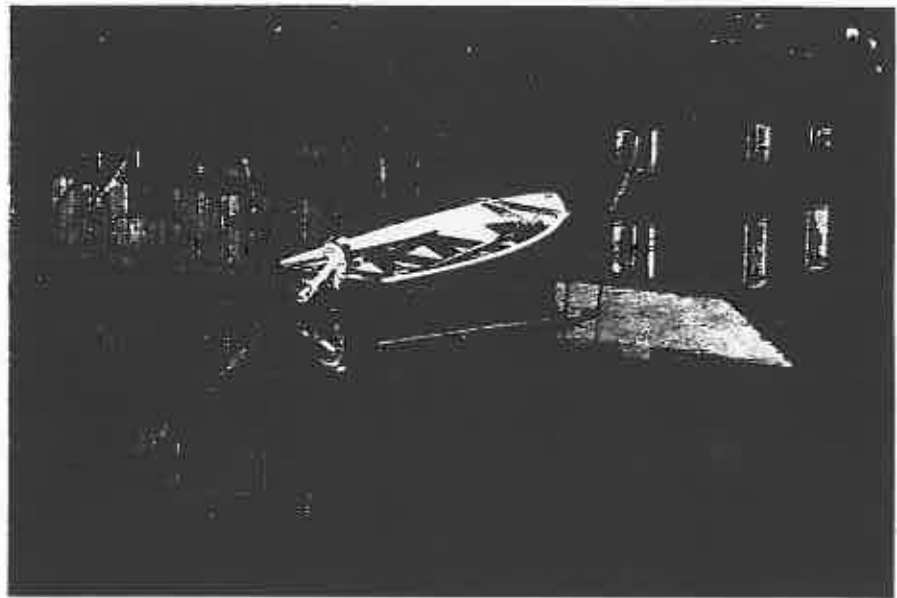


# Settlement and Society in Iceland

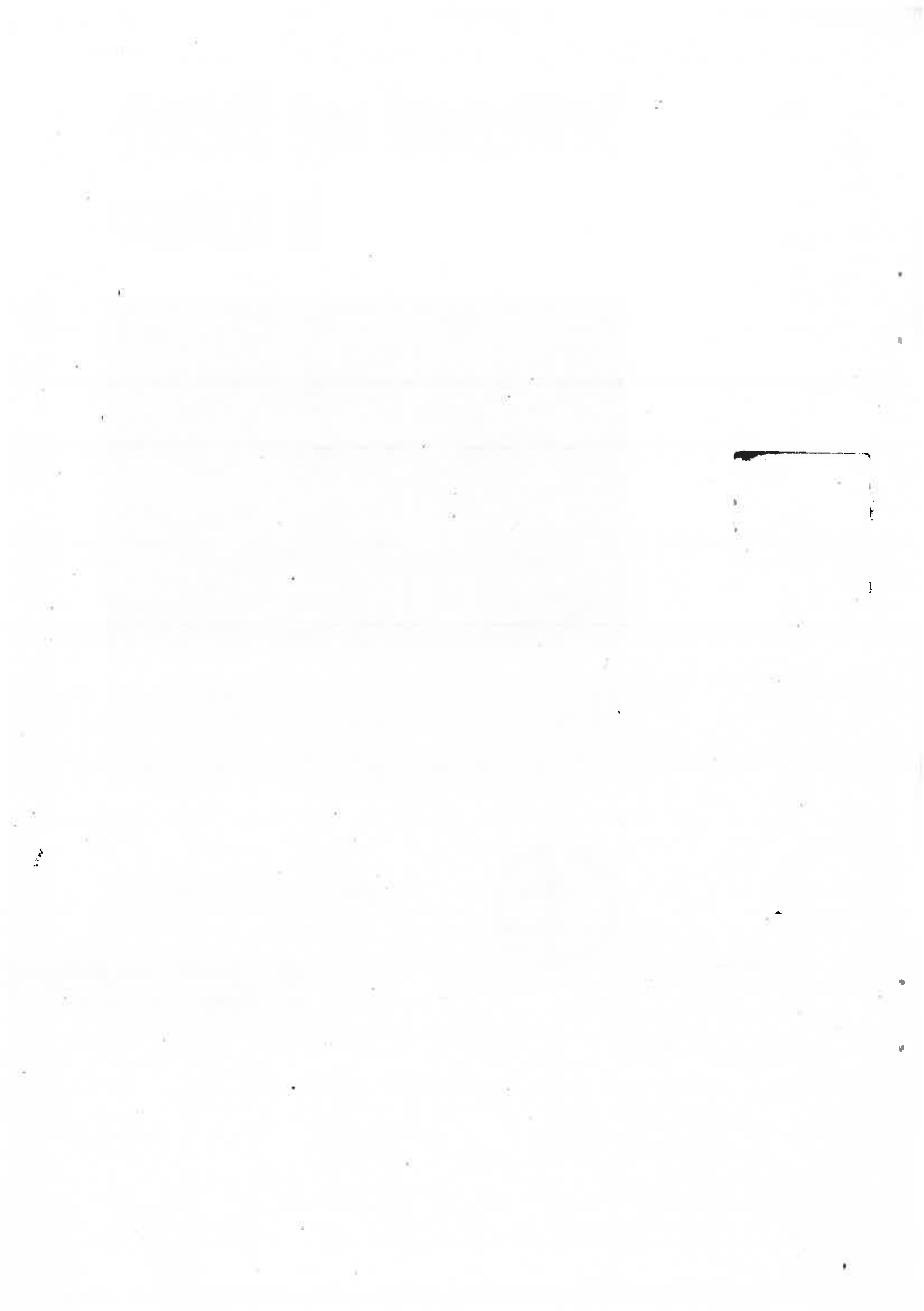


National Report to the UN Conference  
on Human Settlements — Habitat II



Istanbul 3—14 June 1996

Ministry for Foreign Affairs — May 1996

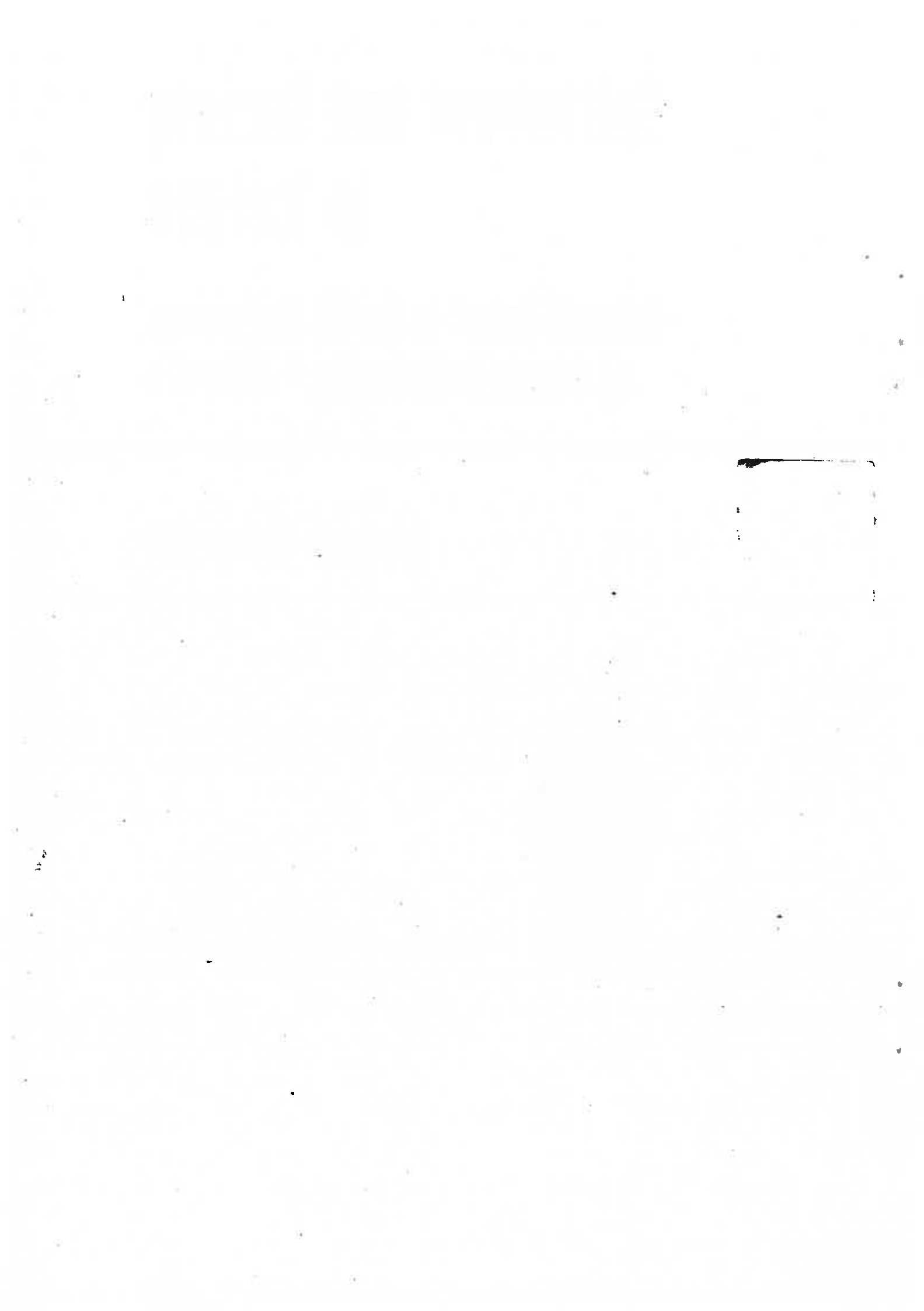


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# Foreword

By Mr Halldór Ásgrímsson, Minister for Foreign Affairs

From the outset, concern for human rights and human dignity has been the foundation of the work of the United Nations. It is to consolidate these fundamental considerations that the UN has organized conferences on various important topics over the past few years. The Second UN Conference on Human Settlement - Habitat II, to be held in Istanbul from 3<sup>rd</sup> to 14<sup>th</sup> June 1996 is to be the last conference in this series.

The human race has experienced tremendous changes recently in the spheres of housing and population distribution. Great developments have taken place in house construction, and cities have grown larger. In many parts of the world, urban areas have expanded so quickly as to outstrip the rate at which essential social services can be provided. This has led to environmental disruption and even jeopardized the health and lives of the inhabitants themselves. The main themes of this conference, Sustainable Urban Development and Adequate Shelter for All, are matters for urgent consideration with a direct bearing on fundamental human rights, and they therefore call for solutions from the international community.

Regional development in Iceland traditionally depended on the primary occupations of agriculture and fisheries. However, in recent times, the pattern of development has depended less on natural conditions than on a subtle interplay of complex factors. Technological advances reduced the importance of proximity to fishing grounds, and changes in occupation, coupled with increased demands for social services and education, have, among other important factors, added to a new dynamism in the settlement structure. In brief, the result has been the concentration of people in the capital area and stagnation or decline of the population in almost all other parts of the country. Urbanization has been accompanied by various social and other problems, some of which demand extensive remedies.

Iceland is rich in pollution-free geothermal energy and hydroelectric resources, and the capital area, which is the only area in the country that can be called a city in the generally accepted meaning of the word, lies within easy reach of unspoilt countryside where people can enjoy outdoor life. Thus, the great transformation in population distribution has had a far less drastic effect in Iceland than in many other places. Considerable improvements in housing have also been achieved during recent decades and Icelandic housing is now among the best in the world. Improvements have also been made to the social housing system in recent years. It can be said that in only one century, Icelanders have moved from turf houses into housing with all modern conveniences. The Icelandic National Report to the

Second United Nations Conference on Human Settlement - Habitat II, gives an account of the great changes that have taken place in this field in Iceland.

It is vital that those of us who are in a better position in this respect support our brothers and sisters who are not as fortunate and share our experience with them. At the same time, we must learn from their experience. Previous UN conferences have proved an ideal forum for such sharing, and I hope that the Second United Nations Conference on Human Settlement - Habitat II will be no exception.

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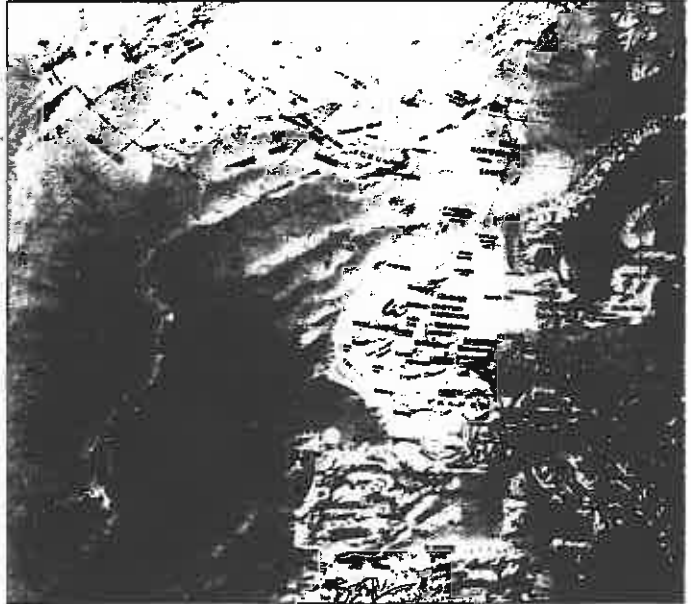
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# 1. General Information on Iceland

Iceland is one of the Nordic countries, located in the North Atlantic between Norway, Scotland and Greenland. Iceland is the second largest island in Europe and the third largest in the Atlantic Ocean, with a land area of some 103,000 km<sup>2</sup> (39,768 square miles) and an exclusive 200 nautical mile economic zone of 758,000 km<sup>2</sup> (292,680 square miles) in the surrounding waters.

Iceland was settled in the late 9<sup>th</sup> century. A majority of the settlers were of Norse origin, predominantly from western Norway and viking settlements in the British Isles. There was also a significant Celtic element from Ireland and western Scotland. In 930 a legislative and judicial assembly, the Althing, was established, and a uniform code of law was adopted. In 1262 Iceland swore allegiance to the Norwegian crown. When the crowns of Denmark and Norway were united in 1380, Iceland, together with Norway, entered into a union with Denmark. Through the Middle Ages Iceland retained a high degree of self determination in its internal affairs. However, in the 16<sup>th</sup>, 17<sup>th</sup> and 18<sup>th</sup> centuries Danish royal power was supreme and Iceland was to all purposes run as a colony. The Althing lost its legislative power and was finally abolished in 1800.



The 19<sup>th</sup> century was characterized by national revival in all fields and a struggle for independence. In 1843 the Althing was re-established as a consultative body. In 1874 it was given legislative powers and control of national finances. Home rule was established in 1904. With the Act of Union of 1918 Iceland became an independent and sovereign state in personal union with Denmark, the Kingdom of Iceland. Denmark, however, continued to look after Icelandic interests abroad, on Iceland's behalf, until 1940 when Iceland established its own foreign service. In 1944 the personal union was brought to an end and Iceland became a republic, with a president as head of state.

The national language is Icelandic, which belongs to the Nordic group of the Germanic languages.

## 1.1 Population and demographic trends

The population of Iceland is just over one quarter of a million (267,890 in December 1995), which makes it one of the least densely populated countries in Europe, with about 2.5 inhabitants per km<sup>2</sup> (6.5 inhabitants per square mile). Between 1950 and 1965, the average annual rate of population growth was approximately 2%, and then it declined gradually to about 0.9% in the period 1975 to 1980, but has risen again in recent years to about 1.1%.

Approximately 38% of the population live in the capital city of Reykjavík and about 58% in Reykjavík and its surrounding towns.

