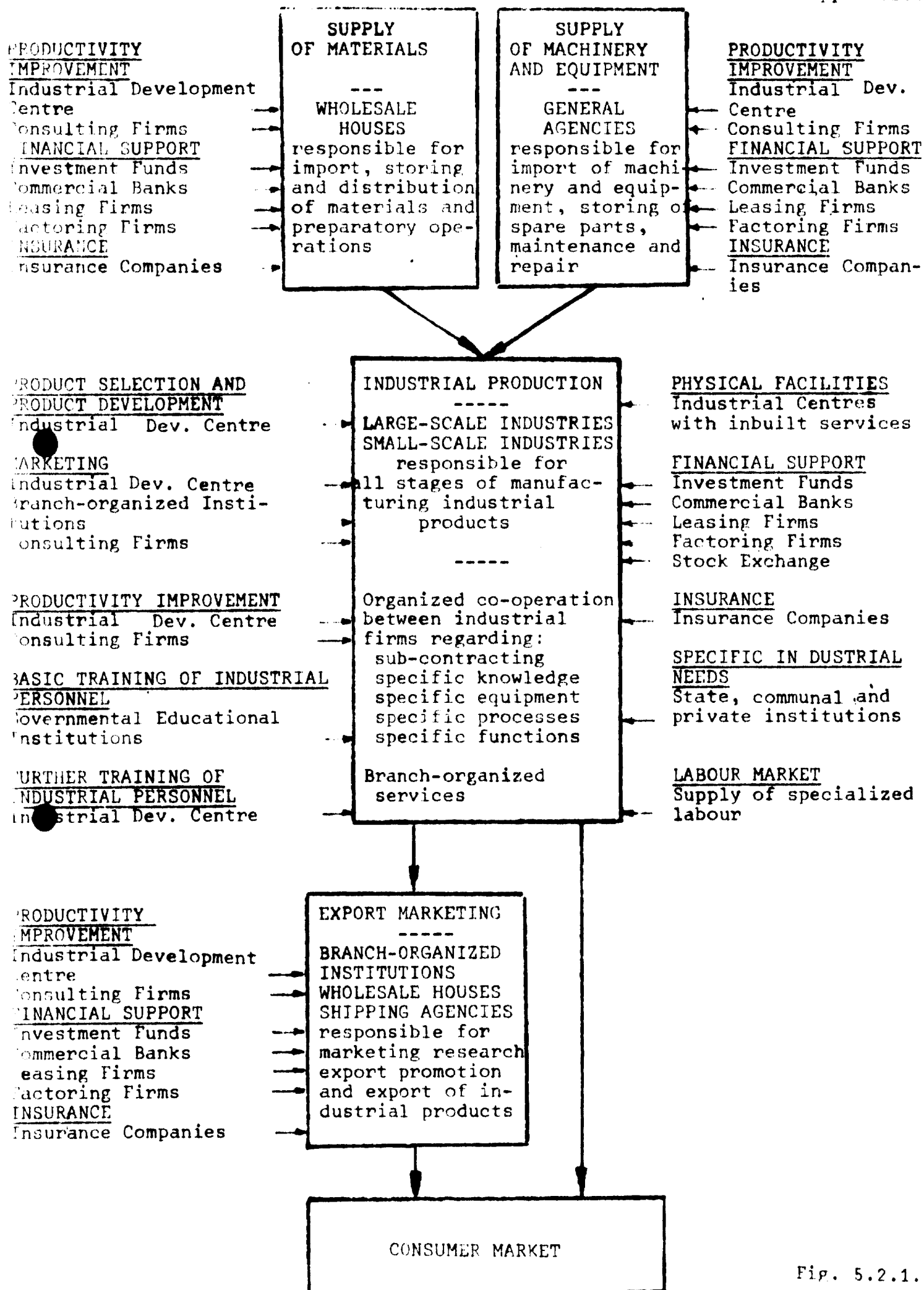


Fig. 5.2.1.

3 INSTITUTIONAL ASPECTS ON THE INDUSTRIAL INFRASTRUCTURE

The institutions involved in an effectively working industrial infrastructure are many and the responsibility assigned to each institution is indicated in Fig. 5.2.2, where the index figures at the bottom of each square refer to the list of assistance activities presented on page 12-13 in Appendix 5.1.

"Assignment of responsibilities" is, of course, the result of negotiations and agreements, a process that by necessity may take several years.

The advantages of specialization of functions can be illustrated by many examples.

1 Supply of materials

The production in many firms are based on imported raw materials and component parts and will be so to a much greater extent in coming years.

Substantial reductions in the overall cost of materials can be achieved if the responsibility for import is assigned to a small group of importing firms, where specialists find the best sources, buy in large quantities, control the quality and secure proper delivery time schedules. The costs of materials can be further reduced if these firms also are responsible for storing and short time delivery and for preparatory operations, such as cutting of steel bars and plates and protective coating against rust, or drying, sawing and cutting of timber and wood. For the individual firm this procedure will result in short and reliable delivery times, better utilization of working capital (less inventory), better utilization of manpower, and in all lower material costs. A study of different alternatives for the import of wood and wooden products is presented in Appendix 5.5.

2 Supply of machinery and spare parts

Full utilization of machinery and equipment of different kinds calls for effective maintenance and repair, which in turn calls for adequate supply of spare parts, skilled maintenance workers and a well formulated procedure and continuous follow up. It has been found during several studies that maintenance and repair of machinery is a weak point in Icelandic industries and that preventive maintenance is almost nonexistent.

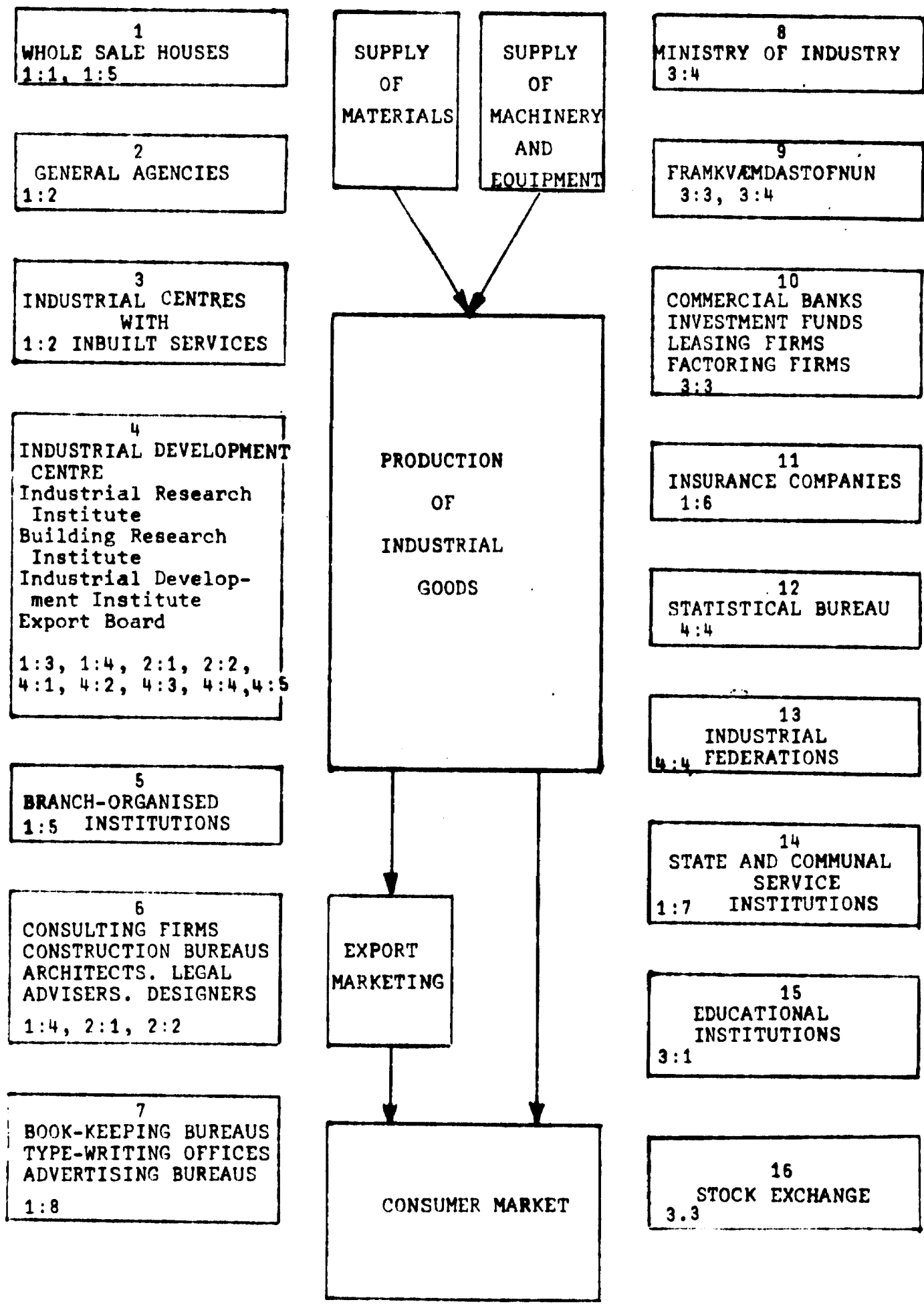


Fig. 5.2.2.

The advantages for the individual firm are:

- prompt delivery of spare parts without investment in own store
- continuous preventive maintenance on a contract basis
- better utilization of manpower and machinery due to fewer machine break-downs
- better utilization of manpower due to less paper work.

3 Product selection and product development

Product selection and product development is a very complex set of problems and procedures - technical, economical, financial and legal.

It has been found in many countries that small-scale industrial firms can manage these problems themselves up to a certain level, but above this level they need assistance from outside institutions.

It is obvious that with the great increase in volume of production needed during the planning period it is only one choice: to assign the responsibility for product selection and development to one institution working in very close co-operation with different branches of industry.

Other examples have been discussed in other chapters, such as export marketing and export promotion, specific services like bookkeeping and accounting, and specific technical processes, like heat-treating and electroplating, where specialization of functions can make it possible to improve the productivity of labour within individual firms.

CENTRAL BANK OF IRELAND
Economic Department

November 23, 1972

TABLE 3 - MD - A

**INVESTMENTS ON GROSS DOMESTIC PRODUCT AND GROSS NATIONAL PRODUCT
AND GROSS DOMESTIC SAVING BY SECTOR, 1960-1970.**
(In million local. Ir., current prices)

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	Average 1960-70	As % of GDP
Private consumption expenditure	2877	3022	3078	3130	3210	3271	3329	3388	3445	3502	3557	3307	64.48
Public consumption expenditure	727	802	878	954	1030	1106	1182	1258	1334	1410	1486	1200	9.39
Central Government	451	498	545	592	639	686	733	780	827	874	921	780	6.68
Local Government	276	304	333	362	391	420	449	478	507	536	565	420	3.31
Gross domestic fixed capital formation	2400	2505	2610	2715	2820	2925	3030	3135	3240	3345	3450	3011	36.96
Private	1916	1973	2030	2087	2144	2201	2258	2315	2372	2429	2486	2200	30.20
Private residential	976	1023	1070	1117	1164	1211	1258	1305	1352	1400	1447	1230	6.69
Private other	1320	1371	1401	1428	1454	1467	1463	1460	1468	1465	1463	1370	18.37
Public	484	532	580	628	676	724	772	820	868	916	964	781	6.76
Municipal Government	162	180	200	220	240	260	280	300	320	340	360	290	2.26
Central Government	322	352	380	408	434	460	488	516	544	572	600	491	3.69
Joint central and municipal Government	120	140	170	190	210	230	250	270	290	310	330	270	1.99
Peer generation (Marshall-McFarlane)					67	121	175	229	283	337	391	260	1.26
Other	27	59	91	123	155	187	219	251	283	315	347	149	6.49
Increase in stocks	-68	168	-171	89	411	89	48	48	-276	169	-363		-0.64
Exports of goods and services	3749	4072	4395	4718	5041	5364	5687	6010	6333	6656	6979	5800	48.25
Imports of goods and services	4971	5294	5617	5940	6263	6586	6909	7232	7555	7878	8201	7000	-11.64
External balance on goods and services	-1201	-1222	-1222	-1222	-1222	-1222	-1222	-1222	-1222	-1222	-1222	-1222	-6.39
Expenditure on gross domestic product	6289	6720	7151	7582	8013	8444	8875	9306	9737	10168	10599	9000	36.89
Gross domestic saving	2125	2260	2395	2530	2665	2800	2935	3070	3205	3340	3475	2900	28.29
Gross private saving (including public corporations)	1809	1944	2079	2214	2349	2484	2619	2754	2889	3024	3159	2500	26.41
Gross public saving	316	316	316	316	316	316	316	316	316	316	316	400	7.88
Central Government	674	674	674	674	674	674	674	674	674	674	674	674	3.65
Municipal Government	242	242	242	242	242	242	242	242	242	242	242	242	2.24
Net factor income from the rest of the world	-225	-225	-225	-225	-225	-225	-225	-225	-225	-225	-225	-225	-1.25
A. Factor income from the rest of the world	10	10	10	10	10	10	10	10	10	10	10	10	0.49
B. Less factor income paid to the rest of the world	125	125	125	125	125	125	125	125	125	125	125	125	-1.25
Expenditure on gross national product	6064	6505	6946	7387	7828	8269	8710	9151	9592	10033	10474	8700	35.57

4 INDUSTRIAL DEVELOPMENT CENTRE OF ICELAND (IDCI)

4.1 Identification of IDCI

One of the key institutions in the proposed industrial infrastructure is a development centre with an organization, a capacity and a status that makes it capable to take primary responsibilities for important parts of the implementation of the industrial development plan.

This institution, which tentatively has been called INDUSTRIAL DEVELOPMENT CENTRE OF ICELAND (IDCI) can best be indentified by the following description.

4.1.1 Objective. To assist the Icelandic industry in the process of further industrialization in accordance with the lines established in the industrial development plan. Sofar the development plan is dealing with the manufacturing industry only but it seems advisable to extend it to include also the building industry and the fish processing industry. The needs of assistance are in many areas the same for all three industries and a development centre may well be organized in such a way that it could serve the whole Icelandic industry.

4.1.2 Capacity. The capacity in manpower, facilities and finances should be determined by the real needs - not the foreseeable demand - during the planning period, which means that the Centre should be capable to make studies and propose actions in areas where the needs are common for a branch of industry or for the whole industry.

4.1.3 Capability. The capability should be adequate for the formulation of plans and programmes for various kinds of projects, for the administration of project work, for project management, for appraisal of projects, and for an effective follow up and feed-back, but not necessarily for the execution of project investigations. See also 4.1.4.

4.1.4 Methods of work. The activities at the IDCI can be categorized as follows:

- 1 Firm-oriented - all kinds of advisory services and assistance in implementation of project, processes and programmes.
- 2 Industry-oriented - product selection and product development, marketing services and export promotion, standardization services, and information activities.
- 3 Programme-oriented - product-oriented research, all kinds of further training, and standardization.
- 4 Project-oriented - product development, market research, some types of advisory services, and feasibility studies.

There are, of course, no clear boundaries between the four categories. A great deal of the activities in category 1 and 2 can be classified as project development.

Project development may be thought of as a constantly growing and changing set of concepts, as a process of developing a project idea into an organized set of blue-prints, charts, diagrammes and other information necessary for the fulfilment of the project objectives. The process of developing a project passes through various stages during which the concepts are developed and examined and certain decisions are made.

Projects are being developed within a certain institutional machinery which pre-determines the range of possible economic agents interested in the project. The scope and depth of information needed for decisions at various stages of project development will, of course, depend on the type of the project, the economic consequences and the parties involved.

An essential part of the work-load at the IDCI has to be carried out by project groups where the project manager normally is selected among the staff of IDCI while the acting members of the project group may be selected from other institutions.

4.1.5 Activities. As stated in Fig. 5.2.2 the activities within IDCI shall cover the following areas: (the index figures refer to the list of activities in App. 5.1 pages 5.1. 12-13)

Performance activities

- 1.3 Selection and development of industrial products
- 1.4 Marketing research, sales forecasting, initial market selection and export promotion.

The primary responsibilities for IDCI in these areas can be specified as follows:

Product development: the formulation of utility objectives, adaptation of prototypes to actual production, the testing of product performance and market acceptability, the testing of materials and component parts, the final product design, package design, and necessary feasibility and investment studies.

Marketing and marketing research: evaluation of export potentials and product potential analysis; selection of export markets for selected products, market analysis, overall sales forecasting, and outlining of export marketing programmes.

Servicing activities

- 2.1 Advisory services on technical, economical, managerial, and marketing matters.
- 2.2 Assistance in implementation of projects, processes, and programmes.

In these areas of industrial engineering and managerial economics IDCI is working in an advisory capacity only. IDCI could, however, also be given the responsibility for initiating studies of productivity improvement in industrial firms, e.g. productivity studies of a branch of industry, studies in connection with the establishment of an industrial centre, or studies in connection with large state financial support.

Development activities

4.1 Product-oriented research and experiments.

Product-oriented research and experiments of all kinds demanded by industrial firms in product and process development and in connection with improvement of existing products and processes shall be the primary responsibility of the IDCI.

4.2 Further training of all categories of industrial personnel.

4.3 Further training of specialists for infrastructural institutions.

IDCI shall be responsible for the long-term planning of further training of management personnel, specialists, supervisors, and foremen in industrial firms and in firms connected with the infrastructure, the preparation of plans and programmes, the administration of training courses, conferences, and seminars, and, to a certain extent, also for the execution of courses, conferences and seminars.

IDCI shall also be given the responsibility for the long-term planning and the preparation of plans and programmes for further training of operators in industrial firms and service institutions.

4.4 Standardization of component parts, quality characteristics, material characteristics, and procedures.

IDCI shall be responsible for the further development of standardization in all branches of industry, for the preparation, renewal, and distribution of standards, for international contacts, and for all advisory services in connection with standardization.

4.5 Information activities: conferences and seminars, industrial statistics, industrial inquiries, libraries.

IDCI shall be responsible for an efficient information to all firms in industry and the industrial infrastructure in all matters connected with industry and trade, establishment and management of a central library for industrial books, journals and films, and for an efficient utilization of audio visual aids. IDCI should also be selected as the institution responsible for efficient contacts with international institutions in the fields related to industry and industrial development.

As an additional task the IDCI could be given the responsibility for the annual follow up of the fulfilment of the industrial development programme and for the annual revision of plans and programmes.