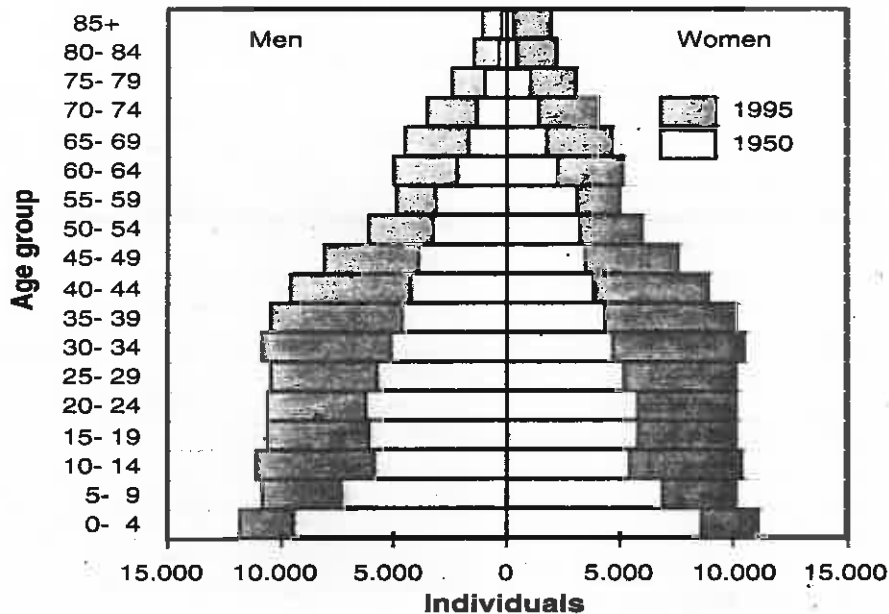


Figure 1.1

Since 1960, the increase in the number of elderly citizens has been 70%. At the same time the increase of people in younger age groups has been 30%. This trend in the age distribution is now the same in Iceland as in many other industrialized countries.

The population of Iceland is projected to be 321,000 in 2030. The crude birth rate per thousand is predicted to be 12 and the crude death rate 10. Urban concentration is expected to continue, and the age-composition of the nation is expected to change radically in the near future, with an ever-declining proportion of young people and, correspondingly, a growing number of older people.

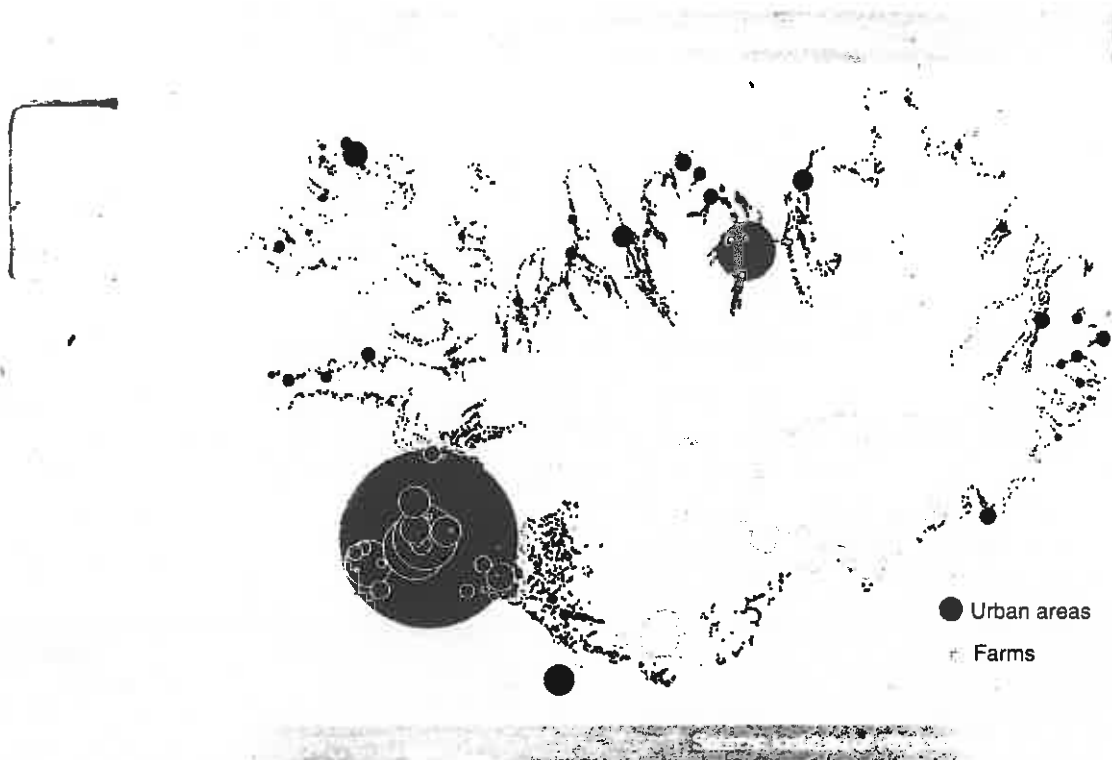


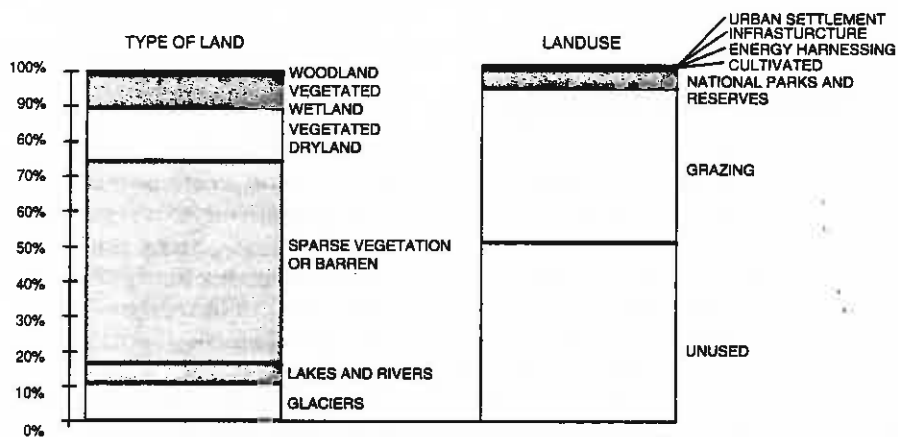
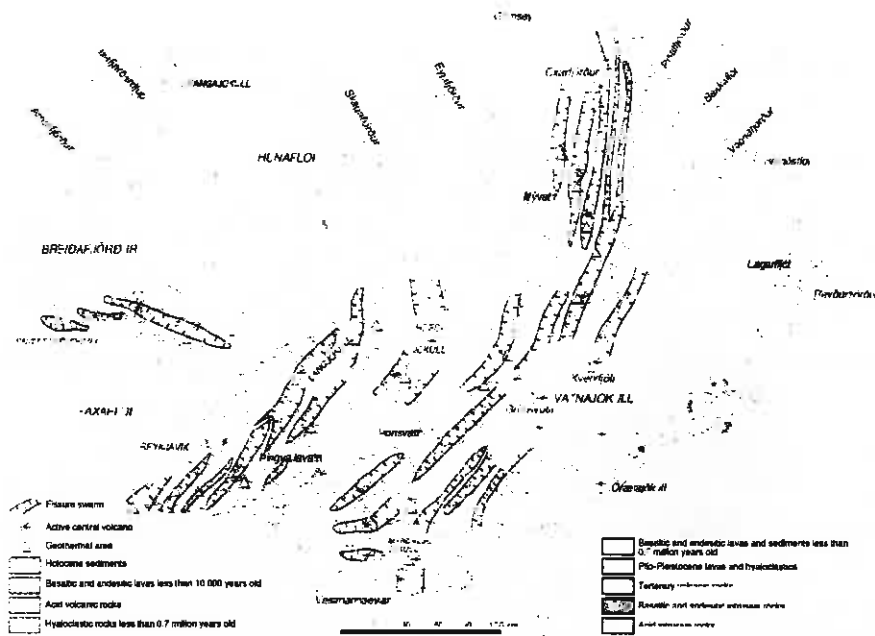
Figure 1.2

## 1.2 Geology and geography

Iceland is volcanically active, and is almost exclusively composed of volcanic rocks, lava and sediments derived from volcanos. Peat and mineral soils, predominantly of tephra-loess origin, constitute the major soil groups. The main constituent of the mineral soils is volcanic glass, and largely for this reason the soils are particularly vulnerable to the erosive forces of wind and water. Soils have been swept away over large areas of the country, leaving denuded and bare gravel with varying amounts of stones and sand.

Iceland may be roughly characterized as a big block built of eruptive masses, moulded by wind action, abrasion, frost action and other forces of erosion. The island is mountainous, edged by coastal lowlands, fjords and valleys cutting into the central highlands, moulded by marine abrasion and glacial erosion. Geologically speaking, the country is very young and bears many signs of still being in the making.

Being of volcanic origin, Iceland consists of coastal lowlands and a mountainous interior with several glaciers, the highest of which is 2,119 m (6,952 feet) high. Estimations indicate that 20% of the land is suitable for agriculture and the raising of livestock.



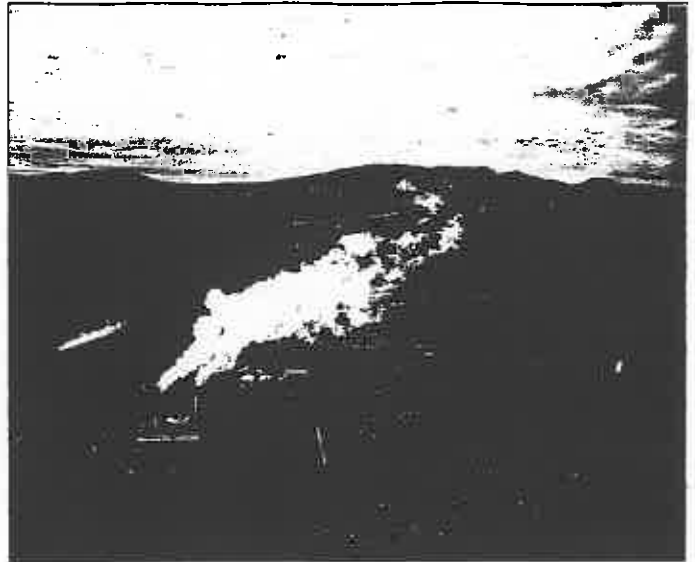
**Figure 1.3**

Iceland's average height above sea-level is 500m. Approximately 50% of the country is higher than 500m and only one quarter lies below the 200m contour line.

## Land use

About four-fifths of Iceland is uninhabitable. In most parts of the country, habitation is restricted to areas below the 200-m contour line, along the coast and in a few lowland areas.

Most of the arable land is situated along the coast and most of the population lives in the coastal regions. The coasts are rocky and of irregular outline, with numerous fjords and inlets, except for the south where there are sandy beaches with no natural harbours.



## Geothermal activity

Iceland is very rich in geothermal heat. The regional heat-flow within the country averages two to four times the global average. Two main types of thermal areas can be distinguished on the basis of the maximum subsurface temperature of the thermal water. In the low-temperature areas the maximum temperature at 1 km depth is less than 150° C, while hotter areas are classified as high-temperature areas. The low-temperature areas are characterized by hot-water springs with temperatures at or near the surface ranging from a little above ambient temperature to 100° C and with relatively low amounts of dissolved chemicals. Hot springs are common all over the country except in the east and southeast. About 1,000 hot-spring localities have been located and 19 high-temperature areas with steam fields.

## The marine environment

Iceland has a 6,000 km coastline long and is surrounded by a shelf with an area of 115,000 km<sup>2</sup> above a depth of 200 m. The Icelandic continental shelf is connected to neighbouring countries by submarine ridges extending towards Greenland, the Faroe Islands, and Jan Mayen. In addition there is the Reykjanes Ridge extending out into the North Atlantic towards the southwest and forming part of the Mid-Atlantic Ridge and the transoceanic rift system.

Iceland's exclusive economic zone extends to a maximum of 200 nautical miles, and elsewhere to the centre-line between Iceland and its neighbours, covering an area of 758 000 km<sup>2</sup>. The pollution control zone extends in some places beyond the 200-mile limit, following the continental shelf as defined in the United Nations Convention on the Law of the Sea (UNCLOS).

# Earthquakes and Volcanic Eruptions

Volcanic activity in Iceland is primarily characterized by lava flows, where hot, highly fluid magma pours out of fissures in the earth's crust. A series of such events took place in NE-Iceland during the years 1975-1984. This activity was accompanied by earth movements, earthquakes and tremors, subsidence and upheaval of the surface of the land. 13th January 1976 saw the occurrence of the largest earthquake of this episode, 6.5 on the Richter Scale, with an epicentre on the sea bottom approximately 12 km from the small village of Kópasker. Chaos reigned: fissures and sink holes were formed in the ground, cracks appeared in houses, a bridge was displaced and the pier greatly damaged. Shelves fell down in the local co-op store and counters, benches and goods were lying helter-skelter all over the floor, as can be seen in this photo of the store's textile department.



(Photo: M. Eggertsson).

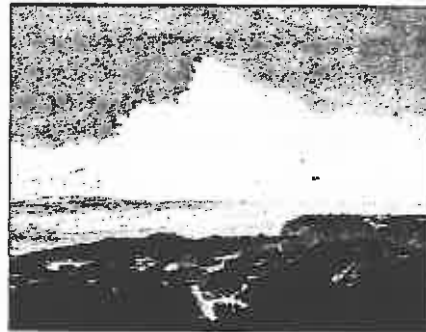
Explosive eruptions also occur in Iceland, wreaking great havoc with their tephra-production and viscous lava flows. Shortly after midnight on 23rd January 1973, when the inhabitants of Heimaey had just gone to sleep, they were awakened by a lava eruption. Even though the eruptive fissure was only a few hundred meters from the nearest houses, no one was killed. The eruption caused tremendous damage on the island of Heimaey, one of the largest fishing stations in Iceland, where about 10% of Iceland's total value of exports were landed. These events caused a considerable disturbance to the daily life of Icelanders and to the economy. Icelanders took action against the catastrophe with all means available; the Heimaey harbour, for example, was saved by cooling the lava by pumping sea-water on it and thus diverting its flow away from the harbour. The photo clearly indicates the destruction caused by the eruption.



(Photo: A.E. Jóhannesson).

## Avalanches and Coastal Floods

Iceland is located just south of the polar circle in the middle of the Atlantic Ocean, in the path of frequent power-laden deep lows which are especially common during the winter months. Due to the unstable weather conditions, characterized by sudden and forceful changes the atmospheric processes can reach catastrophic magnitudes. Avalanches are the natural catastrophes which claim most lives in Iceland. They often occur without warning and it has proved difficult to foresee where they will strike or in what magnitude. In recent years an increasing emphasis has been laid on compiling risk assessments with regard to avalanches, in order to plan land use on the basis of these assessments. Last year two fatal avalanches occurred in the West Fjords. Both struck fishing villages and caused great suffering and distress. The photo shows excavation and cleaning-up operations on 30th October 1996 after the Flateyri avalanche, which struck on 26th October.



(Photo: Þ. Sæmundsson).

A different kind of disaster occurs in coastal zones when waves, generated by very deep lows, approach the land in the most unfavourable tidal and astronomical conditions. In these circumstances the sea level can rise so high in coastal zones, particularly in SW-Iceland, that the sea floods onto the land and causes damage to buildings, houses, harbours, ships, etc. There are even examples of such floods causing loss of life. A slow land subsidence is taking place on these low-lying SW coasts where no protection is provided by skerries or islands. All these factors contribute to recurrent coastal floods at 2 to 3 year intervals. The sea is pushed up along and onto the shore, with huge waves, coming repeatedly from the open sea, striking the shallows with tremendous force. The photo shows the breaking sea tossed high up into the air under such conditions.



(Photo: RAX).

The ocean surrounding Iceland is characterized by current fronts and the mixing of different water masses, which carry a diversity of plants and animals of different origins toward the country. Throughout the year marine life in Icelandic waters shows great seasonal changes.

Approximately 270 fish species have been found within the Icelandic 200-mile fishery limit, about 150 of which are known to spawn in the area. Most of the fish are warm-water species and inshore or bank spawners. Only a few are of subarctic or arctic origin. Several species of whales and seals inhabit Icelandic waters.

## Climate

Iceland has a cold-tempered oceanic climate, with relatively warm winters and cool summers. The weather is unstable. Climatic variations are greater in Iceland than in most other countries. Storms and rains are frequent but because of the Gulf Stream, Iceland enjoys a warmer climate than its northerly location would indicate. The annual precipitation in Iceland ranges from below 400 to above 4,000 mm/year, depending on location. The average temperature in January is  $-3$  to  $+3^{\circ}$  C, and in July  $8$ – $15^{\circ}$  C.