4.1.6 Organization. The organization of IDCI is suggested to be based on the following three principles:

- 1 Management by objectives, which once has been defined as "democratic leadership which makes it possible to substitute for control from outside the more stricter, more exacting and more effective control from inside" (Drucker).
- 2 Group responsibility, which means management by the right of knowledge rather than by the right of position and group decisions instead of decisions by individuals.
- 3 Project-oriented activities and team work. As much work as possible performed in working groups specially established for each project.

4.1.7 Status. The Centre is considered to be an instrument for the Industry to improve the competitive power of individual firms and for the State to secure full employment. If the Industry and the State can agree on this objective it seems advisable to organize the Centre as an independent body outside the bureaucratic machinery of the State. Only in doing so will it be possible to fully utilize the scarce resources of high-skilled specialists, research facilities, and capital, and achieve the flexibility needed for this kind of work.

The long-term responsibilities for the Centre should be established in the governing law and short-term responsibilities in annual programmes and project work programmes.

The financing of the Centre can be shared by the Industry, the State and the users of the Centre's services.

The continuous follow up and control could be carried out during regular meetings by the Board, through monthly reports, through appraisal of project reports, and through an annual report comparing the annual programme with attained results.

4.1.8 Establishment. The time schedule for the establishment of the Centre is determined by the following factors:

- 1 The urgent need of assistance of all kind to industry during 1973-74.
- 2 Three UNIDO-experts will be attached to the Industrial Development Institute during the period 1 March-1 November 1973 to assistⁱⁿ the completion of the industrial development plan and in the first steps of implementation.

- 3 Some governing laws may have to be changed.
- 4 A smooth process of amalgamation of existing institutions simplifies the staffing of the Centre.

The establishment of the Centre is suggested to be carried out in three steps.

Step 1: Extension of the capacity of the Industrial Development Institute. The extension involves the establishment of four groups to which will be assigned the responsibility for: Advisory Services, Product Development, Industrial Inquireies, Information and Industrial Contacts, and Office Services. The organization is visualized in Fig. 5.2.3.

Step 2: Co-ordination of the activities within the Building Research Institute, the Industrial Research Institute, the Industrial Development Institute, the Export Board, and the current activities in training of industrial managers and supervisors.

The co-ordination involves the employment of a full-time specialist acting as chairman in the Executive Team as well as in an Interim Board. The Interim Board could consist of the Chairman and five members, one representative for each of the involved institutions. The organization is visualized in Fig. 5.2.4.

Step 3: Amalgamation of the five institutions into an INDUSTRIAL DEVELOPMENT CENTRE.

The amalgamation involves the employment of a full-time general manager and the establishment of a Board and five Divisions. The organization is visualized in Fig. 5.2.5.

The following tentative time schedule for the establishment seems to be realistic:

- Step 1: 1 March 1972
- Step 2: 1 July 1972
- Step 3: 1 January 1973.

A Committee established by the Minister of Industry in May 1972 has been working on the co-ordination of the activities within the institutions mentioned above and the Final Report will be presented in the middle of December.

INDUSTRIAL DEVELOPMENT INSTITUTE

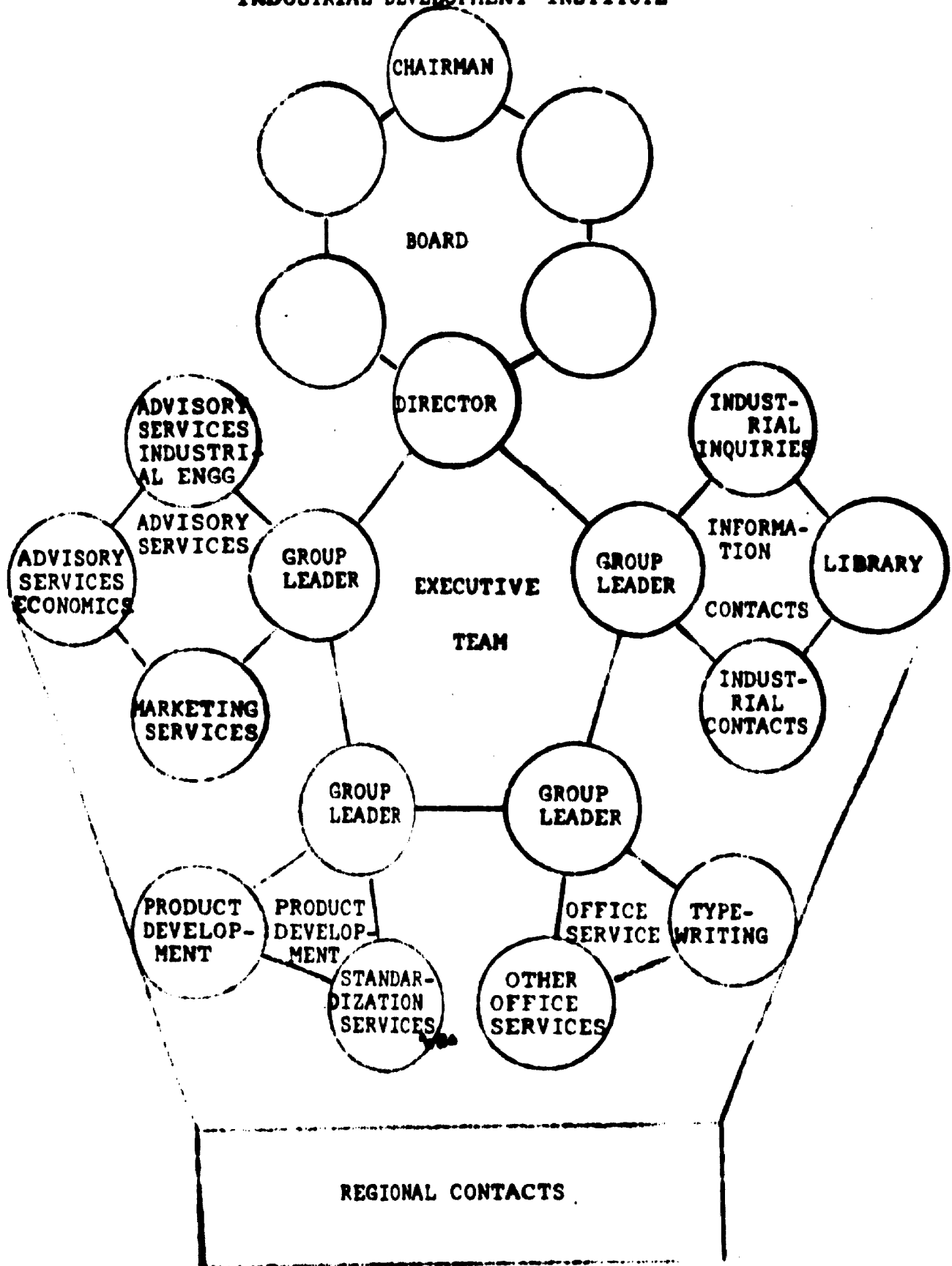


Fig. 5.2.3

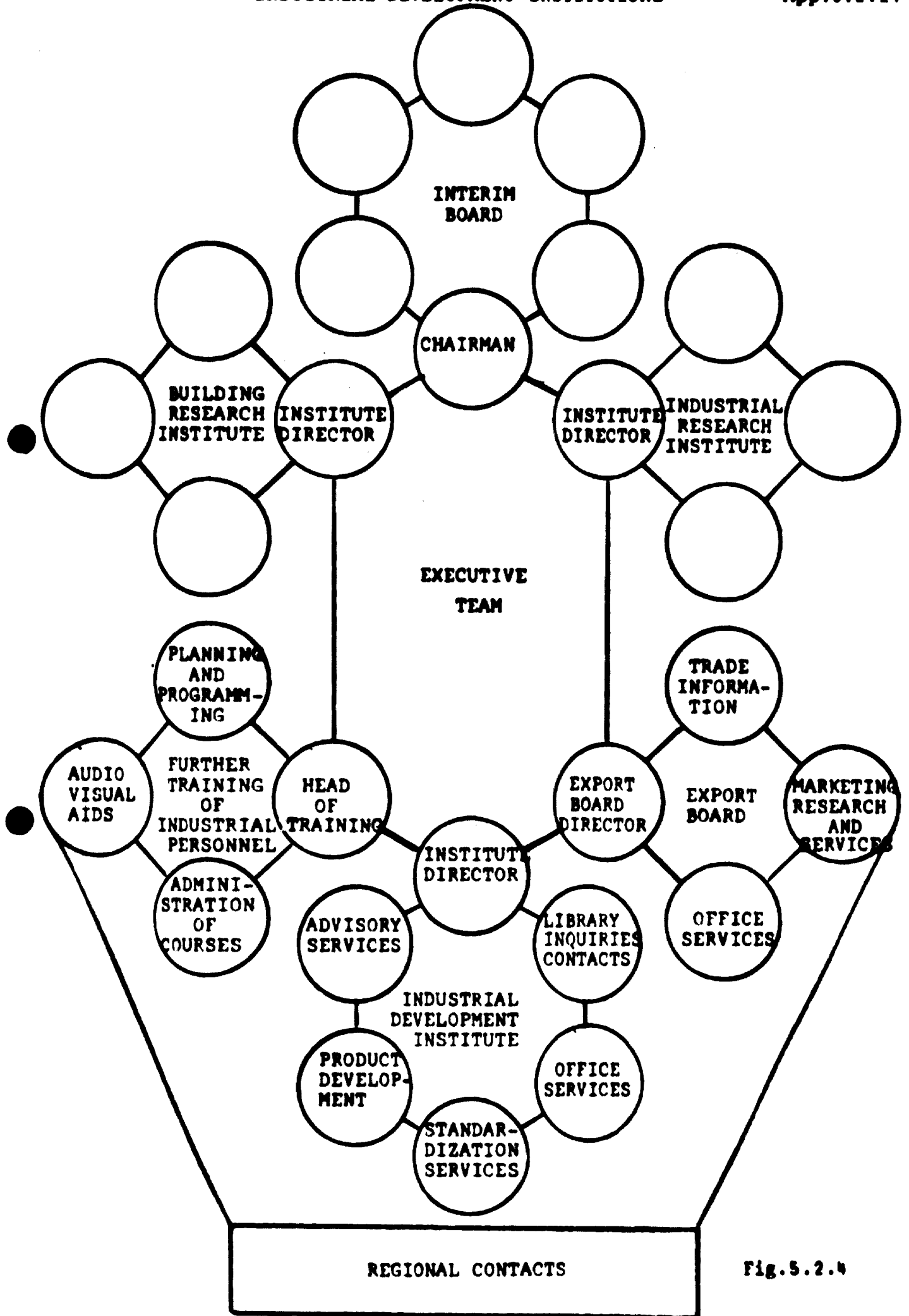


Fig.5.2.4

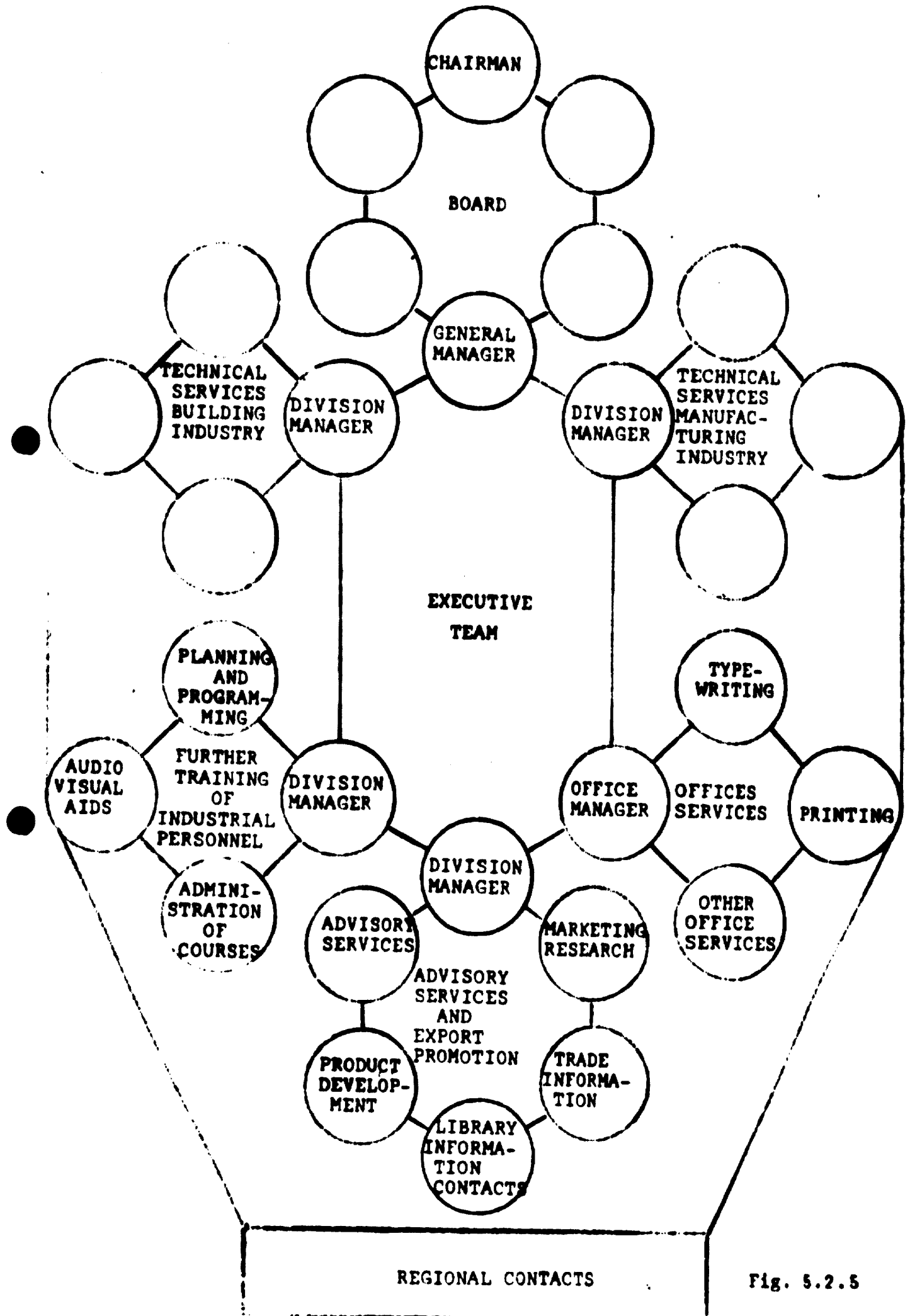


Fig. 5.2.5

4.2 Work programme for 1973

The work programme for 1973 include the following projects:

1 Projects that can be initiated after 1 March 1973

- Project No. 1: Continue the studies of industrial application of perlite, pumice and other volcanic materials.
- 2: Continue the studies of design, production, ownership and use of fish-boxes.
 - 3: Prepare plans and programmes for the Advisory Section and simultaneously initiate and carry through studies of productivity improvement in some industries.
 - 4: Prepare plans and programmes for the Project Development Section and simultaneously initiate the process of product development within selected industries.
 5. Prepare plans and programmes for the Section for Industrial Inquiries, Library and Industrial Contacts.
 - 6: Study all problems connected with the establishment of the first Industrial Centre.

2 Projects that can be initiated after 1 July 1973

- Project No. 7: Feasibility study of electrosmelting of ilmenite.
- 8: Prepare plans and programmes for an effective co-ordination of product development, marketing research and export promotion, and simultaneously initiate and intensify marketing research and export promotion.
 - 9: Appraise, revise, modify, and complete the Long-term Industrial Development Plan and the Tentative Programme of Action for 1973-74.
 10. Prepare a Tentative Programme of Action for 1975.

CENTRAL BANK OF ICELAND
Economic Department

November 29, 1972

Table 3 - 10 - B.

**EXPENDITURE ON GROSS DOMESTIC PRODUCT AND OTHER INVESTING
EXPENDITURE, AND GROSS DOMESTIC PRODUCT BY SECTOR 1960 - 1972.**
(In million Iskrkr. 1960 prices)

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Private consumption expenditure	2077	2287	2411	2551	2704	2827	2942	3042	3132	3212	3282	3352	3422
Public consumption expenditure	777	730	700	677	650	624	600	574	548	522	496	470	444
Central Government	424	400	407	404	389	366	342	318	294	270	246	222	198
Local Government	353	330	343	343	331	358	358	356	354	352	350	348	344
Gross domestic fixed capital formation	2020	1845	2074	2071	2020	1920	1827	1727	1634	1541	1448	1355	1262
Private	2015	1837	2021	2017	1966	1866	1773	1673	1580	1487	1394	1301	1208
Private residential	975	942	920	900	795	743	691	639	587	535	483	431	379
Private other	1040	895	1101	1117	1271	1243	1282	1334	1447	1550	1617	1720	1823
Public	520	540	640	640	640	640	640	640	640	640	640	640	640
Municipal Government	121	140	170	180	180	180	180	180	180	180	180	180	180
Central Government	399	400	470	460	460	460	460	460	460	460	460	460	460
Joint central and municipal Government	150	150	170	160	160	160	160	160	160	160	160	160	160
Power generation (Infrall - Indrieysta)													
Other	37	44	40	40	40	40	40	40	40	40	40	40	40
Increase in stocks	-43	174	-120	-120	24	202	25	25	-221	-25	-25	-25	-25
Exports of goods and services	2720	2820	2820	2820	2820	2820	2820	2820	2820	2820	2820	2820	2820
Imports of goods and services	4071	3700	4000	3607	4100	3807	3507	3207	2907	2607	2307	2007	1707
External balance on goods and services	-401	40	71	-404	-400	-400	-400	-400	-400	-400	-400	-400	-400
Gross domestic product	6020	5820	6020	5870	5820	5670	5520	5370	5220	5070	4920	4770	4620
Gross domestic saving	2115	2040	2027	2000	1927	1857	1787	1717	1647	1577	1507	1437	1367
Net factor income from the rest of the world	-120	-121	-41	-41	-121	-121	-121	-121	-121	-121	-121	-121	-121
A Factor income from the rest of the world	10	17	20	20	20	20	20	20	20	20	20	20	20
B Less factor income paid to the rest of the world	130	138	161	161	141	141	141	141	141	141	141	141	141
Expenditure on gross national product	6020	6020	6020	5870	5820	5670	5520	5370	5220	5070	4920	4770	4620

4.3 Staff requirements in the Industrial Development Institute and the Export Board for 1973.

In connection with the establishment of IDCI it is necessary to increase substantially the staff capacity, to begin with in the Industrial Development Institute (IDI) and the Export Board. (EB).

From 1 March 1973 three UNIDO experts will be attached to the IDI, which means that qualified Icelandic counterparts should be employed from the same date.

An efficient start of the implementation of the Industrial Development Plan calls for the following staff capacity within IDI for 1973.