## 1.3 Government and local authorities

Iceland has a two-level political and administrative system, represented by the national government and local authorities. At both levels the members of the political bodies are chosen by direct election every four years. After the 1995 general election, there were six parties represented in the Althing, the national assembly. The Althing, with its 63 members, is the highest legislative authority and also steers the country's economy. It is responsible for enacting legislation and the annual state budgets. MP's are elected from eight constituencies for a term of four years on the basis of proportional representation between parties. The number of MP's for each constituency depends upon its population. However, constituencies in rural areas have proportionally more MP's than those in the populated areas.

Executive power is vested in the hands of the President but is exercised by the Prime Minister and other ministers who constitute the Cabinet. They are appointed by the President and remain in power unless they resign or the majority of the Althing passes a motion of no confidence in them.

Iceland has a long tradition of political stability. Since gaining independence, governments have normally been formed by a coalition of two or more political parties. After the 1995 general election a centre-right coalition government of the Independence Party and Progressive Party took power.

In recent years, numbers of local authorities have been merged. In 1950 there were 229 local authorities, but in 1993 the number had fallen to 170. Local authorities are grouped into eight regional federations. Their aim is to

protect the interests of the local government areas, to collect information and give information on the authorities, and to provide a forum for discussion. The Union of Local Authorities, a federation of all local authorities in the country, provides a national forum for consultation for all local authorities.

Due to the fact that local authorities have been numerous and relatively small, the division of power and responsibility between the government and local authorities in Iceland is different from that in Iceland's neighbouring countries.

Collaboration between the State and local authorities is common, and in many cases, two or more communities join forces to deal with some particular aspect of services. Examples of this are apartments and services for the elderly, collaboration on refuse collection and pollution prevention, co-operation in the fields of culture, sport and youth work, collaboration between communities in the Reykjavik region on a common bus system, joint management of local heating systems and other utilities, as well as co-operation in running primary schools and music schools.

<b>1</b>	<b>General administration</b>	L
<b>2</b>	<b>Security, police, justice</b>	
2.1	Security, police	S
2.2	Fire protection	L
2.4	Justice	S
<b>3</b>	<b>Education</b>	
	(a) buildings	X
	(b) staff	X
3.1	Pre-school education	L
3.2	Primary and secondary education	X
3.3	Vocational and technical education	X
3.4	Higher education	S
3.5	Adult education	X
3.6	Other education	X
<b>4</b>	<b>Public health</b>	
4.1	Hospitals and convalescent homes	X
4.2	Personal health	X
<b>5</b>	<b>Social welfare</b>	
5.1	Family welfare services	X
5.2	Welfare homes	L
5.3	Social security	X
5.4	Other social welfare	X
<b>6</b>	<b>Housing and town planning</b>	
6.1	Housing	X
6.2	Town planning	X
6.3	Regional/spatial planning	L
<b>7</b>	<b>Environment and public sanitation</b>	
7.1	Water purification	L
7.2	Refuse collection and disposal	L
7.5	Environment protection	X
<b>8</b>	<b>Culture, leisure, sport</b>	
8.1	Theatres and concerts	S
8.2	Museums, art galleries, libraries	X
8.3	Parks and open spaces	L
8.4	Sports and leisure pursuits	L
8.5	Religion	S
8.6	Other culture, etc.	X
<b>9</b>	<b>Traffic, transport</b>	
9.1	Roads	S
9.2	Urban roads transport	L
9.5	Airports	X
<b>10</b>	<b>Economic services</b>	
10.2	District heating	L
10.3	Water supply	L
10.4	Agriculture, forests, fishery, hunting	X
10.5	Electricity	X
10.6	Commerce	S
10.7	Tourism	X

Source: Ministry of Social Affairs

Table 1.1



## Reorganisation of local authorities

Following the enlargement of local authority boundaries, a fundamental reappraisal of the division of powers between the State and local authorities is expected. In an experiment with pilot authorities, some state responsibilities will be transferred to the relevant local authority, which will also be exempted from various obligations which apply to local authorities. The local authorities in question will also have the opportunity to experiment with financing and organisation.

The plan for reorganisation of local authority boundaries and pilot authorities is based upon the following objectives:

a. The division of power between the State and the local authority shall be clear, and each field of responsibility shall, as far as possible, be dealt with by a single party, so that initiative, implementation and financial responsibility for initial costs and operation are in the hands of a single party.

b. Local authorities shall, on the whole, be responsible for locally-based fields, while the State shall take responsibility for those matters which are more efficiently dealt with on a national basis.

## International co-operation between local authorities

In 1991, the Icelandic Government ratified the European Charter of Local Self-Government. It had been signed in Iceland in 1985. Local authorities in Iceland, and their associations, have in recent years and decades developed extensive relations with bodies in local government in the Nordic countries.

## 2. Economic and Social Development

The economy of Iceland is a market-oriented open economy which resembles that of the other Western economies. A large share of the labour force is employed in the services sector, and a declining share in the primary and secondary sectors. A particular feature is the large share of fisheries in total export revenue, which accounted for 51% in 1995.

Public consumption has grown rapidly in recent years. Public consumption amounted to 21% of GDP in 1995, compared to 12% in 1960. As in most other democratic countries, successive governments in the post-war period have aimed at enhancing general living standards within the framework of the modern welfare state.

### 2.1 The economy

The Icelandic economy is to a large extent based on the exploitation of renewable natural resources, the most important of which are the fish stocks in Icelandic waters, hydroelectric and geothermal power and the grasslands which support animal husbandry. While the size of the economy is small in absolute terms, with a GDP (gross domestic product) of \$7 billion in 1995, the per capita GDP of approximately \$26,500 is very high by international standards.

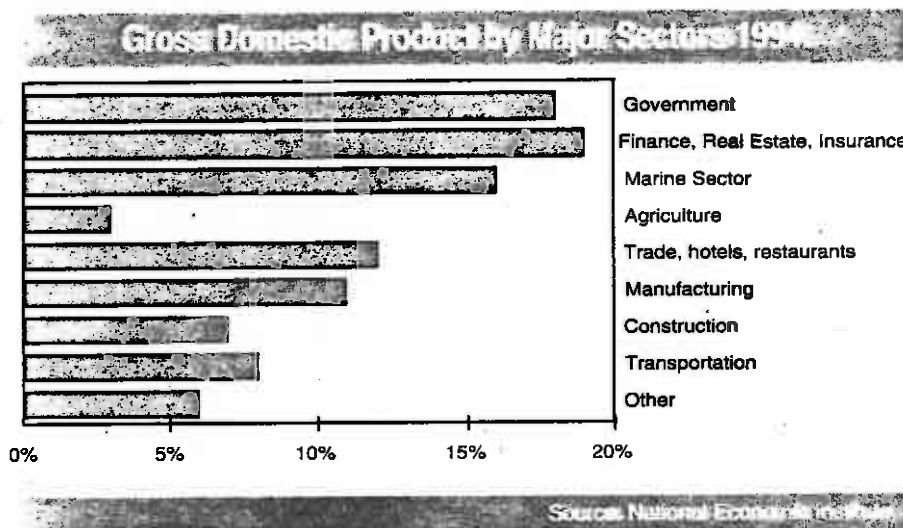


Figure 2.1

#### The marine sector

The marine sector, including both fishing and fish processing, contributed 15% of GDP in 1995, employed on average approximately 14,700

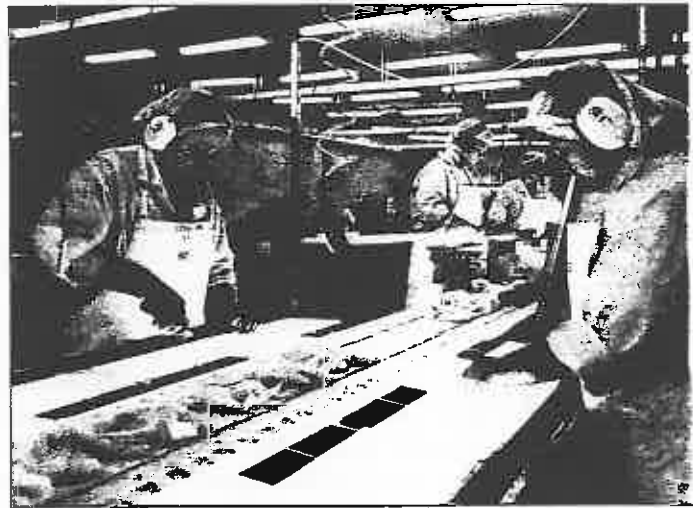
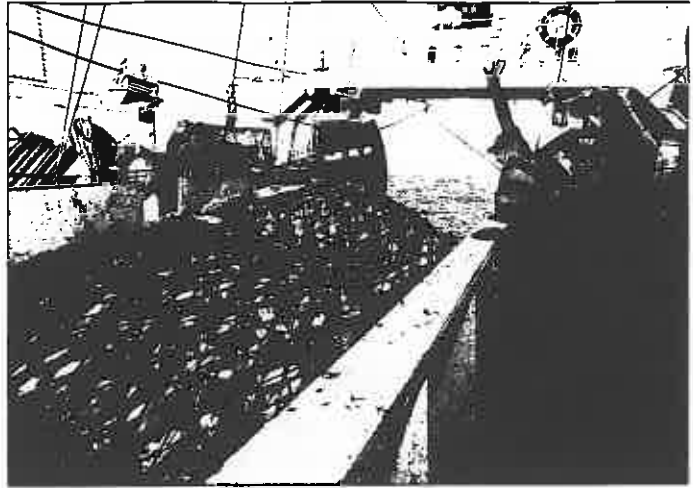
individuals, representing about 12% of the labour force, and generated 51% of the total foreign exchange earnings of the economy. However, the relative importance of the marine sector has declined somewhat in recent years.

The marine sector is principally based on the harvesting of groundfish, i.e. species like cod, haddock, saithe and redfish. The catch of groundfish reached a maximum of 732,000 t in 1981, but had declined to 516,000 t in 1995. A decline in the catch since the early 1980's was the reason for, and a consequence of, conservation measures aimed at managing these renewable resources with a view to reap a higher yield in the future.

Apart from groundfish, pelagic species are important to the Icelandic economy. The catch of capelin (a small fish of the salmon family) in 1995 was 715,000 t. Catches of herring, lobster and shellfish have been of substantial value in recent years as well as rising catches of cold-water shrimp. Commercial whaling, once an important source of revenue, was halted in 1985.

Iceland has developed a comprehensive fisheries management policy in order to manage the fish stocks. Catches of all the major species of fish are regulated by quotas. The total allowable catch is determined on the basis of biological estimates of the status of the fish stocks and forecasts for their development in the near future. This quantity is then allocated between individual fishing vessels, and the quotas can be traded between companies at a market price.

The marine sector relies increasingly on highly advanced production methods and management techniques, as well as research and development in biotechnology. The production systems are flexible and the most important processing methods are to a large extent interchangeable. Thus, it is relatively easy to divert the raw material to the most profitable processing method, depending on the current market situation.



The same is true of the technologically advanced fishing fleet, which includes vessels that can perform high quality processing at sea. The diversification extends not only to the species and methods of processing, but also to marketing. Icelandic fish products have been actively marketed in the United States, Europe and the South East Asia.

The diversification which has taken place within the marine sector has significantly limited the risks associated with the Icelandic economy's dependence on the export of marine products. The number of companies in this sector has declined in recent years due to several mergers that have taken place.

## Manufacturing

In order to reduce dependence on the marine sector and to broaden further the productive base of the economy, successive governments have followed a policy of encouraging the development of the manufacturing sector and of seeking the involvement of foreign enterprises in the development of powerintensive industries. In 1995, manufacturing (other than fish processing) contributed 12% of GDP, and, on an average, approximately 13,500 individuals, as calculated in man-years, were employed in this sector, representing 11% of the labour force.

A number of Icelandic manufacturing firms produce for export markets, and the government-backed Trade Council assists such firms in the promotion of exports. In 1995, manufactured products accounted for approximately 21% of total merchandise exports, with aluminium accounting for 11% of the total amount.

The largest manufacturing facility in Iceland is the Icelandic Aluminium Company Ltd's aluminium smelter at Straumsvik, near Reykjavik. The smelter, now under enlargement, is co-owned by the Icelandic Government and foreign partners. The same applies to the ferro-silicon plant Icelandic Alloys Ltd at Grundartangi. Geothermal steam has been used very successfully at Kisilidjan Ltd, a diatomite plant in northern Iceland. Four medium-sized manufacturing enterprises, a fertilizer plant, a cement plant, a mineral wool plant, and a seaweed-meal plant use locally available raw materials, producing mostly for the domestic market.

Other manufacturing enterprises are generally small in scale and are largely based on imported raw materials and components. The products of these industries include fishing gear, packaging for exports, building components, machinery, equipment repair and maintenance, soap and related chemical products, plastics, ceramics, food products, pharmaceuticals, beer, liquor, soft drinks, paint and furniture.

In recent years, there has been a growth in various high-technology industries, particularly in connection with the production of heavy equipment and electronic appliances for fishing and fish processing. Some of these industries have gained significant market shares. In 1995, the high-technology industries contributed around 20% to total manufacturing exports, excluding the aluminium and ferro-silicon industries.

## Agriculture

Approximately one fifth of the total land area of Iceland is suitable for agriculture and the raising of livestock. About 6% of this area is under cultivation, with the remainder devoted to raising livestock or left undeveloped. Iceland is self-sufficient in meat, dairy products and eggs. The principal crops are hay and potatoes. Some fruits, vegetables and flowers are cultivated in greenhouses heated with geothermal water and steam. Furthermore, a fur industry has also developed over the past decade.

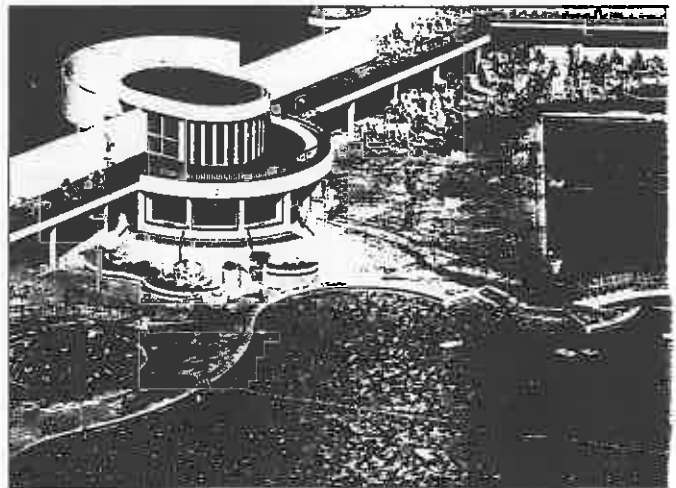
Agriculture contributed an estimated 2% of GDP in 1995. The agricultural sector has undergone some structural changes in recent years as market demand for traditional products, such as dairy products, lamb and mutton, has declined substantially. Price supports and export subsidies have been abolished and replaced with direct income payments to farmers in the agricultural sector.

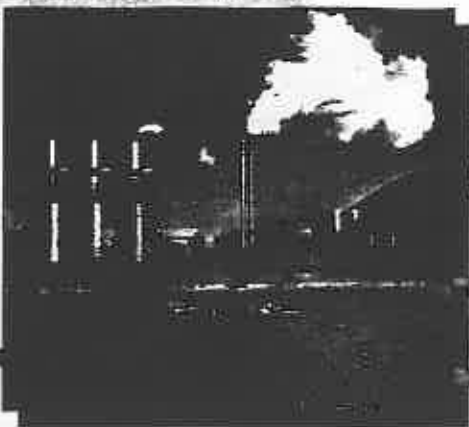
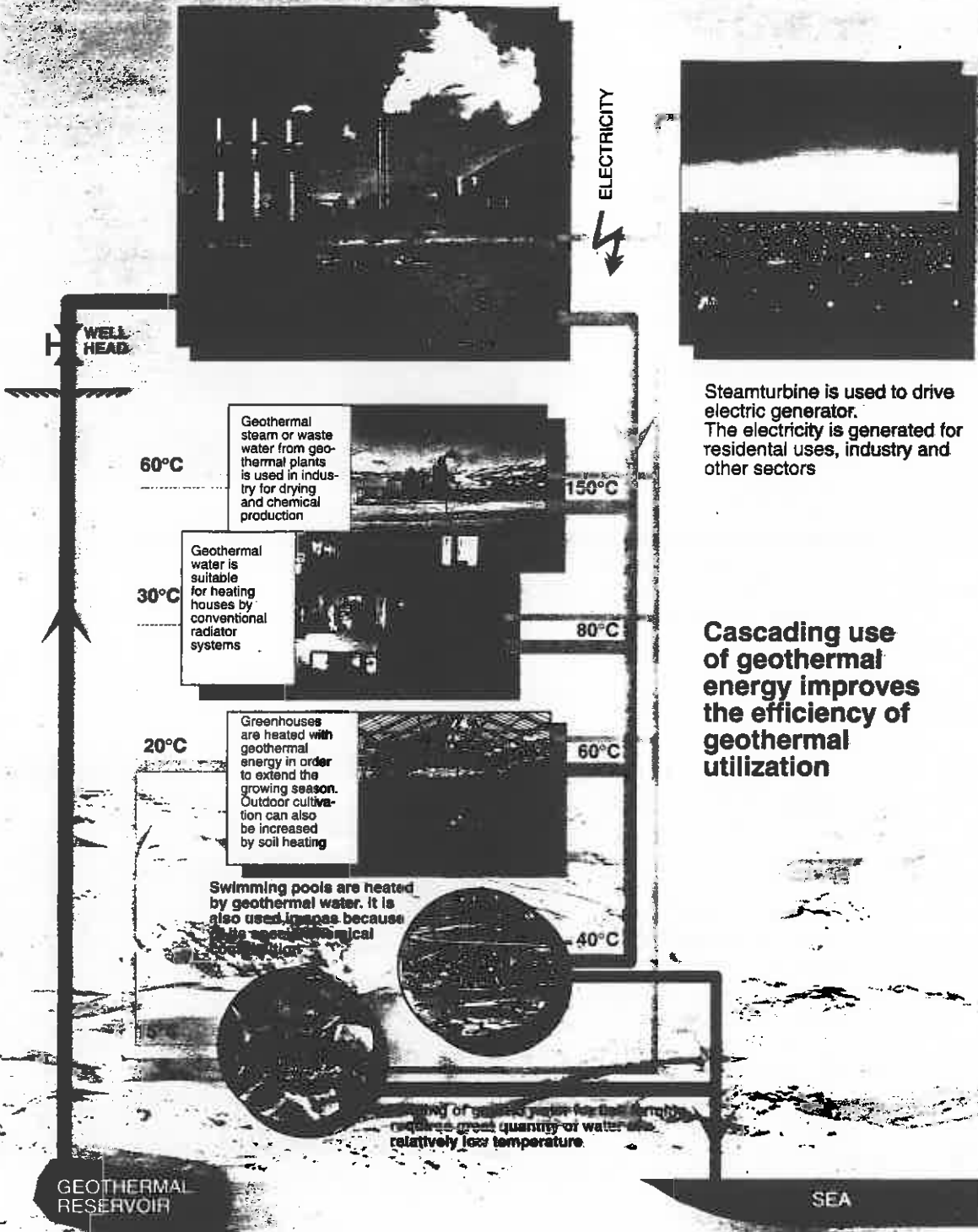


## Energy

The energy resources in Iceland, i.e. the hydro and geothermal reserves, are significant in relation to the size and population of the country. Harnessable electric power from rivers and geothermal sources is estimated at 50,000 GWh per annum, taking economic and ecological considerations into account. As a comparison, in 1995, consumption of electrical energy in Iceland came to approximately 4,980 GWh per annum, or 10% of the economically and ecologically harnessable potential, as estimated by the National Energy Authority.

Virtually the entire Icelandic population has access to electricity. All towns and villages and virtually all farms are connected to public power





ELECTRICITY



Steamturbine is used to drive electric generator. The electricity is generated for residential uses, industry and other sectors

60°C

Geothermal steam or waste water from geothermal plants is used in industry for drying and chemical production



150°C

30°C

Geothermal water is suitable for heating houses by conventional radiator systems



80°C

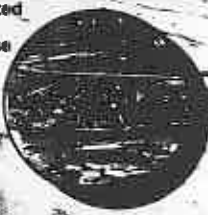
20°C

Greenhouses are heated with geothermal energy in order to extend the growing season. Outdoor cultivation can also be increased by soil heating



60°C

Swimming pools are heated by geothermal water. It is also used in spas because of its special chemical composition



40°C

Cascading use of geothermal energy improves the efficiency of geothermal utilization



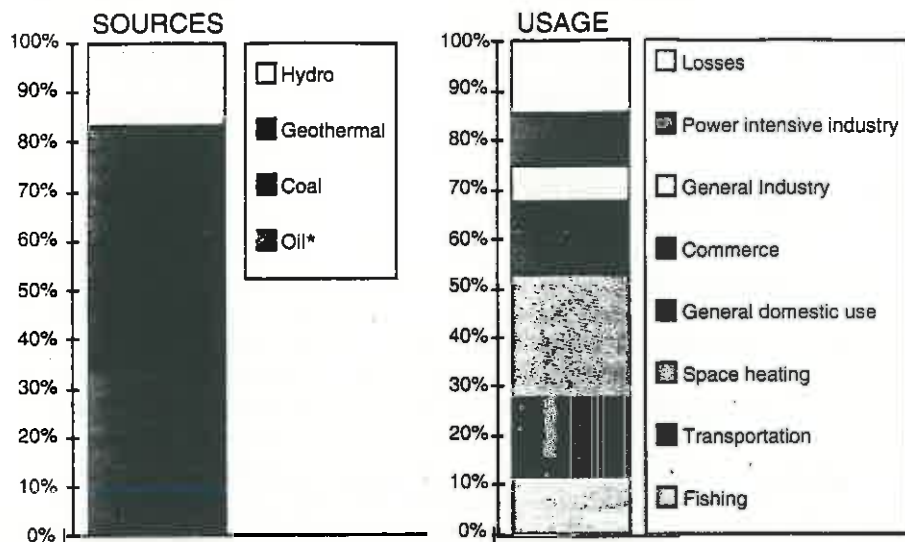
A quantity of surface water for the turbine requires great quantity of water at relatively low temperature

GEOHERMAL RESERVOIR

SEA

200-300°C

© Valgarður Stefánsson / Ámi Ragnarsson



\* Including oil used by Icelandic companies in international transportation and oil purchased abroad by Icelandic fishing vessels.

Figure-2.2

utilities. In 1995, total consumption of electricity amounted to 18,580 kWh per capita, ranking Iceland very high in per capita electricity consumption.

All the largest hydroelectric power plants, and the interregional power lines, are owned and operated by the National Power Company (Landsvirkjun) which is the prime supplier of electricity in Iceland. The company is jointly owned by the State, the City of Reykjavik and the Township of Akureyri.

The possibility of selling electricity to Europe via a submarine cable has come under discussion. Several foreign companies have shown interest in working on such a project with Icelandic entities. The project's attractiveness stems not least from the fact that this is an environmentally sound way of producing energy. However, the project is currently at an early stage of a feasibility study. Renewable energy sources account for about 63% of primary commercial energy consumption in Iceland. By comparison, it can be pointed out that these and other renewable sources account for about 3% for the world as a whole.

Geothermal energy is an essentially environmentally clean form of energy, which currently provides 46% of the primary energy consumption in Iceland, non-polluting hydropower about 17% and imported fossil fuel the remainder. Hot water from geothermal sources and natural steam are used

extensively for residential heating and cultivation in greenhouses, swimming pools and aquaculture.

In industry, geothermal heat is mainly used for the drying of seaweed and for the production of diatomite. Geothermal generation of electricity, on the other hand, only amounts to about 3% of total geothermal energy utilization, and about 6% of total electricity production.

## Transport, communications and the media

The domestic transportation network consists of roads, air transportation and coastal shipping. Car ownership is widespread, with approximately 435 passenger cars per 1,000 inhabitants. Air travel is offered on both domestic and international routes and there are direct flights to an ever-increasing number of European and United States cities as well as transatlantic flights between several cities in the United States and Europe. Iceland has numerous harbours. Regular shipping routes are operated both round the Icelandic coast and to the major ports of Europe and the United States.

The state telecommunications system is both extensive and modern, with satellite earth stations, optical fibre cables, and an extensive mobile phone system.

The Public Broadcasting System (RUV) operates two radio channels and one television channel, reaching virtually the whole country. In addition, there are several private radio stations and two private television stations, 4 daily national newspapers and an abundance of local papers.



## Tourism

The tourism sector has been the fastest growing industry in recent years. There were 190,000 foreign visitors in 1995, compared to 97,000 in 1985. Foreign exchange revenues generated by tourism in 1995 amounted to approximately 12% of the total foreign exchange revenues of the economy. The Government encourages further expansion in the tourism sector through the State Tourist Board and a special loan fund.

## The labour market

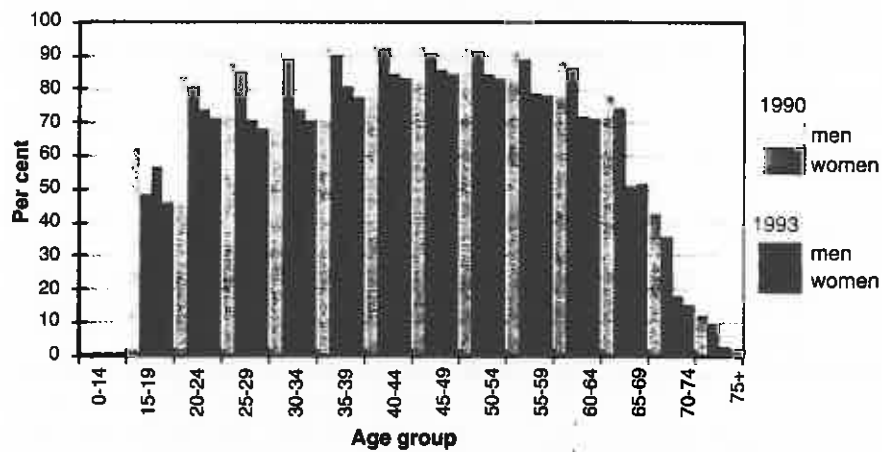
The Icelandic labour force is currently estimated at approximately 150,000 people with a labour demand of approximately 125,000 man-years.



The overall participation rate has increased considerably in the last decade, primarily due to increased participation of women. In Iceland, approximately 82% of the population between the ages of 16 and 74 belong to the labour force. The participation rate for both the elderly and the young is relatively high compared with neighbouring countries.

Women accounted for 46% of the labour force and 41% of man-years in 1992. Division of labour on the labour market in Iceland is still very conventional and gender-based, and in recent years this has changed only slightly. Admittedly, women have gradually entered occupations traditionally associated with men, whereas men more rarely choose to work in fields generally associated with women. In 1992 the income from employment of women, according to tax returns was 51% of that of men, whereas hourly wages paid to women were 83% of those paid to men.

Labour Force Participation by Sex and Age, 1990-1993



Source: Statistics Iceland

Figure 2.3

For a long period of time, registered unemployment in Iceland had been about 1% or less, but towards the end of the 1980's it increased, and reached 5% in 1995. Unemployment has generally been higher among women than men. In 1995, 6.3% of women on the labour market were registered as unemployed, against 4.0% of men. Unemployment proved highest for both sexes among the 16-24 age group. It is interesting to note that unemployment of women is considerably higher in rural areas than in the capital area.

Most Icelandic employees are members of trade unions. The vast major-

ity of the larger trade unions of private-sector employees are affiliated with the Federation of Labour. Most of the trade unions of public-sector employees are affiliated either with the Federation of Public Employees or the Federation of University Graduates.

## Economic management

The national currency is the Icelandic krona. Its value in relation to other currencies tended to fluctuate until the end of the last decade, mainly because of high inflation relative to Iceland's trading partners and persuasive external sector imbalances. As a result of improved macroeconomic management in recent years, inflation has now been brought under control, and is now among the lowest in Western Europe. Furthermore, the current account balance has been in surplus for three years in a row. This favourable development has stabilized the value of the Icelandic krona and paved the way for further improvements in economic performance.

Many important structural changes have been implemented in the financial sector in the last decade. Among these are interest-rate liberalization, the elimination of automatic access to Central Bank facilities by the commercial banks, the liberalization of foreign-exchange regulations and the establishment of a foreign-exchange market, the establishment of a securities exchange and leasing operations, and the development of secondary markets for public and private bonds.

## The environment

Compared to other industrial countries, Iceland is relatively unpolluted and faces no immediate environmental problems. Electricity and geothermal heating, Iceland's main energy sources are generated through the use of renewable resources causing little or no pollution. The dispersal of sulphuric acid over Iceland is very small, due to Iceland's geographic location and the limited emissions of pollutants in the country. Though pollution of surface and ground water is minimal, some localized pollution of surface and ground water exists, and the pollution threats are increasing. However, the marine environment around Iceland is unpolluted.

## 2.2 Welfare and government services

By far the largest share of public consumption in Iceland concerns health, welfare and education. Since 1980 the cost of social services has been more than 50% of total government expenditure. The health sector has accounted on average for 19% of total government expenditure, social security and welfare 16% and education 14%.

The level of schooling of the Icelandic population, measured in school years completed, is one of the highest in Europe and illiteracy hardly exist. Health standards and health services in Iceland are similar to those in the other Nordic countries. The present-day universal social security system in

Iceland has evolved over relatively few decades. Comprehensive social insurance legislation was introduced in 1936, and since then welfare schemes have been expanded and improved.

Distribution of wealth and income is comparatively equitable in Iceland and from an external point of view the society exhibits little socio-economic differentiation in consumption and lifestyle.



## Education

A fundamental principle of the Icelandic educational system is that everyone should have equal opportunity to receive education, irrespective of sex, economic status, geographical location and cultural or social background. The national education system is funded primarily by the public sector and parents pay either nothing or very little of the direct cost. There are four educational levels: pre-school level up to six years of age, compulsory level (primary and lower secondary) from 6-16, upper secondary from 16-20 and university and adult education after the age of 20 years. On average, people of both sexes in the 20-year-old age group have spent three and a half years in school after completing compulsory education.

The running of the education system and the schools is the task for both the state and the local authorities. In autumn 1996, the local authorities will take over the running of primary and lower secondary schools; they are already responsible for pre-school education. The state normally operates and finances educational establishments for those aged over 16 years.

### Students by Educational Level

	1986		1988		1990		1994	
	Female %	Male %	Female %	Male %	Female %	Male %	Female %	Male %
Secondary level	46	54	46	54	47	53	48	52
Third level	44	56	52	48	57	43	57	43
Studying abroad	37	63	40	60	43	57	42	58

Table 2.1

In all, close to 8,000 people work in the education system and about 75,000 people, or almost 30% of the population, are enrolled as pupils and students.

### Pre-school education

The basic principle at the pre-school level is that teaching and education is based on clear goals under the guidance of specially trained personnel. The Ministry of Culture and Education establishes the curriculum for pre-school education and sets out its educational and developmental role.

Children are not required to attend pre-school, but the aim is to provide all children with the opportunity to do so if their parents so wish. Approximately 75% of children aged three to six years attend pre-school, as do approximately 15% of children two years of age or younger.

### Compulsory education

Primary and secondary school is compulsory for all children and the enrolment rate is therefore 100%. The main purpose of compulsory schooling

is to prepare pupils for life and work in a dynamic democratic society. The law governing primary and lower secondary education makes attendance at school compulsory for all children 6-16 years of age (ten school years). There is no division between primary and lower secondary education, as they form part of the same school level. The law defines the main objectives of this school stage and on the basis of this law, the Ministry of Culture and Education issues regulations and the National Curriculum Guide.