Activities	Total	New emp-loyees	Salary grade	Date of employment
1 General Management	1	-		
2 Advisory Services	4 ¹⁾	1	27	1.3.1973
		1	25	1.3.1973
		1	25	1.7.1973
3 Product Development	4 ²⁾	1	27	1.3.1973
		1	25	1.7.1973
4 Standardization Services	2	1	25	1.3.1973
		1	21	1.7.1973
5 Industrial Inquiries	1	1	25	1.3.1973
6 Industrial Contacts	1	1	24	1.7.1973
7 Library	2	-		
8 Office Services:	6			
typewriting and printing		1	13	1.3.1973
		2	10	1.7.1973
Total	21	12		

1) Include 2 UNIDO experts

2) Includes one UNIDO experts

The capability needed for specialists in various fields can be illustrated by the following quotations form the Job Descriptions for the UNIDO experts:

Industrial Engineer - Product Development

DUTIES

The expert, as a member of a team of experts under the leadership of a Senior Industrial Economist, will be expected to:

1. assist in the identification and formulation of objectives and goals for the Section of Product Development. This Section will offer the services to Icelandic industrial firms in the field of product development, and product design, feasibility studies, project evaluation, and the establishment of materials and quality specifications, production processes, quality control requirements and other activities in connection with the introduction of new industrial products;
2. be responsible for the formulation of work procedures in the Section, the adaptation of product development techniques to Icelandic conditions, and the preparation of materials to be used in the process of information to and training of industrial personnel;
3. participate in the programming of and carrying out of advisory services within industrial firms;
4. be responsible for the training of staff personnel in the Section;
5. assist in the preparation of programmes for and the realization of training courses in the field of product development for industrial personnel;
6. advise on any other matter of industrial development within his field of expertise which could be useful to the work of the Institute in the process of Industrial Services.

QUALIFICATIONS

Industrial Engineer with high level knowledge and practical experience of all aspects of industrial engineering in all stages of development and implementation, particularly, in the field of product development, product adaptation to manufacturing requirements, and the process of introducing new products in manufacturing and marketing. Experience of training industrial personnel is an advantage.

Industrial Engineer - Industrial Engineering Services

DUTIES

The expert, as a member of a team of experts under the leadership of a Senior Industrial Economist, will be expected to:

1. assist in the identification and formulation of objectives and goals for the Section of Industrial Engineering Services. This Section will offer the services to Icelandic industrial firms in the field of industrial engineering especially, production planning and control, purchasing, materials control and storing of materials, layout engineering, materials handling, maintenance and repair, and quality planning and control;
2. be responsible for the formulation of work procedures in Section, the adaptation of industrial engineering techniques to Icelandic conditions, and the preparation of materials to be used in the process of information to and training of industrial personnel;
3. participate in the programming of and carrying out of advisory services within industrial firms;
4. be responsible for the training of staff personnel in the section;
5. assist in the preparation of programmes for and the realization of training courses in that part of industrial engineering which cover the area of production;
6. advise on any other matter of industrial development within his field of expertise which could be useful to the work of the Institute in the process of Industrial Services.

QUALIFICATIONS

Industrial Engineer with high level practical experience and knowledge of all aspects of industrial engineering in all stages of development and implementation particularly in the field of production in medium sized and small enterprises in various industries.
Experience of training industrial personnel is an advantage.

ooo000ooo

Corresponding requirements are valid for the Icelandic specialists to be employed. Ways and means have to be found to make it possible to attract qualified applicants.

The requirements of new staff members at the Export Board are:

1	Marketing Research and Export Promotion	1	27	1.7.1973
		1	25	1.7.1973
2	Trade Information	1	27	1.7.1973

If it will be possible to establish the co-ordination of development institutions along the lines suggested in Fig. 5.2.4 a full-time chairman of the Interim Board will be required from 1 July 1973.

4.4 Capital requirements for IDCI during 1973

The preparation of the budget for 1973 has to be based on the following premisses:

- 1 To reach the targets stated in the industrial development plan requires a substantial input of manpower and money during 1973, 1974 and 1975.
- 2 The areas of greatest importance to be covered by IDCI during this period are further training of managers and supervisors in industrial firms and specialists in service institutions, product selection and product development, market research, marketing services, export promotion, and productivity improvement in individual firms.
- 3 The main part of these services have to be offered free of costs for the firms involved.

The approved budgets for 1973 for the institutions included in the IDCI are as follows: (1,000 krona).

	State Funds	Additional Funds	Sub-Total	Estimated Revenues	Total
IDI	9,856	---	9,856	500	10,356
IRI	13,559	9,100	22,659	2,000	24,659
BRI	15,850	5,500	21,350	5,000	26,350
EB	5,500	2,000	7,500	---	7,500
Further Training	2,953	---	2,953	1,150	4,103
TOTAL	47,718	16,600	64,318	8,650	72,968

The requirements of new staff members at the Export Board are:

1	Marketing Research and Export Promotion	1	27	1.7.1973
		1	25	1.7.1973
2	Trade Information	1	27	1.7.1973

If it will be possible to establish the co-ordination of development institutions along the lines suggested in Fig. 5.2.4 a full-time chairman of the Interim Board will be required from 1 July 1973.

4.4 Capital requirements for IDCI during 1973

The preparation of the budget for 1973 has to be based on the following premisses:

- 1 To reach the targets stated in the industrial development plan requires a substantial input of manpower and money during 1973, 1974 and 1975.
- 2 The areas of greatest importance to be covered by IDCI during this period are further training of managers and supervisors in industrial firms and specialists in service institutions, product selection and product development, market research, marketing services, export promotion, and productivity improvement in individual firms.
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TOTAL	47,718	16,600	64,318	8,650	72,968

The additional costs for the implementation of the Development Plan during 1973 have been roughly estimated as follows:

		<u>1,000 kronur</u>
<u>Industrial Development Institute</u>		
Salaries for additional personnel (based on the table on page 5.2.17)		4,500
Special Projects:		
Study of industrial application of perlite, pumice and other volcanic materials	1,830	
Study of design, standardization, ownership and production of fish-boxes	2,000	
Locate, design, and prepare all documents needed for the establishment of the first Industrial Centre	2,000	
Three standardization projects: in metal industry, shipbuilding industry and construction	1,500	
Feasibility study of electro-smelting of ilmenite	9,000 ¹⁾	
Study of two more large-scale industrial projects given high priority	<u>2,000</u>	18,330
Additional expenses (travelling costs, books and films, and extra office expenses)		<u>2,000</u>
	Subtotal	24,830 kronur
<u>Export Board</u>		
Salaries for additional personnel (based on the table on page 5.2.20)		950
Additional funds for Marketing Research, Export Promotion and participation in Trade Fairs		3,000
Additional expenses		<u>1,000</u>
	Subtotal	5,000 kronur
<u>Industrial Research Institute</u>		
Additional funds for product-oriented research (the difference between requested and approved budget for 1973)		<u>4,000 kronur</u>

Part of the costs for this study (around 7,000 mill kronur) may be financed through UNDP/UNIDO as part of Iceland's five year programme.

<u>Building Research Institute</u>	<u>1,000 kronur</u>
Additional funds for product-oriented research (the difference between requested and approved budget for 1973)	<u>2,000 kronur</u>
<u>Further training of industrial personnel</u>	
Additional funds (for training courses and seminars, visual aids and preparation of text books)	<u>2,000 kronur</u>
<u>Total Funds</u>	<u>30,000 kronur</u>

CONCLUDING REMARKS

- 1 The long-term industrial development plan has been built up around two basic principles:
 - specialization of functions and
 - specialization of manufacturing
- 2 This type of specialization will make it possible to fully utilize the limited resources: managerial capability, specialist knowledge, and money for the achievement of stated targets.
- 3 Along with specialization of functions follows assignment of responsibilities to various institutions for certain activities in the industrial infrastructure.
- 4 One of the key institutions is the proposed Industrial Development Centre, built up around the Industrial Development Institute, the Export Board, the Industrial Research Institute, and the Building Research Institute.
Branch-organized Institutions and specialized firms for export of industrial goods is another group of organizations which will play an important role in the future development of export oriented industries. As these institutions and firms also will be assigned the responsibility for marketing research and export promotion it seems advisable to include the Export Board in the group of organizations forming the Industrial Development Centre.

- 5 The most critical years of the planning period are 1973, 1974 and 1975, the years when the competition from industrial firms in foreign countries has not yet come to a real start.
- 6 The areas of greatest importance to be covered by the IDCI during this period are:
 - further training of managers and supervisors in industrial firms and specialists in service institutions;
 - product selection and product development;
 - marketing research and export promotion on a higher level;
 - productivity improvement within industrial firms.
- 7 It is no doubt that investments in these activities during this period will give substantial rewards. An additional investment in IDCI of 38 mill. krona during 1973 is thus a good investment and, furthermore, an essential investment for the achievement of aims and targets stated in the development plan.

INDUSTRIAL CENTRES

1 THE CONCEPT OF INDUSTRIAL CENTRE

1.1 Industrial Estates and Industrial Parks

Industrial Centres as they will be described here have been developed from what in the United Kingdom is called "Industrial Estates" and in U.S.A. "Industrial Parks". Industrial Estates, which have been in use in the U.K. for more than thirty years, has once been defined as follows:

"An industrial estate is an area of land selected and planned by, as well as being under the control of, a development agency whose task is to construct, or allow to be constructed, industrial buildings and to provide those services considered necessary or worth while for the development of the estate".

"The estate can be of virtually any size. The development organization can be public or private. The factories can be wholly planned and built in advance; they can be partly built in advance; or they can be built on request according to the specifications of the eventual users. They can be leased or sold at an economic or uneconomic rent or price. The services can be of a wide variety, from the basic infrastructure of roads, sewers, lighting, gas, electricity, etc. to estate canteens, training schools, etc. The estate can be run at a loss, at a profit, or with the aim of only recovering costs."

(Quotation from "Regional Policy in EFTA - Industrial Estates", Geneva, March 1970).

An industrial area is modification of the industrial estate. The industrial area is a tract of land developed for the use of a group of industrial enterprises according to a comprehensive plan. An enterprise which is allotted a plot in the area is responsible for constructing its own factory building. Providing a developed plot is in itself a service to an industrialist but it may not prove adequate to stimulate the growth of indigenous enterprises. Small industrialists in particular would need ready-made factory buildings and other supporting services; it may, therefore, prove necessary,

to adopt the policy of building factories to meet demand. Various types of industrial estates have been established in industrially advanced and developing countries and since the estate suited to a particular area would depend on the special local needs and circumstances, it is not possible to lay down uniform criteria for them.

Industrial estates may be sponsored by co-operatives or associations of industrialists, chambers of commerce or local bodies such as municipalities or corporations. The Government may wish to encourage nongovernment agencies to undertake such ventures by giving them financial support or by providing technical services on the estates. Even when the estates are started by the Government, adequate inducement could be offered to the occupants to take over responsibility for them in due course. Factories may be offered on hire-purchase terms or for outright sale to the tenants, and those who rent factories may be encouraged to take them over on a hire-purchase basis when they are able to afford it.

The factory accommodation provided on industrial estates may be either general purpose or custom-built. The general purpose or standard type of factory can meet satisfactorily the requirements of the majority of tenants. The special advantage of estates with the standard type of factories is that standardization leads to certain economies in construction.

The most common estates are those which provide factory accommodation to all industries, subject to the usual restrictions on "obnoxious" industries or on very heavy consumers of power, water etc.

Specialized industrial estates include: "single-trade estates", which provide accommodations exclusively for units in the same industry group; "functional estates", in which the functions of the of the industry are subdivided among a number of small units; "nursery estates", which are devised to offer more space to small units as they grow;

THE METAL WORK SECTOR.**1. SIZE AND STRUCTURE.**

- a) The total number of firms in the metalworking sector is 263 of which 16 are shipyards. The majority of these firms are small and engaged in jobbing shop service activities i.e. ship repair, garage work, machine servicing and maintenance etc. Only a few produce salable items for the home market.
- b) The total number of man years employed by this industry in 1968 was 1730. This number has increased substantially however, as a result of increasing job opportunities created by growing demand in recent years.
- c) The total output of this sector as measured by gross value added per man year is low eg. 265.000 kr. in 1968.
- d) If one discounts shipyards, ship repair, maintenance and service workshops only some 300 to 400 man years are currently employed in the production of marketable metal products. These include: ventilation channels, radiators, lamp posts, hydraulic winches, steel doors, nails, fishing gear, electric reels, stoves, freezing plant equipment, prefabricated structural steel and structures, hose and pipe, fittings and nozzles.
- e) To-date there have been no significant exports from this sector, except in a few isolated instances on a trail basis.

2. COMPETITIVE POSITION.

- a) **PRICE** - The prices of locally produced metal products have achieved varying degrees of competitive power compared to imported equivalents. As a general rule prices are competitive in the home market but profitability is low due to high cost raw materials, high labour costs, low productivity and jobbing shop practices which ignore specialization cost control and planning.
- b) **QUALITY** - The quality of individual items is high but the lack of strict adherence to standards, the non-existence of

1) To be revised and rewritten for the final edition.

"ancillary estates", for small units working as subcontractors to large industry; "free-zone estates" for small-scale export industries; and "flatted factories" or 'multi-storeyed factories for small units located in urban areas where land suitable for industrial use is scarce.

1.2 Industrial Centres

Industrial Centres of a kind suggested to be introduced in Iceland differ from Industrial Estates and Industrial Parks in two ways:

- 1 Size of the establishment
- 2 Services to be offered to the firms involved

1.2.1 Size. In the U.K., where the industrial estates system primarily has been used as a means for securing industrial mobility and is considered to have been an extremely useful means of securing regional development objectives, an industrial estate employing about 5,000 people is considered a rational unit.

For the community, benefits arise from lower infrastructure costs, greater prospects of conserving amenity, and greater prospects of attaining regional and urban policies which rely on industrial mobility. The benefits to the community are probably greater with the larger estates.

For industry, the benefits arise first out of the external economies present in any industrial concentration; secondly, from the easy access to a variety of factory forms and sizes; and, thirdly, from the assistance offered by the development agency in organizing facilities to improve their long-term growth prospects.

In Norway, where the system of industrial centres (called "industrivekstanlegg") was introduced in 1968 it is assumed that as a rule many of the advantages of an industrial centre - e.g. the industrial and social environment, savings by provision of common facilities and services, etc. - can be obtained in centres employing 1,000 - 2,000 people.

This year it has been decided to establish two of these six centres employing 300 people each.

1.2.2 Services. A special feature in the industrial centre as distinguished from the industrial estate is that in addition to the normal communal services and financial support offered in the estate an industrial centre offers industrial services in management, marketing, and general rationalization by a group of specialists attached to the centre. The capacity and capability of these services are determined by the size of the centre and the demand from the firms involved.

2 INDUSTRIAL CENTRES AS COMPONENTS IN THE INDUSTRIAL INFRASTRUCTURE

As components in the industrial infrastructure industrial centres serve the following purposes:

- to provide industrial buildings of various sizes and design, including communal services of all kinds, on moderate conditions;
- to initiate and make it convenient for the firms involved to co-operate: in production (sub-contracting, maintenance, levelling of variations in work load, specific operations or processes), in purchasing, transportation, marketing, and advertising and publicity;
- direct support to managers in specific areas of management, e.g. personal advices in managerial problems, continuous training in business management, support in recruitment problems, assistance in long-term planning and advice in financial problems;
- to provide advisory services in all aspects of industrial engineering and economics. (see also point 3 below)
- to provide common services to all firms involved, such as:
recruitment of personnel

training of personnel
procurement of all kinds
transportation services
advertising and publicity
marketing services
and such common facilities as
display rooms
storing facilities
copying and printing facilities
telephone services
nursing
canteen
guarding and fire proection facilities

3 THE ORGANIZATION OF AN INDUSTRIAL CENTRE

The industrial centres can be governed and financed by a Government institution or by a community. The responsibility for the direct management of a centre should be given to a person with the capacity and capability to manage along the lines described above. For the advisory services he shall have to his disposal a small group of four or five: one engineer or technician, one economist, one draughtsman and one typist. In larger centres it might be feasible to add to the group an auditor. This advisory group shall work in very close contact with the Industrial Development Centre (IDC), be strongly supported and to a certain extent governed by IDC (procedures and methods of investigations and implementation, appraisal of proposals in complicated cases before implementation and continuous follow up of advisory activities and results). The advisory group shall also be the local information centre for IDC acting as a connecting link between IDC and the industrial firms in the area, especially in questions connected with export marketing, product development, and training of industrial personnel.

The main part of the advisory services shall be offered free of costs, at least during the first 3-4 years of the planning period.

4 INVESTMENT COSTS

The costs for investment in physical facilities (site and site preparation, connecting roads, common services as power, water, heating, ventilation, drainage etc., but excluding production machinery) is determined by site location and condition, size and volume of buildings, and the type of manufacturing the buildings are designed for. The Norwegian authorities estimates these investment costs at 15,000-20,000 Norwegian crowns per employee, which means 190,000-260,000 Icelandic kronur.

In Finland, where the lack of capital has been the main bottleneck in the process of industrialization, new work places within the manufacturing industry have been established using between 3,000 and 6,000 US\$, which means 260,000-530,000 Icelandic kronur. (These figures include, however, production machinery).

In the cost estimates from a Swedish industrial centre the investment costs per employee are 33,000 Swkr or about 600,000 Icelandic kronur. It should be noted, however, that the floor area per worker is 100 square metre, which is very high. The average in English estates is three workers per 100 square metre, as a comparison. The description of a standard building in a Swedish industrial centre and cost estimates are attached to this Appendix.

5 LOCATION OF INDUSTRIAL CENTRES IN ICELAND

The Industrial Centres are supposed to be local centres of great importance in the process of industrialization during the planning period and for that reason it is advisable to carefully study all factors influencing the location of a centre.

Such factors are from the point of view of industry, an appropriate site for an industrial estate must offer an adequate supply of water and electricity as well as space for possible future expansion; satisfactory communications are also essential. While these factors are necessary, they are not sufficient in themselves. It is also important that a general environment in which industry can thrive and grow already exists or can be provided.

The starting point for an evaluation of the suitability of a given area as a site for an industrial estate should be an analysis of the current population within a relatively large area, and of the migration trends.

It is a common argument against establishing industry in rural areas that transport costs will be too high if the new location is distant from main markets. This seems to be true in respect of products with a low value added. A Swedish investigation concludes that about one-third of Swedish industrial firms, and about half of the people employed in industry, operate in sectors where location has an insignificant effect on transport costs.

A Norwegian study of the importance of transport costs for location in industry in rural areas concluded:

- (a) that transport costs mean little for firms producing commodities with a relatively high value added per ton;
- (b) that these firms can expect compensation for the higher transport costs in the form of lower wages;
- (c) that typical growth industries are best suited for establishment in rural areas; and
- (d) that the industrial branches which seem to satisfy these requirements best are machine industry, electronics industry, parts of the metal products industry and textile industry.

An adequate supply of labour of different types is essential in industrial development. Favourable conditions for future settlement are often a major consideration in a firm's location decision.

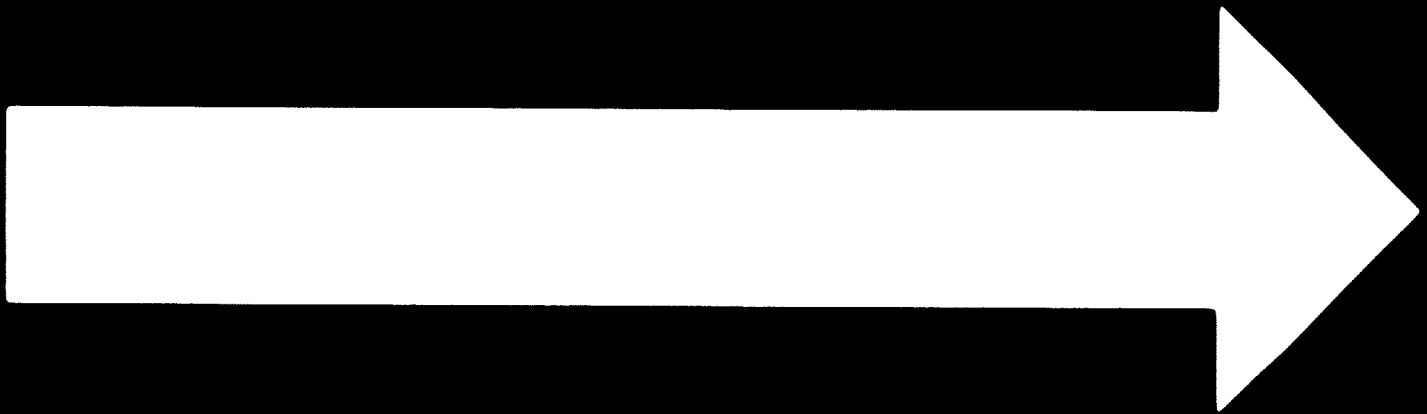
The possibility of satisfying the demand for labour will depend on the local labour market situation as well as on the attractiveness of the area to potential settlers. Education and health facilities, and good opportunities for recreational activities, are of great significance in this context. There is reason to assume that a well-developed and diversified social environment will be a factor of increasing importance in deciding the settlement structure of the country.

As a consequence, industry is likely to move, in the first place, towards areas with sufficient population to provide the establishment and development of a diverse and expanding social structure. The existence of secondary schools would appear to be of particular importance. It appears that the best policy is to attract industry towards areas where there are prospects of a positive and mutually favourable relationship between industry and environment.

Experience shows that industrial expansion takes place, for the most part, within existing firms. Irrespective of whether the expansion is in a geographically distant branch factory or whether the whole plant moves into new premises, key personnel, notably technical personnel, will normally have to be transferred. The low mobility of this category of worker is an important factor in firms' location decisions. It seems that personnel of this kind are very particular about the environment to which they are to move.

Fortunately there are examples of firms which have profitably been established in areas where all these conditions were not met. The same thing is likely to happen in the future, and such developments often have considerable importance for the area concerned. It will certainly be necessary to continue to support single factories which offer the chance of providing new and lasting employment in the development districts.

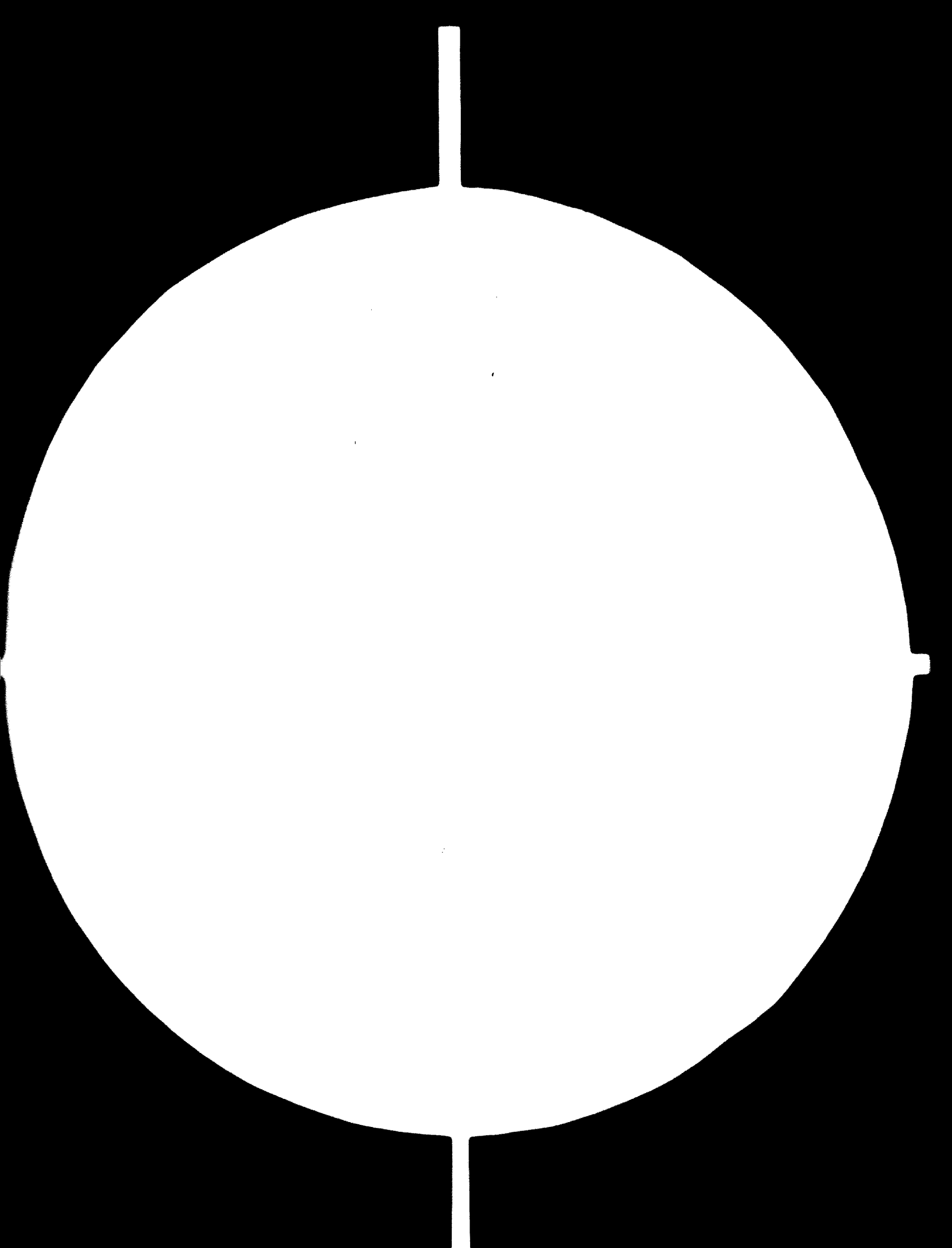
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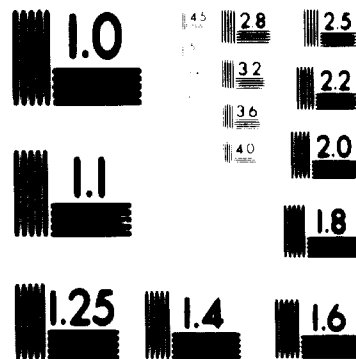
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APPENDIX 8.4.

EXPORT MARKETING AND EXPORT PROMOTION

- 1 CHANGED EXPORT PATTERN LEADING TO NEW DEMANDS ON EXPORT MARKETING**
- 2 DEMANDS ON THE EXPORT MARKETING - MANUFACTURERS AND PROCESSORS**
 - 2.1. Objectives**
 - 2.2. Policies and Programme**
 - 2.3. Organisation**
 - 2.4. Products and Prices**
 - 2.5. Product Development and Product Design**
 - 2.6. Finance and Control**
 - 2.7. Export Goals and Export Service**
- 3 THE EXPORT BOARD OF ICELANDIC INDUSTRIES**
 - 3.1. History - Present Organisation**
 - 3.2. Services Required by the Industry**
 - 3.2.1. Market Information**
 - 3.2.2. Market Analysis**
 - 3.2.3. Export Marketing Plans - Selection of Marketing Organisations Abroad**
 - 3.2.4. Contacting Companies and Authorities Abroad**
 - 3.3 Services to be Initiated by the Export Board**
 - 3.3.1. Collection and Dissemination of Market Information**
 - 3.3.2. Arranging Trade Missions and Incoming Buyers' Missions**
 - 3.3.3. Arranging Trade Fairs Abroad**
 - 3.3.4. Arranging Store Promotions**
 - 3.3.5. Product Group Campaigns**
 - 3.3.6. Product and Package Design**
 - 3.3.7. Incentive Grants and Awards**
 - 3.3.8. Organising Export Seminars**

3.4. Reorganisation of the Export Board

- 3.4.1. Trade Information Unit - Functions**
- 3.4.2. Market Research & Marketing Service Unit - Functions**
- 3.4.3. General Manager/Secretarial Unit - Functions**
- 3.4.4. Marketing Officers Specialised in Product Groups**
- 3.4.5. Budgets**
- 3.4.6. Possible Alternatives for Financing Export Board Operations**

4 GOVERNMENTAL SUPPORT

- 4.1. Finance**
- 4.2. Insurance**
- 4.3. Foreign Service Assistance**
- 4.4. Other Support**

5 CONCLUSIONS

17.11.1972
EXPORT BOARD
Tor Torbjørnsen

EXPORT MARKETING AND EXPORT PROMOTION

1 CHANGED EXPORT PATTERN LEADING TO NEW DEMAND ON EXPORT MARKETING.

As stated in the UNCTAD Work Programme of March 1972, the competitive power is considerably lower in Icelandic industrial firms than in firms of corresponding industries in neighbouring countries. The main reasons for this are:

- (a) The manufacturing industries in Iceland have, for a long time, been highly protected by tariffs. Due to lack of stiff, foreign competition, the domestic sales have been good and profitable.
- (b) The production is, in many firms, split up on too many products.
- (c) The previous lack of an overall industrial policy.

The lack of foreign competition on the domestic market and the lack of specialisation have resulted in a low productivity and low competitive power. Furthermore, there is a shortage of marketing and sales personnel of all categories in Icelandic manufacturing industries for export marketing efforts.

During the last few years efforts have been made to diversify industry production of manufactured goods and develop export oriented industries.

In the period 1963 - 1967 the average share of fish and fish products was about 90% of total exports, accounting for more than 1/3 of the GNP. The percentage share of manufactured products in the export pattern (including aluminium and diatomite) increased from 2,2% of total exports in 1966 to 3,4% in 1968 and 18,4% in 1970.

Fish and processed fish products still account for the major part of commodity export. An increased diversification in exports of manufactured goods seems to be necessary for Iceland, if the high living standard and full employment is to be maintained.

The changing pattern in the export from fish and primary manufacturing towards secondary manufacturing leads to drastic changes in the requirements on export marketing.

Iceland has made agreements with EFTA and EEC. These agreements will result in less tariff protection for Icelandic manufacturing industries, a stiffening of the competition on the domestic market and loss of domestic sales. Companies can compensate for this loss in domestic sales by building up exports.

In all countries of the western world there are export promotion organisations, playing a more and more important role in development of exports. An effective export promotion organisation in Iceland would assist in giving equal opportunities for Icelandic manufacturers within EEC and EFTA. There is therefore a need for an efficient service institution in Iceland stimulating exports and giving services in the following fields:

- product development,
- product and package design,
- product potential analysis,
- market research,
- market analysis,
- export planning,
- product introduction,
- export promotion.

2 DEMANDS ON THE EXPORT MARKETING - MANUFACTURERS AND PROCESSORS.

A study of export potentials has been carried out by the UNCTAD experts and their Icelandic counterparts, based on current exports, available raw material and efforts to ascertain salable products feasible to produce in Iceland. Most of the manufacturing companies in Iceland are interested in exports and are willing to adapt their products for exports. The financing of daily operations is, however, a most serious problem for the interviewed firms.

To attain an export success, the management of the exporting companies must be fully aware of the following demands on export marketing:

2.1. Objectives

Definite, realistic long-range and short-term objectives must be established for sales, export, profit, investment, growth and expansion.

2.2. Policies and Programme

Basic operating policies must comply with company objectives. A company programme for achievement of the objectives must be put in writing.

2.3. Organisation

The following needs must be known:

- the kind of organisation needs to accomplish objectives,
- the kind of marketing personnel needed,
- methods of execution for the marketing programme,
- the marketing policies to be followed.

2.4. Products and Prices

Product and service objectives and policies must be defined. Quality, design and price of the export products must be in line with the basic company objectives and policies and with the competitive situation.

Necessary steps must be taken to secure correct export pricing and documentation and utilisation of suitable credit facilities.

2.5. Product Development and Product Design

The importance of product development and product design for competitive export marketing cannot be overstated. International competition to produce the right product for a given market requires careful attention. Product design is an integral part of successful marketing, which must be organised and programmed systematically.

The product design and product development activity cannot exist in isolation from marketing or manufacture. Those concerned with product design must know the needs of the market, while those concerned with manufacturing techniques must concentrate upon problems of manufacturing efficiency.

It should be stressed that design must be directly orientated towards the needs of the market, taking sales and manufacturing policies into account.

2.6. Finance and Control

Profit standards for various levels of production must be stipulated. Financial planning and control must be directed to achieve stipulated profit standards. Budget Programmes must be flexible and include capital expenditures.

In export business management must also deal with market financing. It must provide and manage funds and credits related to the transactions involved in the flow of goods and services from the manufacturer to the consumer. Credit

facilitates the movement of export products from the producer to the buyers abroad and with adequate financing facilities, exports may increase considerably.

2.7. Export Goals and Export Service

The "break even" point of sales volume must be known. Discounts to trade channels must be adequate. Enquiries, orders, and correspondence must be handled with expedience. Price lists, catalogues and specifications must be up to date and clear.

Finally marketing research must be utilised when planning sales activities and product development.

3 THE EXPORT BOARD OF ICELANDIC INDUSTRIES

3.1. History - Present organisation

The Export Board of Icelandic Industries was established in July 1971, to promote export of Icelandic manufactured goods. Founder members were Federation of Icelandic Industries, Federation of Icelandic Master Craftsmen, Federation of Icelandic Co-operative Societies and the Ministry of Industry.

The new Export Board took over all services of the Export Bureau of the Federation of Icelandic Industry, established in 1968. The principal functions of the Export Board have so far been to provide market information to potential exporters, organise trade fairs participation and introduce new manufacturing companies in the export field.

The Export Board has, presently, neither the capacity, expertise nor organisation needed to carry out its functions in an efficient way. Therefore, the need is felt for strengthening the functional capacity of the institution.

3.2. Services required by the industry

3.2.1. Market information

The main information and assistance required from the Export Board are the following:

- general market information,
- foreign trade regulations,
- export opportunities abroad,
- import regulations and import duties on main markets,
- developments in foreign markets,
- marking and labelling requirements on main markets,
- shipping opportunities,
- distribution channels,
- sales leads,
- trade fairs and exhibitions,
- names of foreign trade magazines.

3.2.2. Market analysis

Direct assistance is required by exporters regarding the study of export potentials, product selection and market selection.

When evaluating a product's export potential the exporter needs advice from the Export Board regarding:

- quality,
- design,
- price,
- technical characteristics,
- packaging,
- colour,
- originality,
- required maintenance and service,
- patents and trade marks.

Those products that seem to offer the greatest potential for present and future exports should be indentified.

When a product has been considered to have export potential, exporters will need assistance for a preliminary screening of export markets, taking the following criteria into consideration:

- exports previously done of selected products by country of destination,
- growth of imports of selected products by importing countries,
- economic, political and cultural links,
- GNP per capita and economic growth,
- market access (custom tariffs, import quotas, sanitary and security regulations, technical specifications),
- languages spoken,
- transport time and cost by air and ship,
- climate.

Exporters will also need the following information:

- size of potential market,
- duties and taxes applicable,
- development of local industry,
- state of competitions,
- special regulations or specifications concerning selected product.

3.2.3. Export Marketing Plans - Selection of Marketing Organisations abroad

Icelandic exporters will need market reports, market surveys and economic data from potential markets, as well as assistance in planning export marketing programmes. Desk and field research will have to be conducted on markets and products.

Assistance should be available on new product development including the possibility of manufacturing under license. The carrying out of market studies and outlining marketing plans include information on insurance, shipping and transport.

When considering the most suitable type of marketing organisation abroad the particular circumstances of the business concerned have to be taken to account. Whether to appoint agents or to set up sales offices, is a matter to be decided after careful consideration, taking the following factors into account:

- the product,
- the market,
- the competitive situation,
- the economy of the firm,
- its business activity.

Regardless of the marketing representatives which are chosen, direct visits to the markets should be undertaken by the marketing manager. He needs to get into direct contact with the market and get information about it in order to sell, in order to assess agents or sales representatives, or to support them in their export promotion efforts.

3.2.4. Contacting Companies and Authorities Abroad.

The correct use of foreign languages in export business correspondence or when contacting authorities abroad, is very important. It appears that potential Icelandic exporters to a great extent will need assistance with this from the Export Board.

It is to be assumed however, that the export training courses planned to be arranged by the Export Board for export business personnel will gradually make the companies concerned self-supporting in this field.

The possibilities of establishing contact and co-operation with existing industry will be one of the factors which decides how many and which sites to select for industrial centres. In the short run there might appear to be limited interest in relocation on the part of industry.

However, it can be assumed that the reluctance of some entrepreneurs to moving their plants, stems from a failure to appreciate the advantages of an alternative location, or perhaps even from exaggerated ideas of the problems involved in relocating. It will probably be necessary to provide more effective guidance and inducements for the relocation of industry.

Considering the tendency towards larger units of production in modern industry in an attempt to secure economies of scale and reduce costs, there would appear to be a limit to how small an industrial centre can be. Care must therefore be taken to select such industries as offer reasonable prospects of being competitive. In some cases, it may be possible to induce already existing industry in the congested areas to relocate in new areas or, at least, to establish plants there for production of components.

Areas to be investigated for future location of Industrial Centres, besides Reykjavík and Akureyri, could be, as a suggestion, Borgarnes, Blönduós, Siglufjörður, Sauðárkrúkur and Selfoss, and a free-zone area in Reykjavík or Keflavík.