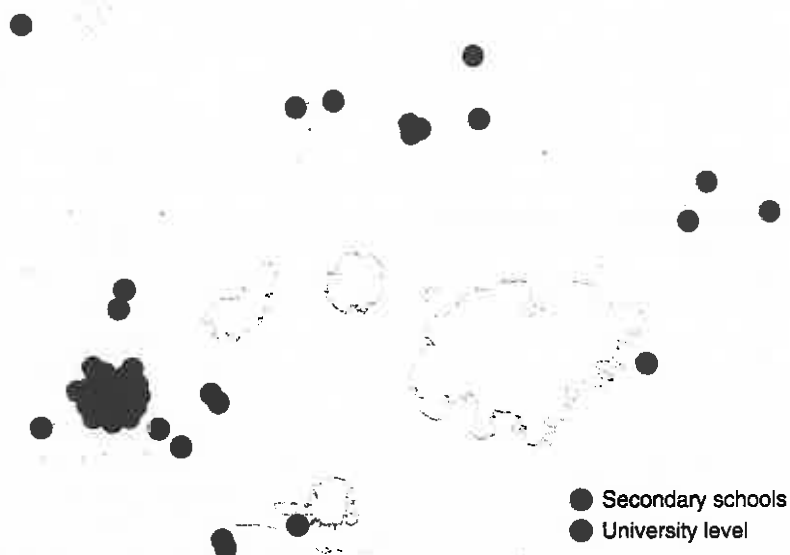
### Upper secondary education

According to the law on upper secondary education, anyone who has completed compulsory education or has turned 18 has the right to enter a course of studies at the upper secondary level, which normally covers the 16-20 year age group, and all pupils who have completed their compulsory education should be able to find a programme of study that suits them. The primary aims are to prepare pupils for life and work in a democratic society by offering them suitable opportunities to learn and develop individu-

ally, and prepare them for employment through specialized studies leading to professional qualifications or further study.

Approximately 85% of the pupils who complete primary and lower secondary education enter upper secondary school directly thereafter; the dropout rate, however, is considerable.

Girls are a vast majority of those who opt for general programmes and non-technical vocational programmes, while boys are a large majority in technical programmes.



Source: Ministry of Culture

Figure 2.4

### University education

Universities are charged with the task of carrying out research and offering higher education programmes in different subjects, as stipulated by the legislation governing each institution. During the period 1980-1990 the number of students at the higher education level in Iceland increased by 30%, a 10% increase of male students and a 52% increase of female students. Since the middle of the 1980's, enrollment at the University of Iceland reveals a larger number of registered women than men. Women have also become the majority of graduates from the University of Iceland.

## Health care

A nation's physical welfare depends on many factors, of which the health services represent only one. The economy, social organization, education, the welfare system, housing and major occupations of the nation are all important factors. General achievements in all these fields, coupled with a well-organized health service extending from primary care to specialized hospital treatment and technology, have led to the health of Icelanders being in general very good in the 1990's. The Icelandic Health Services Act declares that the people of Iceland shall have access to the best available services to protect and preserve their mental, physical and social health and well-being. Primary health care is provided by health care centres. Specialized services and hospital services are provided when necessary.

Iceland is divided into twenty-seven health districts. During the 1970's and the 1980's the main emphasis was on establishing centres in rural and sparsely populated areas. More recently health care centres have been established in Reykjavik, the capital, replacing the family doctor system.

The older generation in Iceland has experienced a tremendous change in the general health situation. In the first decades of this century infectious diseases caused high mortality.

Immunization is now available to all through primary health care centres. Virtually the whole of the Icelandic population takes advantage of the available routine vaccinations. All routine vaccinations for children are free of charge. Children are routinely vaccinated at the ages of 3, 4, 6 and 14 months. The results appear to be promising since no cases of HIB have been detected since 1990.

For decades, fewer than 1% of deaths have been due to infectious diseases. The primary cause of mortality for both sexes is cardiovascular disease, which account for 43% of all deaths of women and 46% of men in 1991-1992. Cancer is the second most common cause of death, accounting for 26% of the deaths of men and 23% of the deaths of women that same year.

### Life Expectancy at Birth

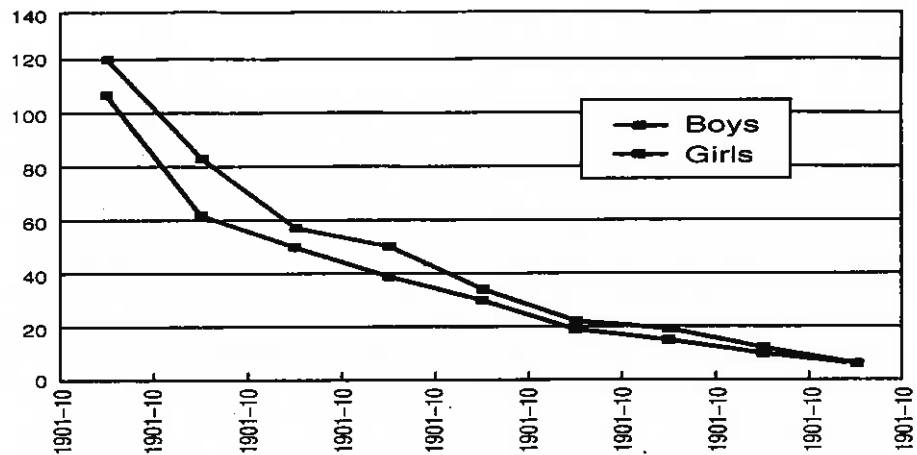
	Women	Men
1979/1980	79.7	73.7
1992/1993	80.7	76.9

Throughout this century life expectancy has been significantly greater for women than for men. Life expectancy for men is about 5 years shorter. This difference in life expectancy for women and men has remained close to constant in the last 100 years.

Table 2.2

During this century, infant mortality (mortality during the first year after birth) has decreased dramatically. In the first decade of the century deaths during the first year of life per 1,000 live births were 121 for boys and 105 for girls. For the period 1981-1990, the corresponding number was 6 for both sexes.

The low infant mortality can to a large extent be attributed to the exten-



**Figure 2.5**

sive pre-natal and child health care programmes operated by the health care centres, as well as to a general improvement in living conditions.

In Iceland, as elsewhere in the West, there have been considerable fluctuations in the birth rate in recent decades. The birth rate began to increase around the middle of the century and reached a maximum during the years 1956-1960 when the fertility rate exceeded four children per woman. In 1960 it reached 4.9%. In 1994 the fertility rate was 2.2 children per woman.

In 1975 the Althing passed an Abortion Act which removed practically all restrictions on induced abortions prior to the twelfth week of pregnancy. During the past few years there have been an average of 12 abortions per year per 1,000 women between 15-44 years of age.

### Social security

The prevailing ideology behind the social security system is that each individual should provide for himself and his dependents. The community does, however, acknowledge that under certain circumstances income can be reduced, e.g. due to old age, invalidity, illness or the birth of a child. This is reflected in the benefits system of social security, i.e. child benefit, child maintenance, education support, mothers' allowance and fathers' allowance, sick children, spouse benefits, pension for widows/widowers and benefits for widows/widowers.

Family type may affect the support eligibility in certain categories of benefits. This does in fact apply to basic pension and income related allowance

which is reduced for couples, supplementary home allowance for single people only, as well as accident and sickness benefits where in some cases the amount is supplemented on account of children.

## Social services of the local authorities

The Local Authorities Social Services Act of 1991 replaced provisions which had existed for centuries concerning the right to municipal support on grounds of residence. Rather than providing for charity, the aim of the new law was to help people to help themselves. The local authorities make their own rules concerning the implementation of financial support, and financial need is always estimated on the basis of family size and income. The social services deal with many aspects of family services, these being the most important: social counselling, child related issues, assistance to teenagers, home help service, issues relating to the disabled and the elderly, unemployment registration and employment agencies, housing and alcoholics' support.

## The elderly and the handicapped

Even though the social services of the local authorities cover the elderly and the disabled, these services are nonetheless covered by a special act, the explanation for this being that the State is responsible for most of the services. The Disabled Persons Act provides for the right of the disabled beyond the right they are granted by general law. A special chapter covers the services provided for the disabled and their families, and the chief aim of the act is to ensure the disabled supportive services enabling them to run their own homes. As a general rule, the State is responsible for health care for senior citizens, while the local authorities are responsible for their social services.



## 3. Human Settlement Development

### 3.1. Regional development

The settlement structure in Iceland has long reflected the dependency of the nation on the resources on which it has depended for its survival and existence through the centuries: the land and the living resources in the sea. After centuries of a relatively stable, if not a stagnant, settlement structure the present century has been characterised by an upheaval that has not yet subsided.

After the original settlement of Iceland in the 9th century and during subsequent centuries, the location of settlements was determined primarily by the availability and the quality of land. Their pattern varied with climatic changes, natural catastrophes, etc., and the population fluctuated accordingly. The main economic activity was agriculture and fisheries at a level of development very close to subsistence.

The concentration of people in small urban communities began along the coast. Initially it was determined first and foremost by the proximity of fishing grounds. Gradually, external factors and the ability to overcome natural hindrances opened up new alternatives and relatively prosperous communities emerged in places previously thought to be beyond the habitable. A lucid example of this development is the impact of advancing construction techniques of fishing boats - as the boats became larger, the settlement would evolve in and around areas with good natural harbour facilities. Later still, the ability to construct adequate landing facilities and the introduction of better boats and fishing vessels had a direct impact on the settlement structure.



In the modern era the settlement structure has only partly been determined by natural conditions. Trends and changes in the demographic landscape are determined by a plethora of factors which to a large extent are both inseparable and mutually dependent. With the advent of technologically advanced fishing vessels and ships, distance from fishing grounds was no longer an obstacle; productivity within the agricultural sector has risen and its share in the employment sector has correspondingly decreased; other resources, such as economical geothermal heating, have come to influence people's choices; a transformation of the economy, expansion in commerce, industry and services, international economic and cultural integration, extensive changes in infrastructure and social life - all these factors have added to a new dynamism in the settlement structure. In brief, the result has been the concentration of people in the capital area and stagnation or decline of the population in almost all other areas of the country.

### The 20th century: A time of upheaval and change

The year 1901 is a good starting point in an attempt to account for the regional development which has taken place in Iceland during the present century. At that time, the nation consisted of 78,000 people, having grown by two thirds during the 19th century. Of this number, about 7,000 lived in Reykjavik and there were only two other villages with over 1,000 inhabitants: Ísafjörður in the west and Akureyri in the north. About 12,000 people lived in about twenty small fishing communities scattered around the coast - their location being a result of a combination of good natural harbour facilities and the proximity of fishing grounds.

The first four decades of the century saw an enormous change in almost every aspect of Icelandic society. By 1940 the population of Iceland had grown by over 50% to 120,000. The population classified as living in urban areas had at the same time quadrupled to over 80,000 people. Meanwhile the rural population decreased by over 17,000 people to 40,000. The population of the capital had grown fivefold to 38,000 people. The number of villages with over 1,000 inhabitants grew from two to eight and there were now well over thirty fishing communities. Urbanisation based on services to the agricultural regions had begun.

In the aftermath of the Second World War, even greater economic and social changes were in store, with profound effects on the settlement structure. In the twenty years after 1940 the capital region doubled the number of its inhabitants, to 89,000, while, conversely, a number of the fishing towns experienced stagnation of growth and even a decline in the number of inhabitants. The population in rural areas continued to decrease and by the year 1960, when their number went down to about 9,000, this trend began to be perceived as a problem.

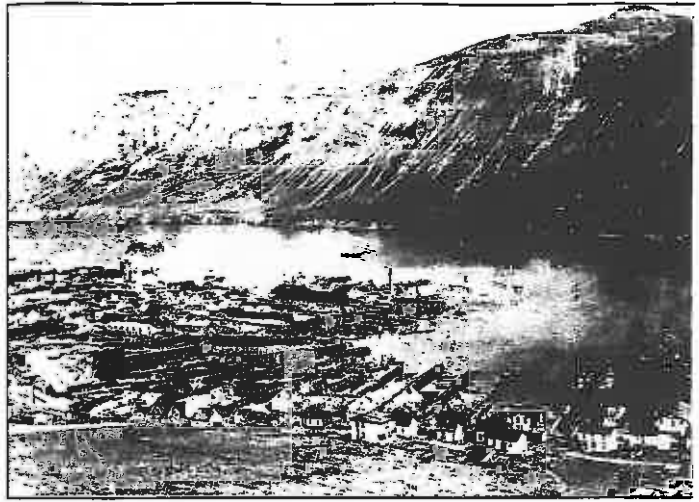
From 1960 to 1980 there were enormous changes in the employment structure of the Icelandic economy, - changes which had a direct impact on the settlement structure. During the 1960's there was an increased awareness of the fact that migration from the rural regions was becoming a prob-

lem and that some rural areas were being abandoned altogether. Some regions had stable employment and high wages whereas in a considerable part of the country there was seasonal unemployment and low incomes. The issue of regional policy entered the political agenda as a formal entity.

During the 1970's there was a very strong reversal of the centralising trends, similar to that experienced by other developed countries. This was in large part due to expansion within the fisheries sector, which dominated the national economy. The extension of the fishing limits from 12 to 50 nautical miles and then further out to 200 miles made it possible to increase catch volumes landed in Iceland considerably. New fishing vessels were built or purchased and the whitefish processing industry was modernised partially with government-backed loans which were part of a formal regional policy. The now relatively numerous villages around the coast prospered. At the same time public services were developed throughout the country. The results are clearly to be seen from the population trends. People generally believed that a regional balance was possible and had been attained.

A new turning point was reached around 1980. Since then there has been a growing imbalance in population trends. Decisive factors in this development have been fluctuations and contractions in the yearly allowable catches of important species, on-board processing of the catch, enhanced productivity in the processing industry and increased production capacity. In recent years, competition for raw material for processing and the restructuring within the marine sector, in part due to diminishing allowable catches of white fish, has directly affected the settlement structure.

Figure 3.1 shows the population in Iceland by region and the rate of change of population in the last 10 years. The national change over the peri-



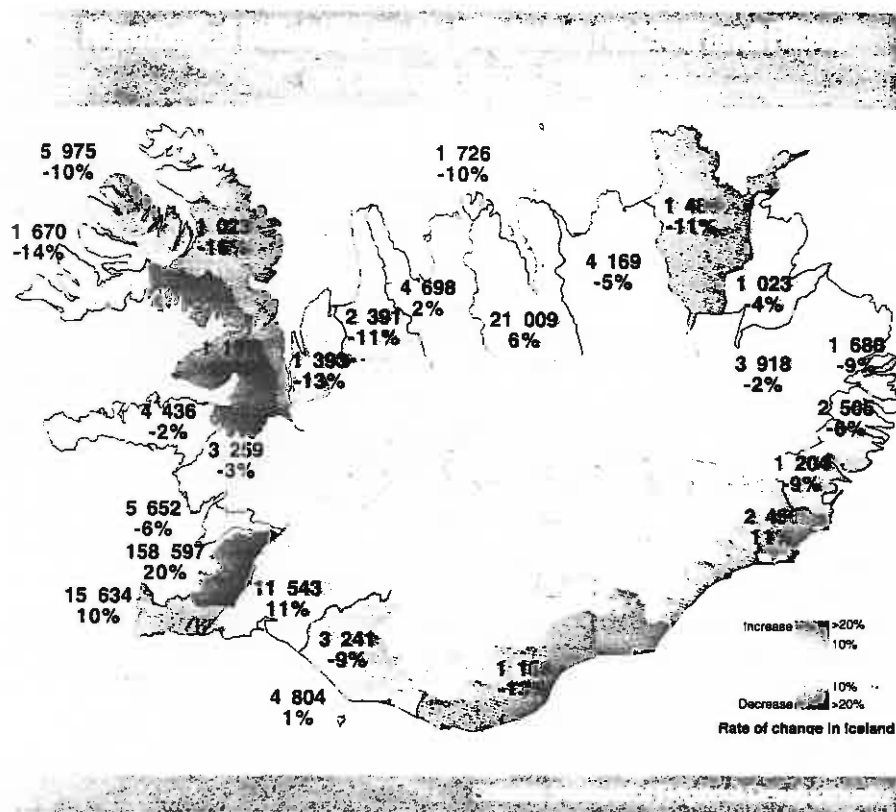


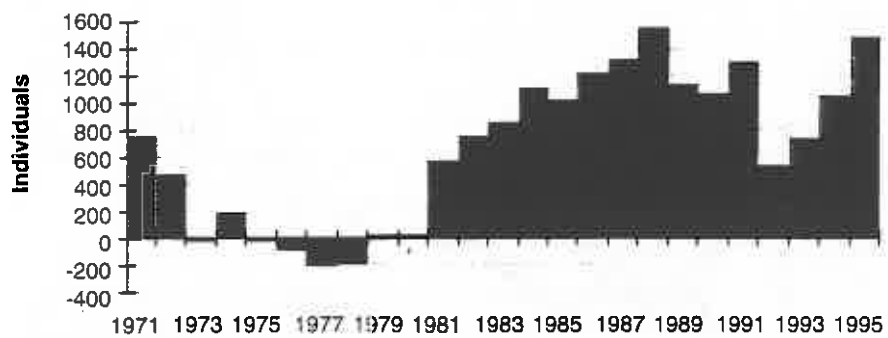
Figure 3.1

od is 10.6%, or a little over 1% per year. The only region to grow significantly above the national average is the capital region where growth has been almost double the national average. Two regions in the Southwest and one in the Southeast are around the average. All other regions are far below the national average. In nine regions the population has decreased by over 10% and in one region by 20% in ten years.