6

EXPERIENCES FROM NORWAY

Financing

As in the United Kingdom, the Industrial Estates Corporation is the formal owner of the site and buildings of an industrial estate. The cost of developing the site, erecting the buildings and of running the common facilities when the estate is operating would also be the responsibility of the Corporation. The capital cost of establishing industry employing some 1,000 workers and employees is about

3.3. Services to be Initiated by the Export Board.

3.3.1. Collection and Dissemination of Market Information

It must be assumed that especially small and medium sized firms lack all kinds of market information and knowledge of export techniques and strategy, which should be given by the Export Board. A Bulletin for Exporters will be published regularly containing the following types of information:

- announcements of commercial events,
- international news items with commercial implications,
- information concerning Iceland's trade promotion facilities,
- country-by-country commercial information of interest to Icelandic exporters,
- information on EFTA, EEC and other trade blocs,
- any information affecting the competitive situation of Icelandic exporters,
- trade inquiries,
- details of trade agreements with specific countries,
- announcements of new trade promotion schemes,
- new material received by the Export Board's library.

3.3.2. Arranging Trade Missions and Incoming Buyers Missions.

The Export Board will also organise indirect and direct trade missions abroad for Icelandic exporters.

The main purpose of any trade mission is to develop exports. The purpose of an indirect trade mission is to compile information which will benefit an entire business community. This is more of a survey mission, which returns information concerning general market conditions and all sales or agency opportunities. On a direct trade mission the exporters concerned take part, the aim being to build up exports.

The Export Board should also be prepared to arrange incoming buyers' missions to Iceland. In addition to excellent demonstrational opportunities connected with such visits, it must be assumed that the buyers concerned will be positively influenced by the traditional Icelandic hospitality.

3.3.3. Arranging Trade Fairs abroad.

The Export Board should be in a position to undertake the physical planning and the organising of participation in relevant trade fairs and exhibitions abroad. It should concern itself with the design and layout of the stands, the supervision of their erection, the shipping of samples and the production of publicity material.

Trade fairs and exhibitions are numerous and vary greatly in nature, size and importance. The Export Board should stimulate collective participation by exporters at trade fairs.

3.3.4. Arranging Store Promotions

The Export Board should assist in arranging Department Store Promotions abroad. Display material must be provided and other Store Promotion material must be sent out in good time. In certain cases financial assistance towards advertising should be considered.

The Export Board should be responsible for promotional and display elements in store-promotions of Icelandic goods and other similar events abroad. At home, it could arrange Product Shows and other events stimulating exports.

3.3.5. Product Group Campaigns

Export Campaigns for selected product groups can take place abroad in selected markets and for certain periods.

Suitable product groups should be indentified and promotion programmes must be established.

3.3.6. Product and Package Design

Good design is very important for export success. The Export Board should therefore give consultancy services and grants in the following fields:

- product design,
- package design,
- training of designers.

The Export Board will provide general information and consultancy service on design, including advice and assistance to firms in assessing their design performance and prescribing means of improving it. Possible design objectives are:

- to adapt or invent a product to meet new competition,
- to adapt to an actual or potential change in market taste,
- to exploit a new market,
- to simplify an existing product design so as to reduce manufacturing expense,
- to take advantage of technological change.

3.3.7. Incentive Grants and Awards.

The Export Board should be able to give incentive grants for participation in trade fairs and exhibitions and other promotional activities in co-operation with the Exhibition Board. The Export Board should also be able to give annual awards to exporters within different fields showing the biggest proportional export increase.

Incentive grants should be available for a variety of purposes, including:

- market investigations and export-stimulating activities,
- marketing research and consultancy,
- overseas trade fair participation,
- individual or group advertising,
- product group,
- design projects including employment of product and package designers,

- engaging design consultants,
- training of design personnel,
- overseas study tours by designers,
- tax reliefs etc.

3.3.8. Organising Export Seminars.

The Export Board should be able to organise training courses in export sales and marketing activities abroad

Aims of the training:

- to provide the trainees with the fullest possible instruction in the art and techniques of export marketing,
- to develop the trainees' capacity to communicate with people abroad,
- to prepare the trainee mentally for conditions in which he will have to work abroad,
- to give the trainee a detailed picture of the Icelandic economy and of conditions abroad relevant to exports,
- to develop the trainee's knowledge of one foreign language to the highest possible level.

Training facilities should be available to provide education and research to develop the skills of business personnel who are in charge of managerial marketing and routine duties in export.

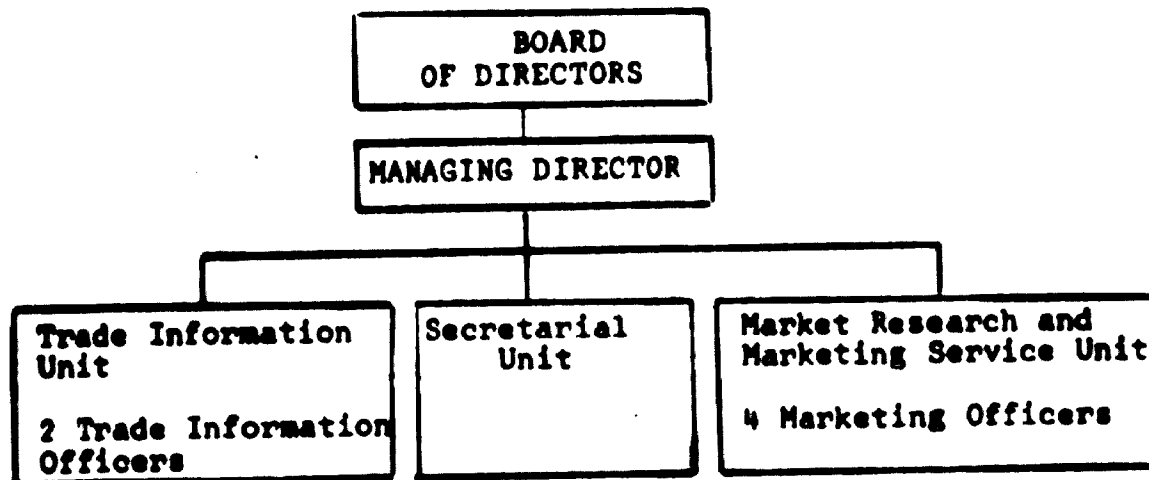
The research work should have two aims:

- to prepare material for education,
- to publish studies of international markets for the use of exporters.

When necessary the Export Board should provide expert assistance in the planning and implementation of programmes for export courses desired by various industry and business organisations.

3.4. Reorganisation of the Export Board.

In order to carry out the tasks indicated in this report, the following organisational structure of the Export Board is envisaged by 1974/75:



For the period 1976-1978, an addition of 1 or 2 officers will be needed and by 1980 it is expected that the staff will consist of 14-16 people.

3.4.1. Trade Information Unit - Functions

The functions of the Trade Information Unit and its officers will be the following:

- a) Information on export markets e.g. on foreign trade regulations, distribution methods and market trends.

Details should be available from all important markets on customs duties, export documentation and regulations governing import licensing, goods and drug standards and labelling. A comprehensive and up-to-date information register will have to be maintained, with duty-classification of all merchandise.

Exporters should be provided with advice and guidance on the most efficient methods of shipping goods to any European and overseas destination. Advice should be given on the availability and costs of sea and air freight containerisation, trans-shipment and warehousing. Exporters should also be assisted in preparing c.i.f. quotations.

Complaints on transport matters should be investigated and close liaison with transport companies and port authorities should be maintained. Negotiations with shipping companies for competitive rates and improved services should be undertaken regularly.

b) Making publicity abroad for Icelandic exports:

- preparation of information material for exports,
- handle press relations,
- editing of Information Bulletin and drafting of Annual Reports,
- liaison on Publicity Matters with other State Bodies.

c) Information on export opportunities, trade regulations, distribution methods and market trends.

d) Maintaining an Export Library, containing different kinds of literature on trade and market information. Clippings and photocopies of articles should be organised in a systematic way.

The informative material should be improved continuously by the acquisition of relevant publications, including periodicals from export markets.

3.4.2. Market Research & Marketing Service Unit - Functions

The Market Research Unit will produce market reports, market surveys and economic data for exporters, to assist them in planning export marketing programmes. Contacts should be established with leading international research institutes. Direct assistance will be given to exporters regarding;

- a) the study of export potential i.e. product potential analysis,
- b) product selection,
- c) market selection,
- d) market research and analysis
- e) outlining marketing plans.

Other services to be rendered by this unit are:

- statistical analysis and forecasts,
- answering trade enquiries,
- providing export marketing advice and design export plans for exporters,
- servicing trade associations and co-operative export groups,
- handling store promotions, trade fairs and exhibitions abroad,
- designing and handling training programmes in export,
- giving design advisory service,
- handling design seminars and exhibitions,
- handling export seminars and courses,
- designing grants schemes.

3.4.3. General Manager/Secretarial Unit - Functions

Administrative matters, including

- recruitment of personnel,
- annual reports (editing),
- budget control,
- insurance matters,
- export financing,
- incentive grants and awards.

3.4.4. Marketing Officers Specialised in Product Groups

In 1974 the Market Research and Marketing Service Unit of the Export Board will have four marketing officers, each of whom should specialise in selected export product groups, i.e.

- Officer No 1: - woolen textiles,
- knitwear,
- skin and skin products,
- leather goods,
- Officer No 2: - machinery and equipment for the
fishing fleet,
- metal working industry,
- Officer No 3: - canned fish products,
- chocolates,
- Officer No 4: - furniture,
- gift ware,
- miscellaneous.

The question whether or not the Export Board should have Marketing Officers based on the main markets in addition to those employed at headquarters, has been thoroughly discussed with the Board of Directors.

It has been recommended that during the first few years all marketing officers should be based in Iceland, with travels abroad as required. This would imply better possibilities of co-ordinating export promotion activities with the limited funds available and also allow the Export Board to pay top executive salaries to attract very qualified marketing officers for the home office.

3.4.5. Budgets.

The cost of operation of the Export Board is covered by annual allocations from the Treasury and by contributions from founder members. In addition the Export Board of Icelandic Industries is authorised to claim fees from those parties that use its services. The Export Board of Icelandic Industries is exempt from payment of public taxes and rates to the State Treasury and to the Municipal Authorities.

The total budgets in 1971 and 1972 amounted to 6,8 mill. Icelandic Kr. and 6,6 mill. Icelandic Kr. respectively, of which 4,1 mill. was received as governmental support in 1971 and 4 mill. in 1972.

Icelandic exports of manufactured goods, excluding aluminum and diatomite, amounted to Icel. Kr. 535 Mill. (approx \$6,2 mill.) in 1970 and Icel. Kr. 732 Mill. (approx. \$8,4 mill.) in 1971. The total budgets of the Export Board of Icelandic Industries were approximately 1,3% of the above export value in 1970 and 0,9% in 1971.

In order to accomplish the tasks and execute the activities outlined in this report, the following estimates of operational costs are considered to be realistic up to and including 1976:

	(in 1000 Icel. Kr.)			
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
1. Participation in trade fairs, exhibitions, publicity activities	5.600	7.000	7.500	8.000
2. Market Research, Marketing Service Product development, Design development,	4.000	4.800	5.800	6.000
3. Trade promotion general travel	1.200	1.400	1.900	2.000
4. Rents, rates, office expenses,	3.600	4.500	4.700	5.250
5. Salaries and allowances	<u>5.600</u>	<u>7.300</u>	<u>7.600</u>	<u>8.750</u>
	20.000	25.000	27.500	30.000

The above budget suggestions call for the following comments:

In order to promote, assist and develop exports in the manner which the Export Board considers necessary or desirable, it is necessary to give emphasis on

- matters affecting or connected with development of exports,
- improvement of industrial design in Iceland,
- promotional activities,
- publicity activities,
- market research,
- marketing service,

- product development,
- design development.

This will of course result in an increase in salary expenses and in expenses for main export promotion activities.

With these aspects taken into consideration, the following budget amounts up to 1976 are considered to be realistic estimates:

- for 1973: 20 mill. Icel. Kr.
- for 1974: 25 mill. Icel. Kr.
- for 1975: 27,5 mill. Icel. Kr.
- for 1976: 30 mill. Icel. Kr.

In case of inflationary effects or a devaluation of the Icelandic Krone in the course of the next few years, the budget amounts will have to be adjusted accordingly.

3.4.6. Possible Alternatives for Financing Export Board Operations.

Other methods of financing the export promotion activities might be:

- by levy on all exports (as in Norway), giving the organisation a completely independent position,
- by grant-in-aid from the ministry concerned (as in Eire) to a completely independent organisation,
- by a combination of the above methods and/or by charging for the services rendered,
- by a government grant combined with membership fees, contribution from industry organisations and income from publications (as in Finland),
- by a levy on import as well as on export (as in Austria).

estimated at some 15-20 million Kroner. It is suggested that a yearly programme of this order would constitute a reasonable pace for introducing industrial estates in Norway.

Industrial buildings will, as a rule, remain the property of the Corporation. Interested firms are in general expected to rent the premises. The rent should in principle be calculated on normal commercial terms, i.e. so as to secure a reasonable return on the capital invested once the estate is fully developed and the firms concerned have overcome their teething troubles. Firms may, however, receive financial support in the form of loans and grants from other government bodies, e.g. the Regional Development Fund, to help them to meet the costs of moving to, and establishing themselves on, an industrial estate.

Organization

The Industrial Estates Corporation (SIVA) is a Government Corporation under the control of the Ministry of Local Government and Labour. The Corporation is managed by a Board of seven members including the Managing Director. The six part-time members and their deputies are appointed by the Minister on the advice of the Board. The head office of the Corporation is in Trondheim.

The purpose of the Corporation is to build and run industrial estates on an area of land owned by it. The Corporation provides the basic services and constructs industrial builds for lease or sale. The Corporation may also co-operate with other organizations in building and running industrial estates, and can provide industrial buildings on single sites.

A direct comparison with the corresponding export promotion budgets in other countries is somewhat difficult as promotion activities usually cover a larger range of products than is the case in Iceland.

Furthermore, other countries have built up their exports of manufactured goods over decades, whereas Iceland is about to start a new export offensive and, therefore, will need comparatively bigger funds available to finance the required activities.

As regards financing Icelandic export promotion activities in the future, it is recommended that the grant-in-aid from the Government is being raised to such an extent that the budgeted operational costs of 20 mill. Icel. Kr. in 1973, 25 mill. Icel. Kr. in 1974, 27,5 mill. Icel. Kr. in 1975 and 30 mill. Icel. Kr. in 1976 are being covered.

According to Icelandic export statistics, total exports amounted to

12.900 mill. Icel. Kr. in 1970 and
13.200 mill. Icel. Kr. in 1971.

If 0,3% of this total export value were used for export promotion purposes (as is the case with the Irish Export Board), the allocated amounts to Icelandic export promotion purposes would have been the following in mentioned years:

1970: 38,7 mill. Icel. Kr.
1971: 39,6 mill. Icel. Kr.

In the long run it must be assumed that all Icelandic export industries will benefit from the activities of the Export Board and it is recommended that the country's total export value is taken into consideration when future Government contributions are being stipulated to cover future export promotion activities.

The reason why the Irish export promotion budget of 0,3% of total exports is mentioned above, is the fact that economic and industry conditions in Eire in the early 1950's had certain parallels to economic conditions in Iceland to-day. The Irish Export Board is an independent state organisation for the promotion of exports, established in 1952. At that time, the Irish industry had sufficiently developed to supply the home market with most of the essential goods required for a population of just under three million. Today, in terms of output, sophistication and export performance, Irish industry is far beyond anything that could have been thought possible twenty years ago.

Manufacturing industry now accounts for the greater portion of the GNP and produces the largest single category of Irish exports. Industrial exports are the main generator of growth in the economy and upon them Eire chiefly relies to tighten the brake on unemployment and emigration and to support an increased standard of living. Agriculture continues to play its vital role in the life of Eire but the Irish economy is no longer one-dimensional.

The objectives of the Irish organisation is to maximise exports and to promote high standards of Industrial Design. The Irish Export Board is responsible for raising the Irish Industrial Design and has solved this task very successfully, resulting in a remarkable export increase. Design grants are being given to the manufacturers, which is also the case with grants for promotional activities.

4 GOVERNMENTAL SUPPORT

4.1. Finance

Financing is an integral part of all marketing, requiring both short-term and long-term capital. As the composition of Icelandic exports gradually will have a stronger element of manufactured products, Icelandic financing institutions

must offer better credit facilities. Without adequate financing, distribution will be hampered and result in a rise of the cost of marketing.

Many Icelandic firms have difficulties in arranging short-term finance. An increase in the companies' permanent capital is also very often required. Although it is desirable to be paid in cash before or on delivery to overseas customers, exporters must very often sell on credit terms if they are to develop their exports. Icelandic exporters should be given the same financing possibilities as competing exporters from other countries. In some European countries it has been the general policy of the authorities in recent years to encourage banks, subject to normal banking criteria, to give priority to finance for exports. Special arrangements exist, under which the banks provide, at a fixed rate of interest, medium and long-term credit for two years or more where lending is supported by an unconditional guarantee to the bank by an Export Credits Guarantee Institution. The same procedure should be adopted by Icelandic authorities by supporting suitable financing institutions.

The possibility of Governmental support by arranging payment of Icelandic exports through an export house or a confirming house should also be looked into. The basic function of a confirming house is to assist the buyer by confirming orders already placed so that the exporter may receive payment from the confirming house as and when the goods are shipped. Any credit period the buyer may require is arranged and carried by the confirming house which thus takes the credit risk over from the supplier.

Icelandic exporters should also be able to secure non-recourse finance from factoring companies' services to exporters. A factor buys from his clients their invoice debts at a discount. Some factors undertake collections for their clients, at the same time ensuring them constant flow of payments.

4.2. Insurance

One of the means of export promotion is to protect the exporter against risks, which could lead to the buyer not effecting payment as stipulated in the contract. By granting an export credit guarantee Icelandic authorities should cover the greatest part of the loss which is caused to the exporter in such a case. An exporter may suffer considerable loss

- if the buyer fails to pay,
- if political disturbances or war frustrate fulfilment of the contract,
- if there is any other cause of loss,
- if new import licensing restrictions are imposed in the buyer's country.

Icelandic exporters should be in a position to take insurance with an Export Credits Guarantee Institution, enabling him to compete on equal terms with exporters from other countries.

Selling abroad involves more risk than selling in the home market, but if the exporter can insure against these risks in return for a small premium, he is protected from major unforeseeable loss if he is not paid. Many exporters must give credit over lengthy periods if they are to develop their exports. The longer the credit, the more they depend on bank finance to bridge the interval between delivery and payment.

4.3. Foreign Service Assistance

The Icelandic embassies and consulates abroad should be able to provide Icelandic exporters and the Export Board with vital points of contact with export markets. They should also provide office facilities and secretarial assistance for the marketing officers working for the Export Board in main markets on their stays abroad promoting Icelandic exports.

As soon as sufficient export promotion funds are available, the Export Board should establish its own offices abroad, based in the main business centres on the main export markets. This will secure an efficient export promotion organisation.

4.4. Other support

The Government should consider tax reliefs for exporters. The possibility of reducing transportation costs to a competitive level should also be looked into.

Drawback procedures should be facilitated and improved.

5. CONCLUSIONS

The importance of exports for the individuals, the manufacturing companies and for Iceland can never be underestimated.

The coming years up to 1980 should be considered as a pioneer period for the export promotion of Icelandic manufactured goods.

Most companies in Iceland cannot do the export themselves without help as they lack the means to finance an efficient export department of their own. The present and future Icelandic exporters need, therefore, a very strong Export Board rendering professional marketing service. The responsibility of setting up the objectives and the responsibility for the operation of such an organisation must lie in the hands of the individual exporters themselves as in other countries, in order to secure the flexibility and integrity necessary to gain strong footholds on foreign markets.

As the exporters themselves cannot afford to finance an efficient and strong Export Board the complete financial backing and support by the Icelandic Government is necessary.

An independent, efficient and strong Export Board should secure the strong and diversified export growth which is necessary for Iceland.

APPENDIX 5.5THE IMPORT OF WOOD AND WOOD PRODUCTS1 The existing system

The absence of indigenous forrests, with commercially exploitable timber resources has forced Icelandic wood-using industries i.e. construction, furniture and fixtures to rely on imports of this essential raw material. In the absence of rational purchasing policies however, wood and wood products are imported at prices which are considerably higher than those prevailing in international markets. Icelandic user-industries are thus placed at an automatic competitive disadvantage with respect to their raw material costs which can account for as much as 42% of total cost in for example the furniture industry.

Several factors contribute to this unfavourable situation but, foremost among these is the balkanized structure of the wood-using industries in Iceland, e.g. the furniture industry - including fixtures consists of some 320 separate firms. The vast majority of these are very small, one-man businesses a large proportion of whom nevertheless import their own wood supplies. The resulting small batch ordering deprives Icelandic importers of all bargaining power and usually restricts their sources to traditional suppliers who in many cases are not the cheapest. Since the purchasing of raw-materials is a highly specialised function requiring specialised knowledge and skill to obtain optimum prices, it is not surprising that the prevailing ad-hoc system can not achieve these results.

A powerful contributing factor perpetuating this situation is the existing system of price controls. This was introduced as a means of limiting mark-ups on imported raw materials thereby restricting price rises. In practice however, the effect of these controls has been the opposite, especially in the case of wood imported by timber merchants. Since the mark-up is pegged at 18% there is an inducement to buy at the highest f.o.b. price thereby maximising profit per shipment. This is the main

reason why some 65% of furniture manufacturers persist in importing directly uneconomic quantities of timber for their own use, despite the fact that this ties up considerable amounts of their own scarce capital and management resources.

Iceland's adherence to EFTA and its current negotiations with the EEC will undoubtedly remove the existing tariff protection which wood using industries still enjoy in the Icelandic market. All opportunities to reduce manufacturing costs must therefore be seized to retain or create a competitive position for Icelandic products. The introduction of a more rational, efficient and above all specialised wood purchasing system would be an invaluable aid to the lowering of manufacturing costs. The need for the establishment of a specialised Wood Import Centre is therefore quite apparent.

2 The wood import centre

The primary function of such a Centre would be to pool the demand for wood imports and provide the specialist skills required to obtain rational and efficient low cost purchasing. Bulk buying with its accompanying bargaining advantages would replace the present small lot ordering. This would also result in reduced shipping and handling costs. Buying at source instead of from middle-men would further reduce costs by cutting out their mark-up.

Apart from central specialist buying facilities the Centre could also provide storage, drying and eventually pre-processing such as saw-milling, surface heat treating etc. Once sawing, cutting and preparing facilities are established considerable amounts of saw dust and chips would become available for the manufacture of shipboard. Thus the Centre would not only provide an efficient centralised buying agency but also, contribute to the establishment of new industrial facilities giving additional employment opportunities and saving foreign exchange.

The organisation of a Wood Import Centre could take one of several forms:

- existing timber importers merchants could pool their

resources and thereby create a central buying organization. There is however no incentive to do so under the existing system of price controls

- an association of wood using manufactures could establish the Centre. This would ensure lower priced wood imports but would need a considerable amount of good will and co-operation between its members. The necessary capital to finance the venture may also be difficult to raise.
- the Government could establish the Centre. This would have the advantage of access to capital but, entails the danger that the imposition of government administrative practices could stifle the efficiency of the Centre.

The best solution however, probably lies in a combination of private initiative with Government involvement and active support. The establishment of the Wood Import Centre is envisaged in three phases.

In phase one: the Centre would work as a super importer having the advantage of enhanced bargaining power and building up experience and know how in bulk purchasing. Apart from obtaining wood and wood products at competitive prices the Centre would provide storage facilities to enable it to re-sell to Icelandic users from stock. During this phase the Centre would be in direct competition with existing importers (merchants or manufacturers) and would have to power its ability to obtain cheaper saw materials. It should be able to obtain a 50% share of total wood imports within one year of its establishment and would therefore require covered storage space of some 3.500m³. The capital required to cover outlays for office facilities, establishment costs storage and materials handling equipment is estimated to be about 40,000,000 Icel.Kr. during phase one.

Phase two: would see the expansion of the Centre's activities through the establishment of a saw-mill. Wood in the round could now be imported and processed locally. Assuming that the Centre accounts for some 80% of total wood imports at this stage, indoor storage space will have to be augmented to 8500m³ and some 3000m² of outdoor storage space provided. Equipment for sawing, cutting, boiling and drying of logs has to be installed. The bulk of the capital requirement for this expansion should be

financed from the Center's own resources.

Phase three: In this final phase the Centre develops into a fully fledged Service Centre for the wood working industries in Iceland. The Centre would perform all the more difficult tasks such as wood curing, drying, surface heat treatment etc. This will give Icelandic manufacturers access to advanced equipment the purchase of which individually, they would be unable to justify in economic terms. The ultimate aim of the Centre should be to strike a balance, which will give the optimum division of work between manufacturers and the Centre.

3 Summary of conclusions

a) Due to the existing highly inefficient system of imports the need for a Wood Import Centre is obvious.

b) The benefits arising out of the establishment of such a Centre far outweigh the moderate capital requirements. These include:

- Lower priced raw material supply to user industries thereby strengthening the competitive position of these industries.
- Foreign exchange savings as a result of cheaper supply and lower shipping and handling charges.
- The creation of some 60 to 80 new job opportunities.
- The provision of storage and processing facilities to customers thereby releasing capital in the user industries currently tied up in raw material stocks and storage and improving their often critical working capital position.

d) Due to the relatively weak structural position of the user industries Government help in the establishment of the Centre will be required in the following fields:

- Provision of a suitably located site with easy access to harbour power facilities and near to the bulk of potential customers.
- Provision of electrical and geothermal energy at favourable prices.
- Provision of finance during period of establishment through direct grant or government guaranteed loan facilities.
- Possibility of providing government owned buildings e.g. unused barrel factories, as storage sheds.

d) The saw mill and cutting facilities of the Centre would produce some 3,000m³ of good quality saw dust and wood sharings. Another 6,000m³ could be collected from the wood working and building industries. Another 30,000m³ could be made available from sawing of all lags for domestic use in the construction industry. This gives a total of nearly 40,000m³ of wood waste available for use in the manufacture of say ship-board, particle board etc. A proposed layout of a wood import centre and a series of tables showing the feasibility are attached.

4 Wood import and eventual re-export

The demand for wood in Western Europe is increasing and traditional suppliers are finding growing difficulties in supplying this demand. The distance from forest to user are increasing and transport costs rise as trees are felled in ever more inaccessible places. Northern Russia has vast forest resources but suffers from ice blocked harbours 8 to 9 months per year, and can therefore only export a portion of its potential as buyers are unwilling to stock one years supply.

Iceland with its ice free harbours, geothermal resources for drying and position in the North Atlantic could become an ideal staging post for this wood. Large quantities of logs could be shipped to Iceland during the summer from Murmansk and could be stored, dried, cut, and re-exported to Western Europe during the closed season of Arctic ports.

15.9.1972

Björn Jóhannson.

Implementation

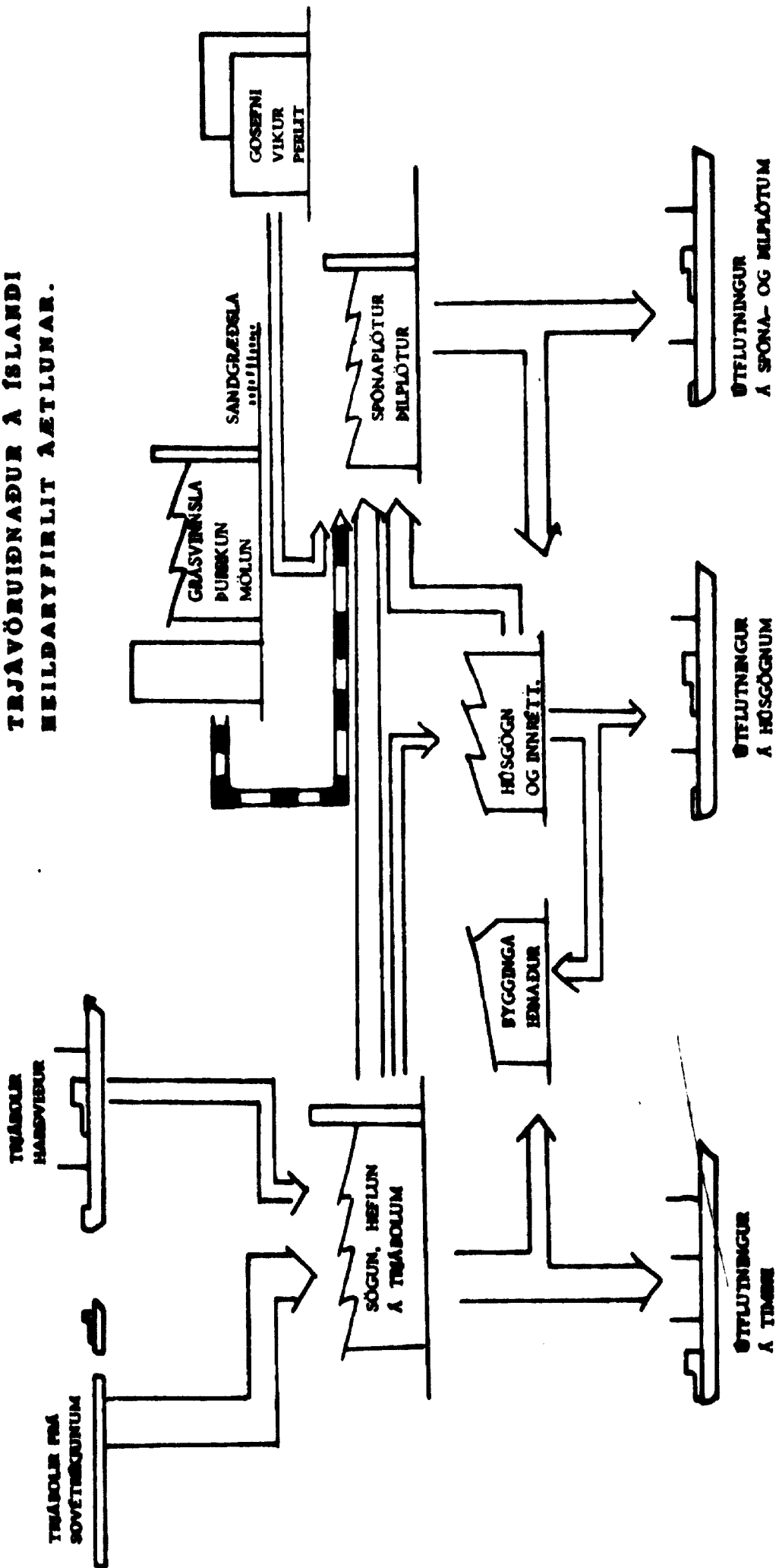
The main activities of the Board during the initial year have been concentrated on:

- (a) establishing the administration of the Corporation;
- (b) selecting sites for the first industrial estates;
- (c) working out directives for the construction and running of the estates.

These activities have primarily been based upon Parliamentary Proposition No. 65 (1966-1967) and on directions given by the Ministry of Local Government and Labour. The Board intends to benefit from this early experience before building up a complete and permanent administration, in accordance with Proposition No. 65 and the Parliamentary decision which laid it down that experience of industrial estates as one form of regional development policy should be assessed in the initial phase. On the basis of this experience a decision will later be taken as to the scope of the Corporation's activities and the speed with each estate should be developed. In making these assessments the Board has made full use of the advice of private consultants. At the end of 1968 permanently employed staff at the Corporation's office amounted to only three persons, including the Director. The Board consider it necessary to extend the permanent staff during 1969.

During the autumn of 1968 the Board and the administration of the Corporation were preparing plans for the three first industrial estates to be build in Norway. This work was carried out in close collaboration with local authorities and interested government bodies. Industrialists interested in renting premises were contacted. In November-December the Board recommended to the Ministry of Local Government and Labour that the following places should be selected:

TRJAVÖRUIDNAÐUR Á ÍSLANDI HEILDARYFIRLIT AÆTLUNAR.



Samanburður á núverandi fyrirkomulagi við innfl. hráefnis til húsgagna- og innréttingaiðnaðarins og áfanga I og II í tillögu um stofnun innflutningsmiðstöðvar.

(Til grundvallar verð og magn 1970) (í þús. kr.)

Núverandi fyrirkomulag		I. áfangi	II. áfangi
Erl.kostn.	Plankar 39.000 Spónn 37.000 Gervitrjáv. 37.000 Spónapl. 48.000	Plankar 39.000 Spónn 37.000 Gervitrjáv. 37.000 Spónapl. 48.000	Trjábolir 15.000 Gervitrjáv. 37.000 Spónapl. 48.000
Magn afsl. 10%	161.000	161.000 16.000	97.000 10.000
FOB Trygg.&flutn.	161.000 24.000	145.000 24.000	87.000 28.000
CIF Tollur Annar kostn.	185.000 34.000 36.000	169.000 30.000 36.000	115.000 17.000 28.000
	255.000	235.000	160.000
			Launak. 20.000 Þurrkun 30.000 Veitugj. 16.000
			68.000 Afskr. 10.000 Vextir 3.000
			79.000
Lagarvert Álag. 18%	255.000 46.000	235.000 42.000	239.000 43.000
Söluvert	301.000	277.000	282.000

300	18% álag.	18% álag.	18% álag.
	Annar kostn.	Annar kostn.	Innl. vinnslukost.
200	Tollur	Tollur	
	Trygg. & flutn.	Trygg. & flutn.	Annar kostn.
			Tollur
100			Trygg. & flutn.
	Erl. kostn.	Erl. kostn.	Erl. kostn.
0			

HRÁFNI FYRIR BYGGINGARÍÐNAÐINN

1.2.1 Í sambandi við innkaupamiðstöð trjávöru húsgagna- og innréttingaiðnaðinn er hægt að hugsa sér að sú miðstöð sjái einnig um innflutning á hráefni fyrir byggingaiðnaðinn, en hann er samkvæmt innflutningskýralu fyrir 1968 - 1970

Verðm. í 1000,- kr.

Sjá töflu IV.

Af töflunum í töflu IV má sjá, að ef Innkaupamiðstöðin tekur að sér innflutning á hráefni til byggingaiðnaðarins, má reikna með:

ca. 100% aukn. veltu

ca. 280% aukn. á magni

3.1.1 STÆRD INNKAUPAMIÐSTÖÐVAR FYRIR BYGGINGA-, HÚSGAGNA- OG INNRÉTTINGAIÐNAÐINN

Fyrir húsgagna- og innréttingaiðnaðinn var fyrir fulla rýtingu áætlað

lósapörf	5000 m ³
þar af	2000 m ³ undir þaki

Ef reiknað er með að miðstöðin sjái um innfl. á ca. 80-90% af hráefni byggingaiðnaðarins (ca. 19.000 tonn) eykt áætluð lósapörf

í ca. 20.000 m³

3.2.2.1

Í framhaldi af öðrum áfanga uppbyggingar miðstöðvarinnar þ.e. sögun á efni úr trjábolum koma til athugunar möguleikar á framleiðslu á spóna-plötum úr spónum og afgöngum sem tilfalla við sögun á trjábolum svo og við aðra vinnslu sem hugsanlegt er, að miðstöðin útfærði.

24. Trjávorur & hentar
 63. Únnar vömur frá 1961
 82. Húsgögn

24. Trjávorur & hentar
 63. Únnar vömur frá 1961
 82. Húsgögn

Tafla I

UNFLUTINGVERDMÆTI ALLRAR
 UNFLUTINGAR TRJAVÖRU 1966-1970
 (Í 1000 K.R.)

	24														63						82							
	1966				1969				1970				1966				1969				1970							
	241	242	243	244	241	242	243	244	241	242	243	244	241	242	243	244	631	632	633	631	632	633	631	632	633	821	822	823
LÖND	224	5904	6593	413	7393	36064	14	619	850	9750	12	6713	14290	71	11729	6923	88	21944	6165	205	8519	4254	9489					
Danmörk																												
Finland																												
Noregur	103	52	1004	60	76	1091	279	474	666	53451		15486	1169		26376	531		38066	647	17	6524	2759	3127					
Svíþjóð	16	1582	21342	2	4253	28072	8	6965	52113			20111	60293	7	28524	38335	15	2548	3246	18	3557	2530	7432					
England												2231	6654	7	805	3027	316	3995	4244	281	2213	3233	4978					
Holland												2866	4399	137	3468	4601	59	1502	4063		428	256	120					
Íugúslavía												739	19245	17	1370	1760												
Pólland												131																
Austurríki												3402	9															
Belgía												5																
Frakkland												2088																
Írland												219	1															
Portúgal												1075	10															
Ítalía												91	25															
Luxemburg																												
Rúmenía																												
USSR												2345																
V-Þýskaland												1890	106															
Bandaríkin	5	646	1952	18	7	2741	14	10	1337	55606		21521	6268	56	27256	1846	104	35759	2125	345	5614	2406	2589					
Bresía												1103	1351	34	1522	289	6	3408	606	11	653	688	506					
Kanada																												
Japan																												
S. Afría																												
Spánn																												
Tékkíslönd																												
Ungverjaland																												
A-Þýskaland																												
Sveís																												
Hong Kong																												
Indland																												
Kína																												
Ónnar Íland																												
ALLS vörðm.	345	8661	144465	18	502	13993	208819	26	916	18656	237687	14	88759	115289	948	119630	57403	1804	156145	53920	2223	28782	17352	32006				

Table II

TAFLA YFIR INNFLUTNING MÆRFNIS FYRIR
HÖSCAGNA- OG INNRETTINGAÐNAÐINN
(VERÐ Í ÞÓS. KR.)