The asymmetrical development of the regions is mainly caused by migration, as there is little spatial variation in fertility or death rates. About 17,000 people, or 6.4% of the population, migrate between municipalities in Iceland each year. External migration accounts for another 6,000 people and has been increasing in the past few decades. Internal migration has been more stable than international migration.

Figure 3.2 shows net internal migration between the capital region and the rest of the country for the last quarter of a century. The period from 1973-1980, when there was balanced population development in Iceland, is notable. Since then, however, the development has been negative for the areas outside the capital. The net loss due to internal migration was largest in 1988 - almost 1,600 people - but the year 1995 shows the second largest loss. Since 1981, the cumulated loss due to internal migration has been

### International Migration to the Capital Region 1971-1995



Source: Institute of Regional

**Figure 3.2**

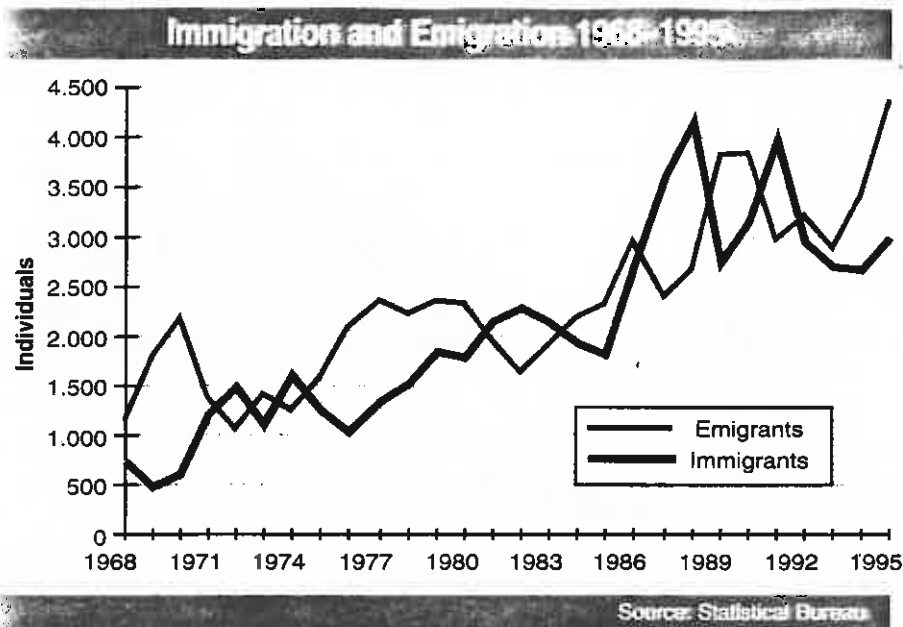
15,805 people. In other words, one in ten inhabitants in the capital region was a migrant from the provinces during that period. One can also say that 43% of the population increase in the capital region from 1981 has been due to internal migration.

### The present situation

The population of Iceland increases by little over 1% per year on average. This is mainly due to the fact that births are considerably frequent and life expectancy is increasing.

Migration in Iceland in recent years has not been studied in detail and its main causes have not been established empirically. Nonetheless, the indications which emerge as the basic trends are studied do suggest that the development is driven by a multitude of factors, many of which do not lend themselves easily to quantitative assessment. The region with the most serious out-migration, the Northwest, has had higher average income than other regions and lower unemployment. The reasons for the uneven population development of Iceland's regions are therefore not simple. A high income and secure employment do not suffice per se to prevent people from leaving a region.

In the last few years there has been increasing concern in the public debate over international migration. Figure 3.3. shows the number of immigrants and emigrants each year since 1971. There have been large fluctuations in the number of people migrating to and from Iceland, but it can be detected from the graph that international migration has increased considerably in both directions. The greatest net loss in a single period was late in the 1960's, but the number of emigrants in 1995 was double that of the earlier period.



**Figure 3.3**

Technological advances both in the urban and rural economy have led to drastic changes in the use of manpower in many sectors of the economy. Because of this, urban areas have grown and new ones have emerged while the number of people living in rural areas has declined. As already mentioned, the settlement in the coastal regions has been greatly influenced by changes and fluctuations within the fisheries sector. For instance, diminishing catches of demersal fish reduce the income of those areas which depend on demersal species rather than pelagic species and vice versa. There are very significant regional variations in the composition of the catch. The adaptation to fluctuations of this kind is ever more difficult as society evolves and demands are made regarding, for example, stable employment, access to basic services and the security of private investment.

Settlement in agricultural areas is based on natural resources, proximity to markets, public services and communications. As elsewhere in Europe, there have been enormous technological changes in agriculture and the number of people employed in agricultural production has fallen. In addition the consumption of traditional agricultural products has decreased. In part the food production sector should be considered as an industry rather than as agriculture, as some of its branches do not rely heavily on the utilisation of land or domestic resources.

New sectors of employment have expanded in the urban areas, especially in the capital region where the population increase has been greatest. In terms of settlement, the effects of rapid expansion in the service sector, trade and industry, as well as public services, have been greatest in the capital region.

## The capital area

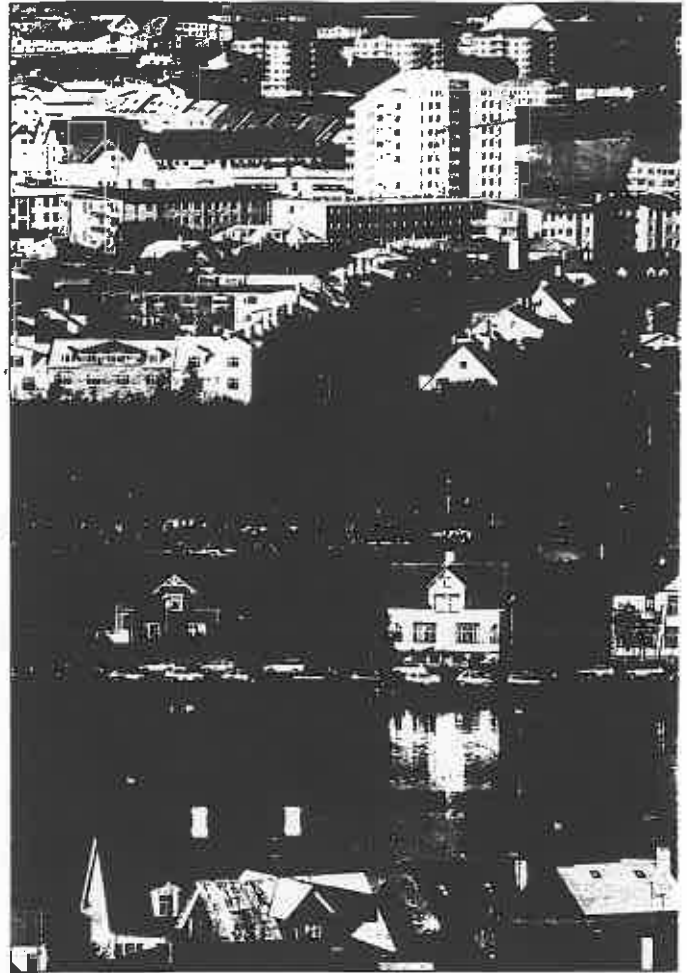
Iceland has only one urban area -the capital area- that can be called a city, albeit a small one by the standards of most other countries. The city is located in between two of the country's largest agricultural areas and close to the spawning season fishing banks. It enjoys access to considerable geothermal resources and good harbour conditions. The administrative system has evolved in Reykjavik, and most of the higher educational institutions and the national hospital are located there.

When deciding where to live, the options for most young people are fairly simple - particularly when confined to the domestic situation. In principle they can choose between the capital area and the rural areas, with much smaller towns. The rural areas can again be subdivided according to population density, access to services, diversification of the labour market and so forth.

A third option is emerging, however. People growing up in Iceland increasingly decide to settle in another country. As the hindrances to professional and recreational mobility are removed, for example by way of international agreements that enable young people to work and acquire social rights abroad, young people have become increasingly mobile.

The characteristics which are commonly attributed to large cities are often negative, i.e. stress, crime, insecurity, social alienation, absence of a natural environment. On the other hand, large cities are also expected to offer a more varied and prosperous social and cultural life, as well as access to different types of services. Access to fundamental services outside the capital region is often easier, but the spectrum of services offered in the capital region is much larger.

The residents of Iceland's capital area are free from many of the disadvantages frequently associated with a large conurbation. The limited size of the population helps reduce the risk of crime, the general standard of welfare services must be considered good and access to unspoiled nature and a



# Future Regional Development Policy

In 1994 the Althingi adopted a resolution on Regional Development Policy, and concluded that the main objectives of the regional development policy were as follows:

To strengthen urban settlements in order to ensure optimal exploitation of natural resources on land or in the sea.

To encourage population growth in areas where it is possible to run a diverse and prosperous economy and provide services which satisfy the demands of modern society.

To reduce the population movement to the Capital region in order to ensure optimal utilization of the nation's installations.

To attain these objectives, priority will, to the end of 1997, be given to achieving the following goals:

## **1. The strengthening of integrated economic and service areas**

Work will be done towards connecting urban settlements with rural areas by means of effective transport and strengthening integrated economic and service areas (developing areas). These areas have to be sufficiently populated so that it will be possible to run a diverse and profitable service and economy. To this end the following measures for example will be taken:

a) Priority will be given to transport works, in particular the building of roads for all-year travel, in order to serve the local economy's interests and enlarge service areas.

b) New public services, which the public needs and should be provided in each part of the country, shall primarily be located in the largest urban settlements or other places where they are considered most effective.

c) The aim is not to reduce the governmental services now provided outside the Capital region.

d) Governmental measures in border areas will in particular take account of the exploitation of natural resources and tourism. In the most remote areas farmers shall be assisted in discontinuing farming, should they be willing to do so.

## **2. Public activities and works shall be co-ordinated**

Public activities and works shall be co-ordinated in an attempt to avoid arbitrary decisions. Public services should be provided as effectively as possible and adopted to the number of inhabitants, transport and technology. Measures to this end will, e.g., include:

a) Procedures for decision-making in connection with public works and services will be co-ordinated. Long-time goals of Ministries and State Institutes shall be co-ordinated. The Prime Minister's Office shall be responsible for this co-ordination and promote the introduction of new operating procedures. The Office will be assisted by the Institute of Regional Development.

b) Four-year plans will be prepared in each service sector and serve as a basis for long-term budget planning.



c) The Prime Minister will report on the implementation of these plans at the beginning of each year. d) The Prime Minister will establish a Committee which will be responsible for reviewing legal provisions on governmental planning with a view to the increased effectiveness of operating procedures and optimum use of budget allocations.

e) Regional plans will be regarded as a co-operation agreement between the State and the municipality in question. They will be prepared in close co-operation with the municipalities and the Ministries with The Institute of Regional Development, on behalf of the Prime Minister's Office, acting as a co-ordinator in their preparation.

### **3. Decentralization of governmental power to the local authorities**

Decentralization should be aimed at by delegating governmental projects to the local authorities. The prerequisite for this is the unification or contractual co-operation between local authorities. Measures to this end will for example be the following:

a) Proposals on the delegation of governmental projects to the local authorities will be submitted to the Althing as soon as possible.

b) The provision of public services and the activities of public institutions will be increased outside the Capital and reduced in the Capital region at the same time. Co-operation on regional offices (departments) will be established between governmental institutions where it is considered to promote effectiveness.

### **4. Industrial innovations and diversification**

The conditions of the economy of the country will be such that the businesses will be profitable. Increased priority will be given to employment development, under the auspices of the Institute for Regional Development and the representatives of each region, directed towards industrial innovation and diversification. Measures to this end will, e.g., include:

a) The Institute of Regional Development will take the initiative to co-ordinate the utilization of the appropriation made by the State Treasury for employment outside the Capital. The Institute of Regional Development will assist businesses outside the Capital in order to improve and strengthen product development, marketing, worker proficiency and industrial innovation. Co-operation between businesses and research and educational institutions will be assisted. A project to further the business enterprises involving women will receive further support.

b) Industrial development under the control of the local population shall be promoted with financial support given by the Institute of Regional Development to industrial development societies in each constituency.

The Institute of Regional Development will be a shareholder with as much as one third of the holdings in the industrial development societies and take part in the operating expenses and individual projects of the societies.

c) The role of the Institute of Regional Development in co-ordinated governmental measures will be investigated with the objective of attracting inward investments in Iceland. The possibility of attracting foreign businesses to Iceland will also be investigated. Work will continue on acquiring information on conditions for the establishment of heavy industry outside the capital.



pollution free environment is generally easy. There are few reasons to believe that a deterioration of the general living standards is to be expected in the foreseeable future, and there is little indication that the capital region will start to suffer in any serious way from the negative aspects of conurbation. There is, of course, some individual concern over issues such as more time spent on commuting, volatile or rising prices of housing, the emergence of sub-cultures and so forth, but these

hardly qualify as social ills or anything beyond the reasonable.

A reversal of the present trend of population increase in the capital area is not to be expected on the grounds of inadequate infrastructure, condensation or environmental issues. A more relevant issue of concern is the tendency towards higher unemployment which has emerged and persisted in the capital area during the economic contraction in the early 1990's.

### Future settlement patterns

It is no easy task to predict to what the future settlement pattern in Iceland will be like, but any educated guess must draw on the country's general social and economic outlook and other relevant indicators. As already stated, population growth is around 1% and is unlikely to change much. As has been noted, migration fluctuations are large and increasing, especially as regards international migration. On the domestic front, large-scale out-migration from relatively small communities may endanger their social structure which in turn weakens their longer-term ability to reverse that trend. Evidence of this has already appeared in isolated rural areas and to a somewhat lesser extent in small fisheries-based communities. In order to project a realistic scenario for the future, one can -for the sake of simplification- ask two basic questions. What will determine the choices of people in the years to come when they have to decide where to live? And what options will they have?

As already stated, there is a lack of comprehensive analysis of what determines peoples choices in respect to settlement. However, there is a strong historical correlation between economic well being and settlement decisions, which -even though the relation between them is ambiguous- indicates that people will base their decisions on economic considerations. One must also assume, on the basis of recent developments, that younger people, in particular, will opt for areas where they find employment which

suits their educational background and professional capacities, and where their social needs, both in terms of services and private interests, are best catered for. The issue of economic development -both the over-all economic development and the development of single sectors of the economy- is thus vital for the settlement structure; it determines where and to what extent new jobs will be created to attract young educated people.

As regards the rural areas and most areas outside the capital area, one must note, firstly, that the expansion in public services has most likely halted, and the number of jobs in health care, education and administration will probably not rise significantly. Secondly, it is also clear that smaller communities would have difficulty in sustaining a more varied service sector in spite of the fact that people make demands for extensive and comprehensive services. The question arises whether it is possible to supply these demands at an acceptable cost. It is clear that communications, especially roads, are an important factor here, but they are insufficient when services are being offered that need a population base that is considerably above that of the rural towns even if they were connected with the best road system available. Thirdly, there is some potential in the development of industry based on natural resources, but by and large this is a question of industrial development based on knowledge and not tied to natural resources.