	1966				1969				1970			
	m ³	Tonn	Feb	Chf	m ³	Tonn	Feb	Chf	m ³	Tonn	Feb	Chf
440521	673	612.6	4.426	5.629	1.126	1.016.9	12.280	14.645	1.749	1.551.5	19.096	22.997
440522	146	119.2	690	1.066	220	182.0	1.923	2.296	414	323.0	3.260	4.236
440523	52	36.8	133	190	88	61.6	439	554	87	56.5	446	567
440524	6	4.6	43	49	68	52.4	610	709	18	15.1	239	297
440525	359	273.9	5.294	5.906	243	210.6	6.297	7.093	281	190.5	6.189	6.729
440529	365	425.2	3.983	4.687	665	521.5	7.531	8.791	710	557.3	9.637	11.199
441400	401	236.2	18.015	19.264	392	219.3	27.336	28.924	463	265.4	37.074	39.341
441500	3.049	1.760.0	28.078	32.191	2.122	1.257.2	30.865	34.982	2.626	1.521.4	37.071	41.765
441900		3.246.6	21.035	27.021		3.078.6	33.377	41.640		444.2	4.448	5.679
Samt.	5.242	6.716.1	81.877	96.014	4.924	6.602.1	120.556	136.524	6.328	8.777.5	161.199	186.136

Helstu viðskiptalönd (1970) Tonn												
	Danmörk	Þýðjót	Finland	Þreland	V-Þýskal.	Kanada	Jugoslavía	Tæskólovskía	Japan	Bútan	Thailand	Kanada
440531	342	655		248		106	61		211			1.436
440532	115											302
440523	21		54							61	87	54
440525				114								169
440529	106											219
441400	46			26	182							256
441500	3.116		662	389			357					1.049
441900	1.739	685	1.076	389	182	106	61	357	211	61	87	5.575
Samt.		685	1.076	389	182	106	61	357	211	61	87	64.6

Eik sigub eðfir endblings
 Þýki " "
 Þirki & Mlymur
 Málaga " "
 Teak " "
 Ámas " "
 Spón & þynnur úr krossv.
 Krossvör, spón. víður
 Gervurjáv, úr spónapl.

Eik
 Þýki
 Þirki og Mlymur
 Teak
 Ámas
 Spón & þynnur
 í krossv.
 Krossv. spónv.
 Spónapl.

Samt.

MAGN Í TONNUM, VERÐMÆTI Í 1000 KR. (CIF) VERÐLAG 1970

	1968-1970		1971-1973		1974-1976		1977-1980	
	Meðaltal I		Meðaltal II		Meðaltal III		Meðaltal IV	
	Magn	Verðm.	Magn	Verðm.	Magn	Verðm.	Magn	Verðm.
Eik söguð endil. (440521)	1060	15.700	1125	16.700	1190	17.600	1250	18.500
Beyki " (440522)	270	3.500	286	3.700	303	3.900	319	4.100
Birki & Hlynur (440523)	52	520	55	550	58	580	61	610
Mahogni (440524)	24	470	25	490	27	530	28	550
Teak (440525)	225	8.000	239	8.400	252	8.900	266	9.400
Annað (440529)	500	10.000	530	10.600	560	11.200	590	11.800
Spónn & þynnur í krossvið (441400)	240	35.600	254	37.600	269	39.800	283	42.000
Krossv. spónav. (441500)	1515	41.500	1600	44.000	1690	46.500	1700	49.000
Gervitrjáv. úr spónnum	3540	49.500	3750	52.500	3970	55.400	4170	58.400
" " " "								
" " " "								
" " " "								
	7496	164.790	7864	174.540	8319	184.410	8752	194.360

Eik söguð endil. (440521)
 Beyki " (440522)
 Birki & Hlynur (440523)
 Mahogni (440524)
 Teak (440525)
 Annað (440529)
 Spónn & þynnur í krossvið (441400)
 Krossv. spónav. (441500)
 Gervitrjáv. úr spónnum
 " " " "
 " " " "

TAFLA IV

INNFLUTNINGUR HRAEFNIS TIL BYGGINGARENDARABARIS (VERÐ Í 1000 KR.)

	1968				1969				1970			
	m ³	Tonn	Fob	Cif	m ³	Tonn	Fob	Cif	m ³	Tonn	Fob	Cif
Svíþjóð	6197	3709	14.974	18.286	4331	2.570	17.491	21.231	6799	4.125	29.803	36.445
Finland	9403	5805	25.521	31.521	6267	3.738	27.241	33.284	9331	5.537	39.641	49.787
Pólland	9887	5774	24.708	29.790	10971	6.553	49.163	53.676	14155	8.278	62.383	75.701
USSR	9534	5560	21.931	26.890	8151	4.774	33.129	39.963	10213	6.002	45.033	55.606
Aðrir	740	433	3.470	3.920	405	214	3.032	445	393	220	3.694	4.256
Samtals	35761	21281	90.604	110.407	30125	17.849	130.056	156.599	40891	24.162	180.554	221.795

1.3.1.

Meðalinnflutningur 1969 - 1970

Magn

21.000 tonn

Verðm. Cif.

163.000

sem nemur við heilda magn og verðm (1.3)

57% af magni

36% verðmæti

APPENDIX 5.6

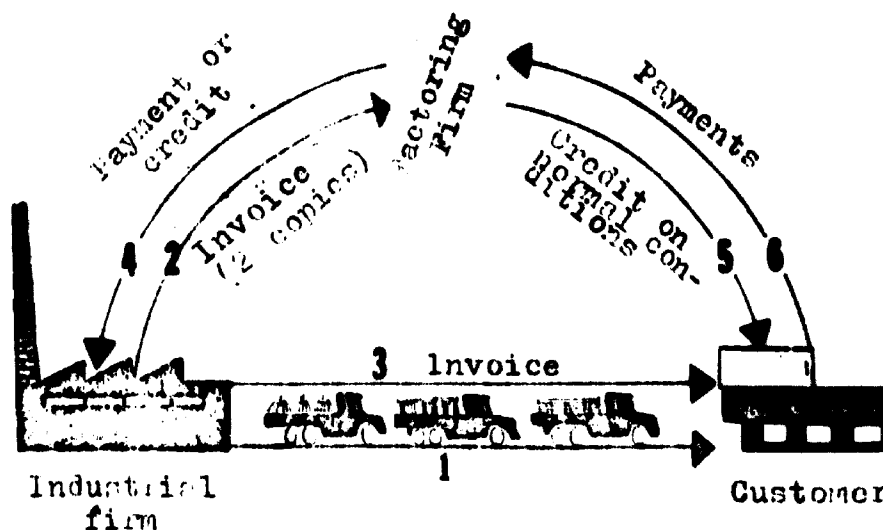
FACTORING AND LEASING SERVICES

1 FACTORING SERVICES

The factoring services offered by a Factoring firm to an Industrial firm could include the following:

- finance services: the Factoring firm lends the Industrial firm money with customer invoices as a security for the loan;
- collecting services: the Factoring firm collects the customer invoices for the Industrial firm;
- book-keeping services: the Factoring firm deliver weekly or fortnightly statements of customers accounts, summary of the credit situation, and sales statistics.

The procedure could best be described with reference to the illustration below.



- 1 The Industrial firm is delivering the goods and the invoice to the Customer with a note that the invoice will be collected by the Factoring firm.
- 2 The copies of the invoice are sent to the Factoring firm.
- 3 The Factoring firm informs the Customer about credit and payment conditions.

App. 5.6.2

- 4 The Factoring firm pays the Industrial firm in cash or inform the firm of credit possibilities.
- 5 The Factoring firm collects the invoices from the Customer.
- 6 The Factoring firm deliver the money to the Industrial firm or reduce the credit.
- 7 Once a week or fortnightly the Factoring firm deliver to the Industrial firm statements of customers accounts, statement of the credit situation, and if requested some sales statistics.

Regarding the finance services there are two alternatives:

- 1 The factoring firm buys the invoices and the Industrial firm receives an amount of money corresponding to
 - a) maximum 90 per cent of total amount of the invoices minus interest and fee to the Factoring firm. The rest, 10 per cent, is paid when the customers have paid the invoices or 2 months after the day of delivery
 - b) the total amount of the invoices (minus the fee to the Factoring firm) when the customers have paid the invoices or 2 months after the day of delivery.
- 2 The Factoring firm gives the Industrial firm a credit with the invoices as a security. Normally the credit corresponds to 80 per cent of the total amount of the invoices.

The costs for factoring services consists of interest on credits and the fee for collecting, book keeping and statistics. The fee depends on various factors such ^{as} the branch of industry, the total volume of sales, the average amount of the individual invoices, the average sales volume per customer, the type of customers, the solidity of the customers, and the normal conditions of credit that the industrial firm states for the customers. Normally the fee is somewhere between 0.15 and 1.5 per cent. Financing through factoring is rather expensive.

LEASING SERVICES

**HVAÐ ERU
LEIGUKAUP?**

Leigukaup (leasing) er tiltekiðlega ný aðferð til fjármögnunar, sem fyrst var almennt notað í Bandaríkjunum, en hefur núð fótferu á stærri áram um alla V.-Evrópu.

Höfuðseinkenni leigukaupa eru þau, að leigutaki hefur fullkomna umráðarétt yfir leigðum fjármunum um ákveðinn tíma, en leigusali veitir 100% fjármögnun. Greiðsluþol viðkomandi fyrirtækja er því óskert eða eykt jafnvel, enda þótt fjármunir þeir, sem það ræður yfir hafi sækist.

Leigukaup má nota við öflun iðnaðarvæla, skrifstofuvæla, vinnuvæla, flutningstækja, ábalds, verksmíðubýgginga o. fl.

Leigukaup eru hagsunðeig í því tilviki, að viðkomandi fyrirtæki hafi verulega vaxtarmöguleika, en skorti fjármagn.

Leigutaki ákveður sjálfur hvar og hvaða vél hann kaupir. Fjárfestingafélag Íslands sér hins vegar um greiðslur. Sé um staðgreiðsluafslætti að ræða, koma þeir leigutaka til góða í langri leigu.

Leigutaki skuldbindur sig, til þess að leigja viðkomandi vél í ákveðinn lágmarkstíma, yfirleitt ekki skemur en til þriggja ára. Lágmarks- og hámarksleigutími eru ákveðin með tilliti til eðlis hlutarins.

Við lok lágmarksleigutímna getur leigutaki sagt leigusamningi upp eða leigt viðkomandi vél áfram gegn 1/12 upprunalegrar leigu. Sé gert ráð fyrir hámarksleigutíma, þá býður Fjárfestingafélagið til þess að skipta sölusamdráfi vélarinnar til heim-

inga með leigutaka í lok lágmarksleigutímabils, geri leigutaki samning um leigu sýrsur vélar við Fjárfestingafélagið. Fjárfestingafélagið er að saki til viðræða við leigutaka um eðla leigðis hlutar hvenær sem er.

Leigukaup eru ný fjármögnunaraðferð, sem allir þeir, sem hyggja á framkvæmdir og fjárfestingar setja að sluga.

**HVAÐA
FJÁRMUNIR
KOMA
TIL GREINA
VIÐ
LEIGUKAUP?**

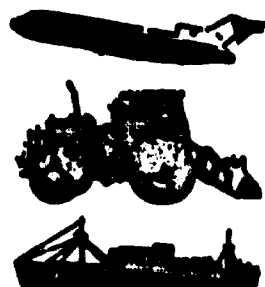
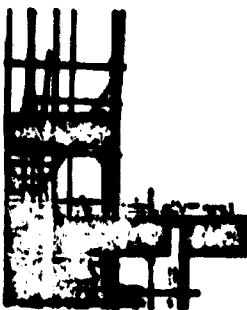
Leigukaup henta við öflun hvers konar arvinntækja: iðnaðarvæla, flutningstækja, bíla, flugvéla, vörubísa, skrifstofuvæla, svinnubýgginga o. s. frv.

Fjárfestingafélagið bindur sig ekki við ákveðnar hámarksþækkir í samningagæði. Það er stórt fyrirtækinna, aðlösum og öryggi rekstrar, ásamt með hagsunum hins nýja svinnustakins, sem ákveða hve háar upphæðir eru veittar í hverju tilviki.

Leigutaki ákveður hvaða vél skali kaupast. Samt er um vork, sendingu, uppsetningu o. s. frv. eins og við venjuleg kaup. Fjárfestingafélagið kaupir vélin gegn staðgreiðslu í samvinnu við leigutaka. Mögulegar staðgreiðsluafslættur lútkar sölusverði, sem notað er til þess að reikna af leiguna og kemur því leigutaka til góða.

Leigutaki leggur fram með umsókn sinni fylgdu upplýsingar um eigin skulur og um hlið nýja svinnustakis m. a. áhrifninga fyrir sölusöu þeir á. Fjárfestingafélagið mun síðan taka ákvæðun um hvort grundvöllur sé fyrir leigusamningi.

Þegar vélin hefur verið sölun og leigutaki hefur viðkomant



Forde in Sogn og Fjordana county (West Norway)

Risor in Aust-Agder county (Southern districts of Norway)

Verdalsora in Nord-Trondelag county (Trondheimsfjord).

On 23rd December 1968 the proposed sites were confirmed by the Ministry after the proposals had been informally discussed in the Cabinet.

The three places so far selected for building industrial estates in Norway are all relatively thinly populated, and they are situated in economically weaker districts of the country. They have, however, a relatively favourable location in the regions concerned, and comparatively good communications and public services.

Forde municipality has a population of about 4,500 and the surrounding region has about 25,000 inhabitants. In 1965 Forde was chosen as a growth centre in Sogn og Fjordane county. During the last few years considerable investments in roads, water supplies, sewers, public services etc. have been made. Under the direction of the Municipality and the Regional Development Fund two advance factory buildings have been erected and leased to industrial firms. Industrial sites of about 135 acres are available.

Risor municipality has a population of about 6,100 and the region has about 16,000 inhabitants. The Corporation has acquired about 75 acres of land. The cost of the site works to be undertaken by the Corporation was estimated at two million Norwegian Kroner. The first factory building on this estate was inaugurated in August, 1969. The building has already been let.

Verdal municipality has a population of about 9,700 and the surrounding region about 31,000 inhabitants. At Verdalsora in Verdal there was already available an industrial site of about 250 acres, of which the Corporation has acquired 75 acres as a first step.

máttaka og hefið uppséningu, gerir Fjárfestingafélagið endanlega upp við vélarinn.

Þegar Fjárfestingafélagið og vélarinn hafa lokið áttum viðskiptum er stefnað til leigusamninga venjulega til ákveðins „Lágmarkstíma“ t. d. 3-5 ára, sem eðlilega er háðar endingartíma vélarinnar.

Við lok lágmarkstímans, er leigutaka frjálst að leigja vélinn áfram, svo lengi sem hann vill við hagnað kjör.

Leigutaki getur einnig séð er-vinnuvertis á þess að leggja fram nokkuð 14 þ. e. Fjárfestingafélagið fjármagnar kaupin 100%.

Lángegn fyrirtækisins er óskert við leigukaup þ. e. ekkert veð er tekið í fasteignum, að gefið skilyrði, sem skert geta lángora. Eigið fé má nota til annarra þarfa.

Leigan er ákveðin í upphafi samningstímans og heyrir ekki í samsetningu við vaxtaþreyingar.

Leigan er frjálst færbar til skota, eina og vaxta og afskrifta.

Leigutaki hefur greiðsluhæfi fyrirtækis síns.

Samsetning innborgana og útborgana er yfirleitt meiri við leigukaup en öðra fjármögnun þ. e. fjármögnunin er dæmt meira á endingartíma vélarinnar.

Vélarinn fær stuðning og stopper við ástandandi skuldbindingar.

Vélarinn hefur einnig stuðning með ástandandi skuldum og innheimtu.

Vélarinn stopper við áttum af stípuðum skuldum.

Fjárfestingun Fjárfestingafélagins auðveldar öllu.

Leitar aukna fyrir meiri öllu. Kaupanda er hlífir að öllu ekkert meiri vélar en öllu.

Vélarinn getur notað leigukaupantögnina til stöðvunar.

**HVAÐ
KÖR TA
LEIGUKAUP?**

Leigan er ávallt sefnað af kaupverði vélar með öllum tilheyrandi gjöldum. Mánaðarleigan er að jafnaði óskertandi:

	3 ára samningur	4 ára samningur	5 ára samningur
Upphafsr yfir 1000.000 kr.	3,60%	2,95%	2,55%
Upphafsr undir 1000.000 kr.	3,70%	3,05%	2,65%

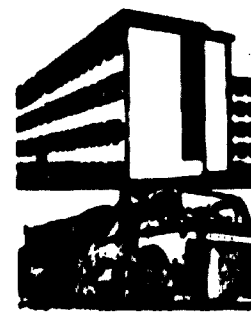
Leigusamningar eru gefin skammt til þriggja ára. Lágmarksupphaf leigusamninga er 300.000 kr.

Leigusveifbar falla í gjaldaga öðri 4, 15. hvers mánaðar.

Leigutaki hefur rétt á framlangfari leiga, við lok lágmarkstímans. Leigan fellur þá niður í 1/12 upphaflegrar leiga þ. e. mánaðarleigan verður á leiga.

Áhætti leigutaki ekki framlangfar leiga öllu kaup, er vélinni skilið öðru til Fjárfestingafélags Íslands. Ef gert er fyrir hana veði vélar í lok lágmarkstímans, þá býður Fjárfestingafélagið til þess að skipta öðru við vélarinnar til heiminga með leigutaka í lok lágmarkstímans, þegar því er leigutaki gert nýja leigusamning við Fjárfestingafélagið.

Leigutaka er gert að stefna til og gefa þær tryggingar af heilri véli, sem Fjárfestingafélagið ákveður t. d. heilri tryggingu.



**HAGUR
VÉLASALA
AF
LEIGUKAUPUM**

**HAGUR
LEIGUTAKA
AF
LEIGUKAUPUM**

og frjálta flýgflurtrygginga í ölvíki vinnuvéla, og brana- og elmsenna tjóntrygginga í ölvíki flæðarvéla.

Þjálfangt er að gera samantækt á þeim málsgættum, sem fyrir hönd eru til fjármáttanna hverja sinni þ. e. bankalái, leiguhættum, orlofsáttum línum, afborgunsháttum, eiginfjármáttum. Ástæða þess, að leiguhættu hana eða til sem hágvæðum hanna er góð aðgæti þess fjármátt, sem leiguhættu hanna um til annarra nota.

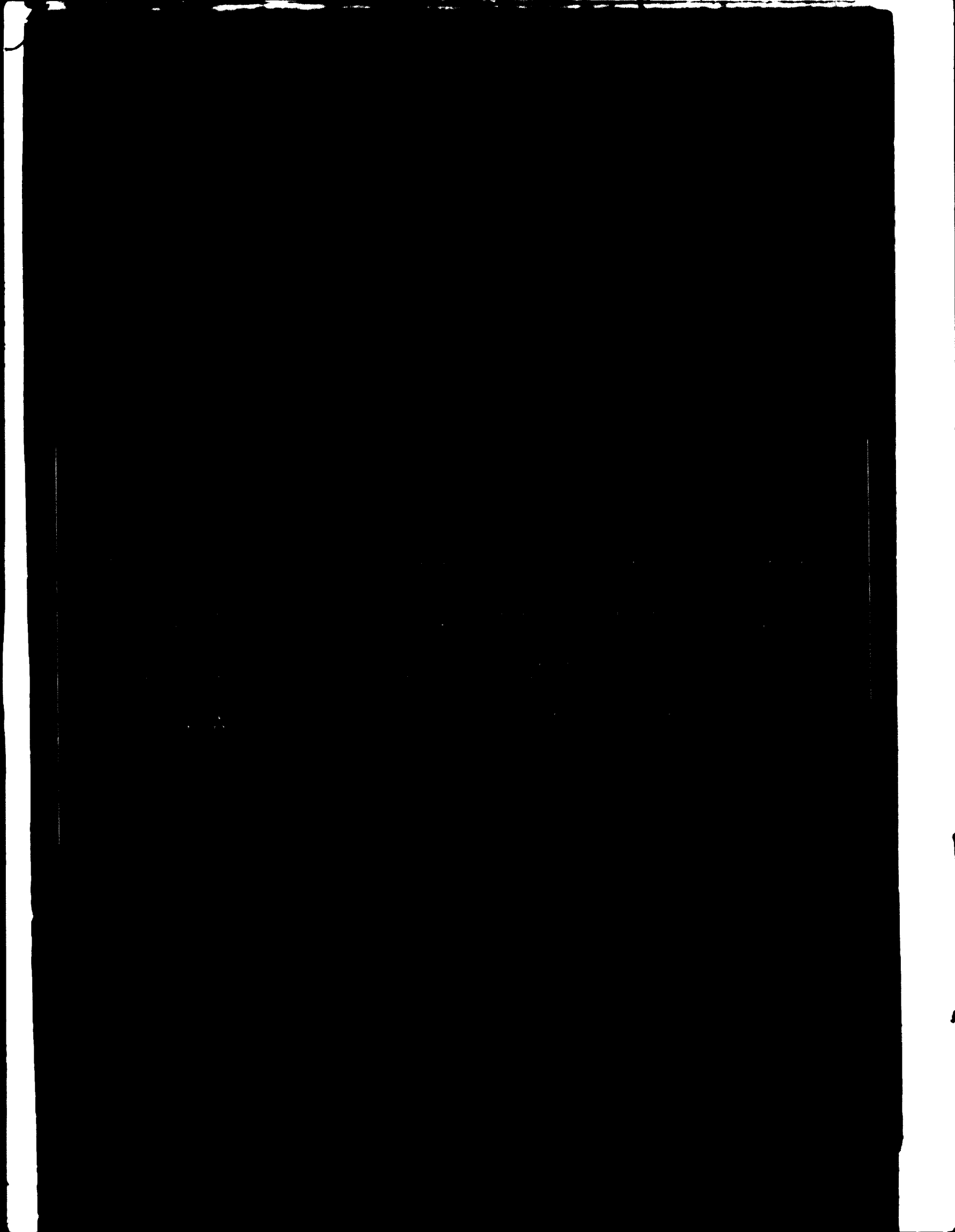
Vins þér vin meira um leiguhættu? Þringið eða skilið Þjálfangstíðingafélagi Íslands hf.

**ÞJÁLFANGA-
FÉLAG
ÍSLANDS HF**

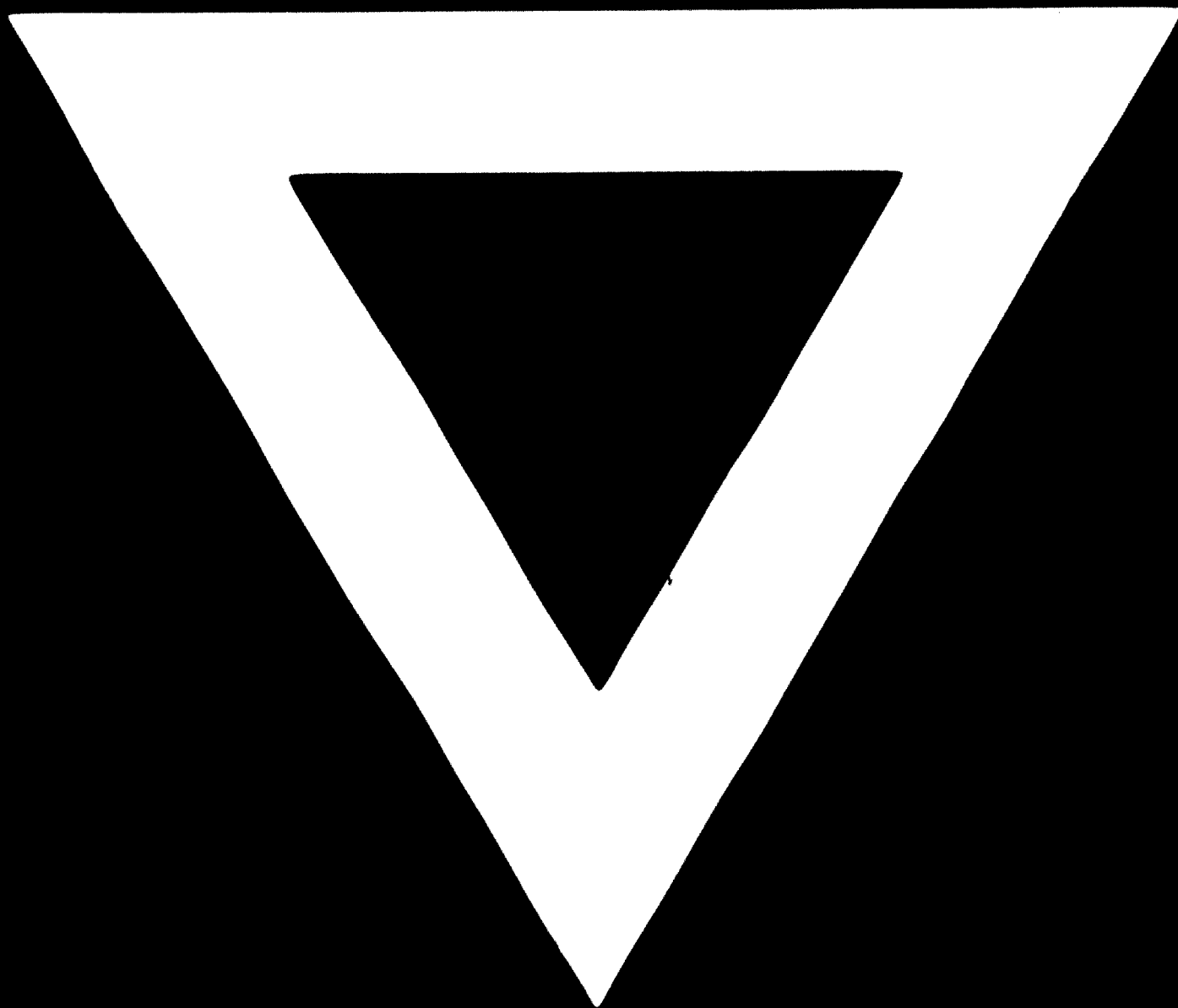
Hlutverk Þjálfangstíðinga Íslands er að efla og örva þjálfinguna í hlutnum atvinnuleysi. Félaginu er ætíð að fjárfesta í hlutnum atvinnuleysi, veita þeim fjárhagslega styrkingu og hafa sér fyrir sjálfangum í atvinnuleysi. Félagið tekur hlutverk sín í mjög breiðum grundvelli, t. d. gerir það gerir framkvæmt að sjálfum og atvinnuleysi fyrirtækjum, veitir þátt í seofnum fyrirtækja með hlutfélagshættum og/öfla flýgflur eða hlutfélag til annarra efla og efla eðri fyrirtækja til áttum með fjármáttum til endurbóta í sektum.

Allar sektari upplýsingar um leiguhættu og öfla seofnum Þjálfangstíðinga Íslands hf. gefur framkvæmdarstjóri Mágnus, Sigurður R. Helgason.

Stjórnendur Þjálfangstíðinga Íslands er að Klappavíg 26, síni 11435.



G-623



85.01.30

AD.86.07

ILL 5.5+10

App. 6.11

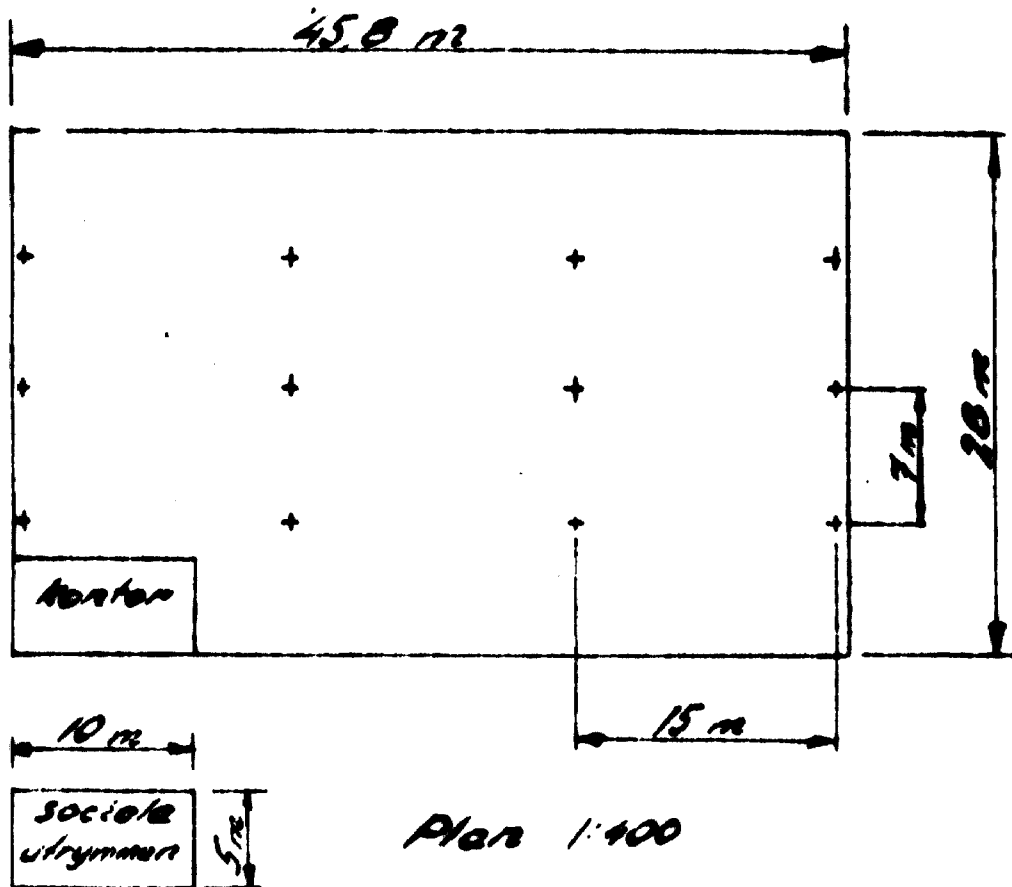
The building works began as soon as the site was selected, and the first building on this estate was ready for use and leased in June, 1969.

Recently, two additional industrial estates have been designated, one at Hastad in Troms county (North Norway) and the other at Kongsvinger in Hedmark county (Eastern Norway).

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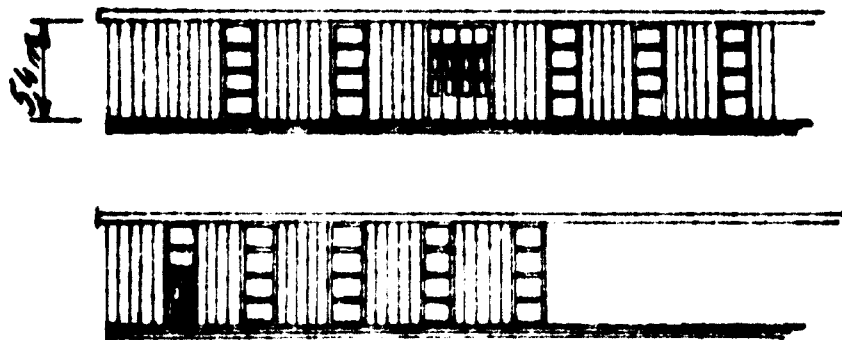
TEKNISK BESKRIVNING SAMT KOSTNADSKALKYLER AVSEENDE
STANDARDLOKALER I INDUSTRICENTRUM

Nedan redovisas en industribyggnad å 1.260 m², 45,8 m
lång och 28 m bred med 100 m² kontor, arkiv och sociala
utrymmen, omfattande 3 kontorsrum, ett utställningsut-
rymme samt personalrum för 12 kollektivanställda.



V&R. 1 tr.
1:400

Alternativa fasadlösningar. Kan planeras med fönster
och dörrar efter planeringens krav.



Fasaden 1:400

Kortfattad teknisk beskrivning till industribyggnad enl SYSTEM 0.

1. Grundläggning: Byggnaden grundlägges på utbredda betongplattor på ringa djup, varigenom ingreppen i mark bli obetydliga. Markpåkänningen är liten, varför även tomter med mindre goda markförhållanden kan komma i fråga.
2. Stomme: Prefabricerad betongstomme enl av oss utvecklad princip. Pelartätheten = uppburet tak per pelare är 105 m², vilket motsvarar t ex ca 20 m spännvidd c/o 5,0 m enl konventionellt byggnadssätt. Stomkostnaden blir ca 50 % lägre.
3. Ytterväggar: Lättbetongelement 20 cm som monteras stående och behandlas med akrylatputs utvändigt och med industriplast på insidan. Elementen medge en total byggnadshöjd mellan 3,0 och 5,4 m med 60 cm intervall. Med smärre avvikelser från standarddetaljer kan även 6,0 m byggnadshöjd åstadkommas. K-värde = 0,65.
4. Takskiva: Korrugerad stålplåt galv. typ t ex Robertson QD 90/1,25 med brännlackerad undersida. Isolering med 5 cm gullfiber 3094 el likv. Klistras mot plåten med varmasfalt. Trelagstäckning med underhållsfri papp. Ytpapp SAI 1800/600 ljusgrå skiffer.
Takfotsbeslag av galv. stålplåt, som samtidigt utgör infästningsden mellan tak och vägg. Lev. som standardtillbehör. K-värde = 0,65.
5. Golv: Enskikts betonggolv armerat med SA-nät. Tillåten belastning: 10.000 kg axeltryck.
Alternativt lägges hårdbetong i önskad färg, vilket ger ett underhållsfritt icke dammande golv som tål även tyngre industri. Pristillägg ca 10 å 12:- kr/m².
6. Fönster och portar: Fönsterpartier enl specialtillverkning lev. färdiglackerade. Glasas före montage med dubbelt 5-7 mm maskinglas. Fönsterpartierna kan utformas enl olika önskemål med dubbel- eller enkeldörrar, galler för ventilation, kontorsfönster etc samt är sinsemellan utbytbara i fasaden.
Portar utföres som inåtgående vikportar av stål och med gångdörr där så erfordras.
7. Kontors- och personalrumsdela: Utföres prefabricerat med väggar av regelstomme med utvändigt beklädnad av gipskivor och invändigt med spånskivor. Isolering med stenull. Golv- och väggbecl. i personalrum utgöres av Pvc-matta som helklistras. Golvbeläggning i kontor utgöres av heltäckningsmattor av nålfilt. WC utföres lika personalrum. Tvättränna av rostfri stål.

8. Uppvärmning: Uppvärmning sker genom varmluftsinsblåsning som fördelas via golvkanaler vilket ger en mycket jämn värme fördelning. Såväl varmluftspanna som konventionell varmvattenpanna kan komma i fråga. I kontor termostatstyrda el-radiatorer.
9. Belysning: Högeffekt lysrörarmaturer som monteras mot takplåten. Allmänbelysning ca 400 lux. I kontor armaturer för allmänbelysning samt erf. vägguttag. Ins allstationen utföres med synliga ledningar.
10. Markarbeten: Normalt räknas med en grusfyllnad om max 40 cm, vilket förutsätter en rel. plan tomt. Enkel tillfartsväg samt uppgrusning intill 5 m från byggnad. Schakt för servisleddningar intill 15 m från byggnad.

Kostnadssammansättning för industribyggnad enl SYSTEM U.

Förutsättningar: Byggnadsyta 1.260 m². Längd 45,8 m. Bredd 28,0 m. Höjd 5,4 m. Kontors- och personalrum tot. ca 100 m². Uppvärmning med varmluftspanna.

Tomten antages vara rel. plan. Marken består av åtminstone halvfast lera.

Igångsättning bör ske så att byggnaden är under tak före vinterperiodens början.

Slutligen förutsättes att entreprenör som tidigare utfört byggnader enl SYSTEM U deltar i anbudsgivningen.

Byggnadens standard och utförande framgår av "Kortfattad teknisk beskrivning till industribyggnad enl SYSTEM U." av den 27.2.71.

Byggnadsarbeten	260:- kr/m ²
Målningsarbeten	10:- "
VVS-installation	25:- "
Plåtarbeten, vent.	5:- "
El-installation enl punkt 9 exkl el. för maskinutrusning	25:- "
	<hr/>
	325:- kr/m ²

Projekteringskostnader ca 10:- kr/m².

Byggnaden är utbyggd åt alla håll. Kontor mm är monteringsbara element och kan varieras. Om liten yta erfordras kan utrymmena hängas i 2:a plan och golvytan utnyttjas för produktion.

Uppdelning av ytan kan ske i många alternativ genom att använda pelarraderna, antingen på längden eller på bredden. Minsta enhet ca 100 m².

Förutsättningen för redovisade kostnader, är att projekteringsplaneringen följer den uppläggnings som arbetats fram för SYSTEM U.