For the rural and coastal areas, much hinges on how the fisheries sector will perform and develop in the future in terms of, inter-alia, labour intensity, knowledge and educational requirements, productivity, diversification and development of support services.

The fisheries sector, unlike most other sectors of economic activity, has to rely on resources which lend themselves to exploitation seasonally and over limited periods of time. Due to this, the optimal utilisation of Iceland's marine resources requires a dispersed settlement. In order to bridge this gap and provide continuous employment, the fishing sector has to be flexible and flexibility, in this context, depends partly on how well the sector will adapt technically to new circumstances. Development in storage and transport technology are of great importance here, as are high- technology sector-related services such as banking and fish markets which depend on communications technology.

## 3.2 The national planning and environmental issues

Economic and regional development planning is carried out by institutions subordinate to the Prime Minister. Physical planning, on the other hand, is the responsibility of the Ministry for the Environment.

### The regional planning structure

The regional development planning structure in Iceland is closely linked to the formulation of regional policy in general. The agency responsible is

the Institute for Regional Development, which is an independent government institution with its own board of directors elected by the Althing.

Among the tasks of the Institute is the preparation of a proposal for regional policy in Iceland, which has the form of a four year development plan. At the instigation of the Prime Minister, the Institute prepares a proposal of a regional plan, elaborated in collaboration with other government bodies, local authorities and others concerned. This plan is then adopted by the government and discussed in the parliament where it is passed as a parliamentary resolution. The plan discusses the situation and prospects for regional development in Iceland. It includes the regional development programs of the government and contains the regional political agenda of the majority in the parliament, which under normal circumstances is also that of the government of the day.

On the basis of the general national development plan the Institute makes further proposals on regional development plans. These are made in co-operation with the local authorities concerned and deal with the situation and prospects for individual region in question. In addition these plans include proposals for the development of public and state services in the region concerned.

### Physical planning and building

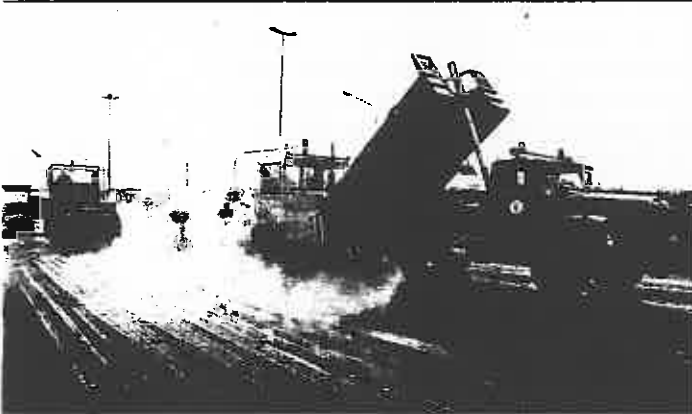
Overall control of physical planning is in the hands of the Ministry for the Environment, assisted by the National Physical Planning Committee. The Committee prepares i.a. regional- and master plans from municipalities

for the acceptance of the minister, and submits comments to the Ministry on complaints arising from alleged infringements of the law on building and planning.

The National Physical Planning Agency (NPPA) is in charge of surveys as well as monitoring the making and the revising of land use plans in cooperation with the local authorities involved. According to current law, land use planning is performed at three levels: Regional

planning on a district level, local planning as Master Plans for a distinct municipality and site planning prior to building activity. The Agency also makes advisory reports on various planning projects, and oversees the mapping of the country's densely populated areas. The agency monitors the work of the local authorities' building committees and is responsible for ensuring the observation of the planning legislation.

No building permissions can be given unless they conform to a plan, previously agreed upon. Therefore, all structures, whether above or below



ground level, and other structures which have an influence on the appearance of the environment, apart from buildings on farms in rural areas, are to conform to the decisions or the land use plan approved by the relevant local authority and the National Physical Planning Committee and in certain cases confirmed by the Minister for the Environment.

### Physical planning in rural areas

Until recently, the main emphasis was placed on bringing satisfactory order to area planning in urban areas and population centres, and considerable success has been achieved. As these goals have been attained, it has become possible to attend to land use planning in rural areas. Recent years have seen a great deal of construction of various types which has not been in connection with farms. Examples include the building of holiday homes, aquaculture stations, service centres, and major development projects.

In recent years, the National Physical Planning Agency has been involved in regional physical planning, which gradually will cover the whole country. The plans, which include the policies of the relevant local authorities, deal with the various land utilization issues in the locality, such as urban development, conservation, highland areas, agriculture and grazing, infrastructure and energy harnessing, tourism and recreation and summer house developments. This increase in work on matters concerning planning outside urban areas has necessitated close collaboration with other relevant bodies, i.e. the Nature Conservation Council, the Environment and Food Agency, the Public Roads Administration, the National Power Company, and local authorities.

The Ministry for the Environment has prepared revision of the general legislation for physical planning and construction, including utilization of the central highlands. The objective is a legal framework that applies to urban and rural areas as well as to the central highlands, which incorporates more systematically consideration for the human and natural environment and improves the national and local administration of physical planning and construction. This new act has not yet been adopted by Althing, the Parliament.

### Environmental impact assessment

The law on Environmental Impact Assessment (EIA) came into force on 1 May 1994. It links up with other licensing acts and provides for mandatory consultation with license granting agencies. The principal authority for the EIA is the minister for the Environment but the Director of the National Physical Planning Agency is responsible for its implementation.

The main aim of the Act is to ensure that the environmental impacts of projects likely to have a significant effect on the environment, natural resources and a community are assessed before they begin. Correctly handled, the EIA process is an effective tool in environmental decision-making.

## **Projects subject to an Environmental Impact Assessment:**

1. Hydroelectric power plants with installed power of 10 MW or more, or reservoirs whereby more than 3 km<sup>2</sup> of land goes under water on account of dams and/or changes of river beds.
2. Geothermal power plants with thermal capacity of 25 MW or more in raw energy or installed power of 10 MW or more, and other thermal power plants with installed power of 10 MW or more.
3. Construction power lines with 33 kV voltage or more.
4. Gravel mines on land 50 000 m<sup>2</sup> or larger or where planned removal of gravel exceeds 150 000 m<sup>3</sup>.
5. Tourist centres in uninhabited areas.
6. Disposal installations for poisonous and hazardous waste, and waste disposal installations where waste is disposed of in an organized manner, or buried in land fills.
7. Plants with initial melting or remelting of cast iron, steel and aluminium.
8. Chemical plants
9. Construction of new roads, railways and airports.
10. Ports for vessels over 1,350 tons.

whereby it ensures that the likely effects of a project shall be known well before development consent is granted. The Act shall also ensure that such an assessment is invariably a part of the planning process and thus be a necessary and essential tool for all future planning.

## **Waste management**

Under the pollution control regulations, local authorities are responsible for the collection and disposal of municipal solid waste. They are also responsible for operating satisfactory facilities for disposal of other solid waste, the industries generating the waste being responsible for transporting it to the appropriate disposal facilities.

The total generation of solid wastes in Iceland is estimated at 200,000 t per year.

Currently, about 25,000 t of municipal and industrial solid wastes, or 13% of the total, are recycled or prepared for recycling abroad. The remainder is disposed of as follows: 80% is landfilled, 10% incinerated in incineration plants and 10% burnt in open fires. About 700 t of the total hazardous waste generated in Iceland per year, other than waste oil, are now collected and treated in an environmentally sound manner. The waste oil is burnt as fuel in the cement plant.

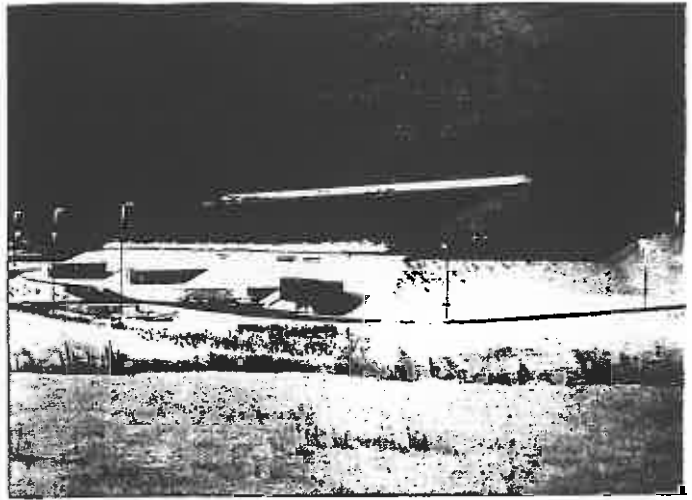
Some small-scale recycling of waste materials has been carried out in Iceland for many years. Interest in this field has grown rapidly in recent years. Aluminium, plastic and glass beverage containers are collected in a nation-wide deposit scheme, aluminium cans and plastic bottles being processed for recycling. A special incentive deposit, is levied on such containers. The deposit pays the cost of collection. Returns have been 80-85%. Recycling of other plastic materials, e.g. plastic sheets for baled hay, waste rubber, paper and cardboard is increasing. Scrap metals have been exported for

recycling for many years, increasingly since a newly built scrap metal smelter stopped working after a few months of operation. Generally, limited and small markets and the high cost of collecting due to long transportation distances are major obstacles to the recycling of waste materials.

There are five waste incineration plants in Iceland, three of which have no satisfactory pollution control equipment. Open fire burning takes place in small pits or concrete ovens constructed by the local authorities. According to the pollution control regulations, however, open fire burning of waste has to be abandoned. Nearly all of the rural communities and villages around the country are now working on improvements of their waste management. For many of these small communities, however, limited financial resources and lack of co-operation between them have been and are the main restraining factor for improvements in this field.

Besides the modern centre for receiving and handling and disposing of municipal and industrial solid waste of the metropolitan area, operating since 1991, other such centres are now operating in various parts of Iceland, either with a sanitary landfill or with an incineration plant for final treatment of the waste. The metropolitan centre sorts the waste for recycling and baling, the bales being deposited in a sanitary landfill, the first of its kind in Iceland. The centre serves close to 60% of the total population of Iceland.

Efforts have been made in recent years to establish suitable methods for collecting and disposing of hazardous waste. PCBs have been systematically collected in Iceland and exported for treatment in appropriate hazardous waste treatment facilities abroad. A system for collection of batteries was established in 1989. Returns have been more than 60%. Last but not least the local authorities in the metropolitan area have operated a collection facility for hazardous waste since spring of 1990. This facility was combined with the baling and disposal centre in 1991. An agreement with the authorities in



*Sorpa; Municipal waste disposal company, Reykjavik.*

Denmark enables the collected hazardous waste from Iceland to be shipped for final treatment in a licensed hazardous waste treatment facility in Denmark.

## Sewage

For the vast majority of human settlements in Iceland, waste water is discharged into coastal waters. Until recently, infrastructure for treating and discharging waste water was not very well developed. Due to low population density, however, discharges of sewage did not create major environmental problems, although occasionally visual and olfactory pollution was detected. Furthermore, analysis of traces of various pollutants in Icelandic waters have indicated very low pollution levels.

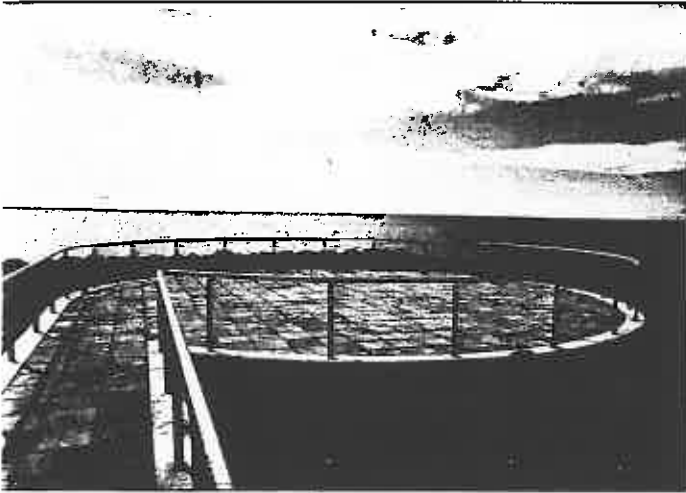
Recently, a number of measures have been initiated with the aim to improve the infrastructure for sewage. The first major steps were taken in the Capital-area, with the construction of new and improved facilities that reach almost half of the population of Iceland. Substantial investment have been made in the relocation

and extension of pipes discharging effluents in order to reduce exposure of the local population to visual and olfactory pollution. Furthermore, steps have been taken to treat sewage to the extent appropriate to meet relevant qualitative objectives in accordance with new regulation set by the Central Government in 1994.

The new regulation set by the Central Government is based on Directives from the European Union. Due to the fact that number of local governments face considerable financial constraints in establishing the necessary infrastructure for implementing the new regulation, in 1995 an Act on Government support to local governments to carry out sewage projects was adopted by the Parliament. The initiative and planning is in the hands of local governments and the construction of all facilities their responsibility, while limited financial support is made available by the Central Government. The plan is made for a period of 10 years and the total cost of implementing the plan is estimated IKR 20 billion.

Discharges of all pollutants to water is prohibited in Iceland with the aim of limiting water pollution from land-based source. The regulation in this area is carried out in accordance with a regional agreement for protecting water and marine environment from pollutants. For specially listed sub-

*A view from the top of a sewage pumping station.*

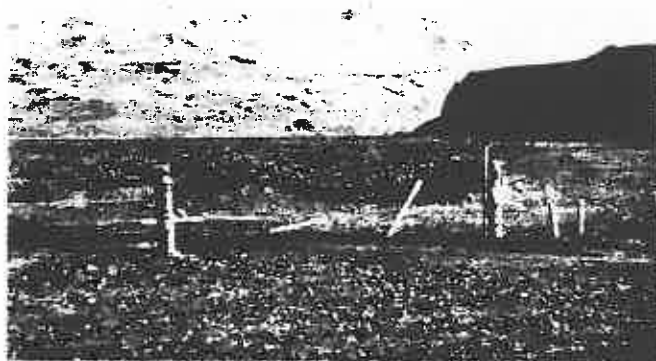
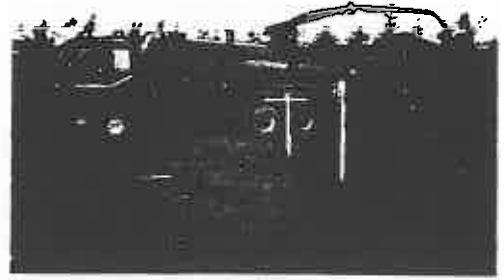




# The Sewerage System in Hvalsövellur

One of the most urgent environmental issues in Iceland is the completion, cleaning and utilization of sewage both in densely populated and rural areas. This is the prerequisite for keeping the country clean and producing as clean and wholesome products as possible which are a part of sustainable development.

Hvalsövellur is a small town in the south of Iceland with around 700 inhabitants. Until recently the sewage was lead untreated from an open canal into a small stream near the town. Geographically a large receiving environment is far away as Hvalsövellur is, for example, located 30 km from the sea. Hvalsövellur is in the middle of an agricultural area in the south of Iceland and the country's largest meat freezing and meat processing plant is now located there. In 1991, the building of the first part of a sewage treatment plant was commenced with a 900 m<sup>3</sup> covered treatment vat. This is in fact a three chamber septic tank with the appropriate drainage from the vat. It is estimated that the cleansing capacity in the vat will be around 40 till 50 per cent. Also, a sample hole to monitor ground water contamination was drilled about 500 m away from the structure.



Unless the intention is to use the water for consumption, a very costly and unnecessary as there is plenty of very good water in the vicinity of the treatment vat. It is cleaned out every year and the sediment is used as fertilizer. The water is used for irrigation and the sludge is used as a fertilizer. The water is also used for irrigation and the sludge is used as a fertilizer.

Also, a sample hole to monitor ground water contamination was drilled about 500 m away from the structure.

The method is called biological treatment and is based on maintaining adequate oxygen level in the sewage and conditions as suitable as possible for microorganisms which see to the biological treatment of the sewage. It is estimated that this will suffice the area until the year 2005 but then the second phase of the project will be implemented which involves a biological filter that will render the sewage 90 to 95 per cent clean. Further cleaning is considered unnecessary. 100 per cent cleaning of the water is not being water in Hvalsövellur. Every



stances no discharges at all may take place, while for other substances industry can seek a special discharge permission, which can be granted after an environmental impact assessment has taken place.

## Air pollution and use of renewable energy

Air pollution levels in Iceland are much lower than in most other developed countries. This reflects the country's small population and low population density, as well as relatively little heavy industry. Air emissions also usually get quickly dispersed in the windy climate.

An additional contributing factor to the low air pollution levels is Iceland's heavy reliance on clean and renewable energy sources, namely hydropower for electricity and geothermal power for space heating. This is partially offset by high emissions per capita from motor vehicles (see below).

Hydro and geothermal energy together account for about 65 per cent of Iceland's primary energy supply, the highest proportion of renewable energy sources of any OECD-country. Over 90 per cent of electricity is generated by hydro power, the rest by geothermal power. Almost 90 per cent of all homes in Iceland are heated by geothermal water, while the share of oil in space heating has fallen below 2 per cent. Utilization of geothermal energy for space heating started in 1930 in Reykjavík, which is located close to rich geothermal fields (the name Reykjavík means "bay of smokes", a reference to the columns of steam rising from hot springs from a site near the present city centre). Today, all houses in the capital area are heated by geothermal energy, as well as the majority of houses in other parts of the country.

While geothermal energy is renewable and plentiful in Iceland, it replenishes slowly, and cannot be treated as a limitless resource, like for example hydro energy, which is ultimately driven by the sun.

Pollution from motor vehicles has contributed to the increase in certain emissions (nitrous oxides, volatile organic compounds and carbon monoxide), leading to occasional smog in the Reykjavík area, where about 56 per cent of the country's automobiles are concentrated. Vehicle ownership has more than tripled since 1970. Airborne lead in Reykjavík has decreased more than 90 per cent since 1975, partly thanks to government regulations and tax incentives in favour of unleaded petrol.

## 3.3 Policy issues

### Agenda 21

One year after establishing a separate Ministry for the Environment, the Icelandic Government took a first step towards the development of a

national plan for the environment with the release in 1991 of its White Paper, where environmental protection was dealt with for the first time in a co-ordinated manner by the government. It identified a range of priority objectives and strategies, but lacked detail in some areas, such as implementation strategies and funding levels and sources.

Following the Earth Summit in Brazil in 1992, the Government established a committee to draw up a plan setting goals and priorities based in part on Agenda 21, incorporating the concept of sustainable development in all areas of concern in Iceland. The report, entitled "Towards Sustainable Development", was published in March 1993, and can be said to be the first comprehensive environmental policy document published in Iceland.

In the wake of that report, the Minister for the Environment established seven committees to work out detailed implementation plans, and in particular to spell out how to achieve sustainable development in specific sectors: agriculture, fisheries, industry and energy, transport and tourism, waste management, urban and rural development, and environmental education. All in all, over 120 persons participated in those committees, representing key sectors in Icelandic society, such as government ministries and institutions, political parties, labour unions, employers' associations and non-governmental organizations. The aim of this work was twofold: to mobilize the various sectors of society in the creation of environmental policy, and to obtain more detailed proposals on how to translate such policy into action.

All groups turned in their proposals in 1994 and 1995. The resulting documents are not considered official government policy in the field of the environment, but rather as a collection of proposals for actions that can be taken by the Government, as well as other sectors of society. Work is under way to construct an official action plan, based on those reports, which would eventually be adopted by the Government.

## Perspectives for the future

The government has put forward environmental policies where physical planning, nature conservation and pollution control form the administrative framework for establishing and implementing environmental regulations. The integration of environmental considerations in the administration of physical planning will be strengthened. Emphasis will be placed on the completion of regional plans for all municipalities within the next ten years, and certain emphasis will be placed on registration and protection of natural and historical monuments. A regional plan for the central highland is under preparation. The goal is to improve the administration and implementation of physical planning, nature conservation and construction regulations in that area.

The Ministry for the Environment has developed a national strategy for the management of waste, which has been endorsed in principle by the local authorities. The strategy involves finding and implementing feasible

solutions for the disposal of household and industrial solid waste in the local communities. The collection of hazardous waste is planned to be arranged by a nation-wide system which will be partly financed with environmental fees on materials that can become hazardous in the waste stream. Minimizing the production of waste, both in industry and households, e.g. through new technologies and product development, is also an integral factor in the national strategy.

The Government has decided to take measures in cooperation with the local authorities to adjust regional development to changing economic circumstances in accordance with the principles and objectives of sustainable development. Local authorities are encouraged to adopt their own environmental policies and to develop and implement action plans based on the principles of sustainable development.

The local authorities in the greater Reykjavik area are encouraged to increase their co-operation in areas pertinent to the environment of the area, in particular to conserve and promote sustainable utilization of groundwater resources and to enhance protection of important habitats of flora and fauna. Last but not least they are encouraged to improve public transportation.



## 4. Adequate Housing for All

### 4.1 Housing policy

The Icelandic Government started formulating its comprehensive housing policy after World War II. Until then only a few, and limited, public measures had been taken to provide housing.

At the beginning of this century there was a severe housing problem in Iceland. Housing was inadequate and most of the existing dwellings were of a poor standard. Because of this and a rise in rent during the war in 1914-1918, interim legislation on rent in Reykjavik was adopted in 1917.

Social housing projects can be traced back to 1919 when the Joint Organization of the Trade Unions in Reykjavik encouraged the establishment of a building society to build rental flats. The Workers' Building Society Act entered into force in 1929. Building societies were established in many areas on the basis of that act.

Since 1939, housing issues have been administered by the Minister of Social Affairs. The government in power at the end of the war endeavoured to formulate a new comprehensive employment policy which entailed an extensive housing policy. This was set out in a new comprehensive legislation adopted in 1946. However, difficulties in importing building materials due to lack of foreign currency, together with other economic difficulties, delayed the implementation of such a policy.

#### The state housing board

The founding of the State Housing Board and the State Housing Agency in the mid 1950's marks the beginning of comprehensive administrative actions on housing policy. From the beginning, post-war housing policy was characterized by a strong emphasis on self-help and measures to enable young families to participate in the building of their own houses.



*During and immediately after the World War II people moving to the capital inhabited the barracks left behind by the Allied forces. Construction in Reykjavik was at a peak in 1955-1965 and barracks were largely eliminated. Up to 4% of inhabitants in Reykjavik lived at one time in the barracks.*



Successive governments cooperated extensively with the trade unions on housing policy. One of the clearest examples of this was the extensive development of 1,250 workers' dwellings in the 1960's. Since then, housing measures have time and again been part of the solutions of labour disputes. This happened last in 1986, when the two main organizations of the social partners, in conjunction with the government, initiated an overall restructuring of the general housing system.

At the end of the 1980's, the authorities gave priority to the building of social housing which constituted 40% of all newly-built housing in the country in the beginning of the 1990's. At the same time, the government made efforts to increase the diversity of social housing, and to balance the types of home ownership.

The single most important factor in building up housing mortgage financing in Iceland has been the development of the pension fund system. Since about 1970, most occupational groups have had access to a pension fund. After only a few years' membership, most young wage-earners were able to obtain a housing loan from their pension fund, with a 20-25 year maturity period. In 1986, 55% of the pension funds' disposable capital was channeled through two state-run building funds, with the state lengthening the maturity period of the loans and subsidizing the interest. With the advent of the 1986 reform, Icelanders were for the first time able to obtain comprehensive mortgage financing of their new dwellings.

The most important change was that loans from the State Housing Agency more than doubled and the maturity period was extended to 40 years. The old housing loan system was abolished in 1989 and at the same time the housing bonds system was introduced.

### The housing bonds system

A market-oriented housing bonds system was introduced in November 1989, its purpose being to change the financing of the general housing loan system. Prior to this change the State Housing Agency loaned directly to buyers at fixed interest rates, financing its activities by borrowing domestically and internationally. This amounted to a subsidy.

Under the new system the State Housing Agency issues government-backed bonds and acts as a broker between the buyer and seller. The bonds carry market interest, but the state guarantee is equivalent to a subsidy. At the same time, income-related interest rebate benefits were introduced. The

mortgage can be as high as 70% of the value of the property. The seller receives the housing bonds and can use them for his next property purchase, keep them as savings or sell them on the market.

When the State Housing Board and the State Housing Agency were established, their loans were equal to less than 1% of GNP; in the past few years they reached a maximum of 6.3% of GNP, being 4.5% in 1994.

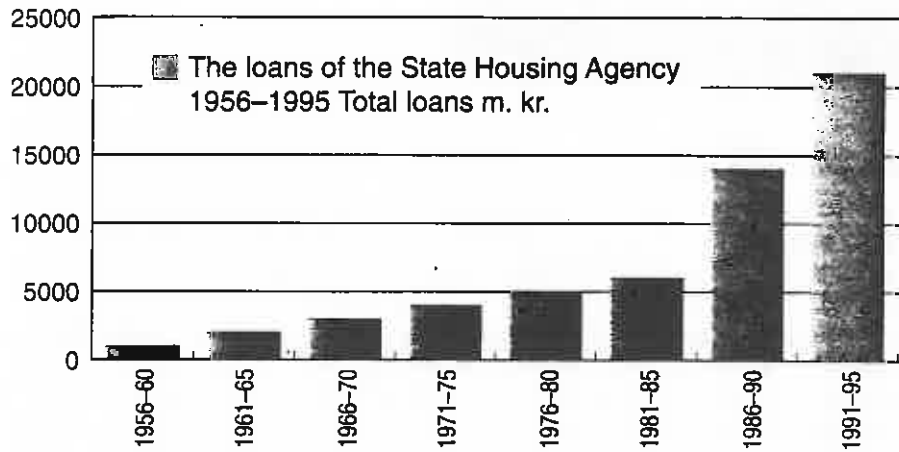


Figure 4.1

Loans made by the State Housing Agency last year were approximately equal, to the total loans made by the agency in its first 14 years of operation.

### Present policy

The purpose of Icelandic housing legislation is to direct lending towards housing and an organization of housing and building activity to bring about security in housing provision for all citizens. The aim is moreover to increase equality in housing in such a way that financial resources are utilized to increase people's chances of either owning or renting a dwelling at a reasonable price.

In broad terms, the present government, which came into power in April 1995, follows the housing policy implemented in the past decades in Iceland. However, certain aspects are constantly under review. For example, the government aims to increase the participation of the general banking system in housing loans. This is not least linked to the fact that the banking system in Iceland has been growing stronger in the past 10-15 years after

fairly limited development in the post-war period, which was above all characterized by a high rate of inflation.

It is the aim of the government to transfer the general part of the housing loan system to the banking system. Changes regarding increased efficiency and flexibility in regard to the social part of the housing loan system are also being developed and prepared.

### Self-building tradition

Great encouragement was given to the self-building tradition in 1949 by a law granting tax exemption to people working on their own dwellings. It was publicly appraised in 1952 by the Smaller Dwellings Loan Department Act, which took account of the self-building tradition.

Those who wanted to build small houses and intended to build them entirely or to a large extent themselves with the help of their families had access to loans there. Designs, and instructions on construction, were obtainable at a reasonable price.

Throughout the post-war period it has been very common that people work extensively on their own house-building project. Often the whole family finds time after regular working hours and during weekends and holidays to work on the new house. Members of the extended family also gave assistance, and especially in smaller communities, the self-building tradition has to some extent functioned on a communal basis, involving members of the community.

The self-building tradition has remained strong in Iceland, though its has probably weakened somewhat after 1986, when there was a very significant increase in the organized official mortgage lending-schemes.

### The building co-operatives

A special House Building Cooperatives Act dates from 1932. These building co-ops are geared towards owner occupation, whereby a group of people gather to build flats or houses which they afterwards own individually. The first building co-operative in Iceland, founded in 1932, worked on a general open-to-all basis in Reykjavík, but it has also been very common in Iceland for building co-operatives to operate within occupational sectors. They were most active in the 1970's and early 1980's, and played an important role in providing thousands of young families with affordable housing and contributed in a positive way to the promotion of self-help and communal spirit. After 1985, with the advent of expanding state financing available for young families in the process of acquiring their first dwelling, their



role has diminished. The co-operative tradition has, however, been kept going by housing co-operatives based on permanent tenant-ownership along Scandinavian lines.

## Social housing measures

The main purpose of social housing measures is to provide low income people and others who need special assistance in acquiring adequate housing. The right to social housing is based on income and social circumstances.

The State Housing Board grants loans to local authorities and NGO's for the building and operating of social housing. Loans are granted for up to 90% of the building cost and the maturity of the loans is 43 years for owner-occupied dwellings and 50 years for rental dwellings.

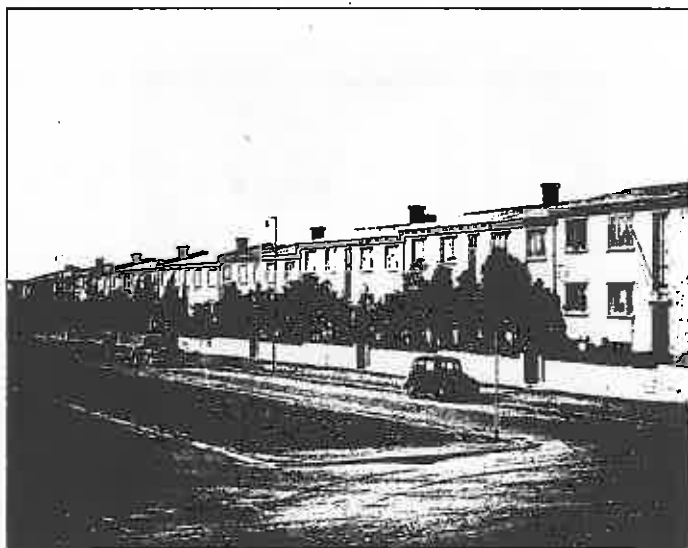
In the past few years the building of social housing has increased dramatically. Social housing now constitutes approximately 10% of dwellings in Iceland. Most social housing is built by local authorities and sold to individuals, with the obligation of buying back the dwellings from owners who need or want to sell, the first ten years after they were built. Leasing housing is also a part of the Icelandic Social housing system.

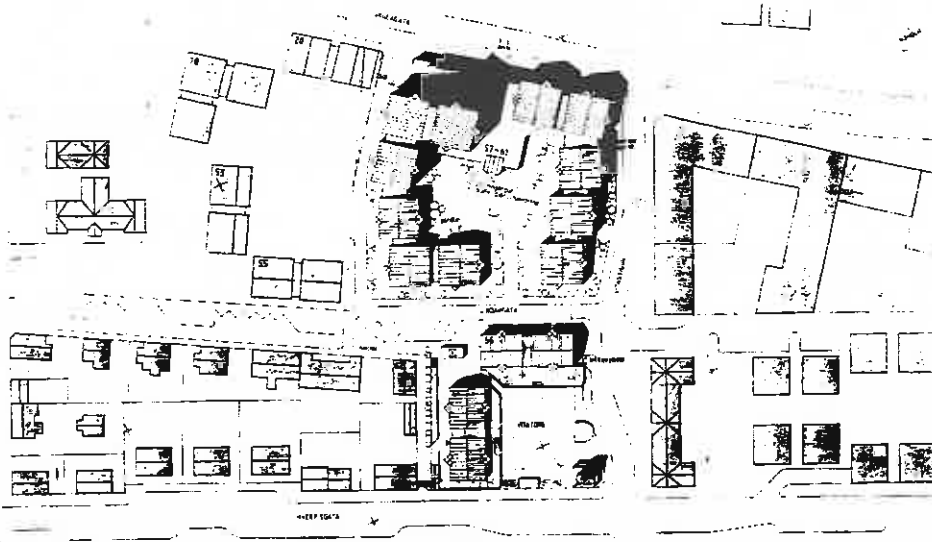
Individuals who are allocated social housing can chose whether they rent the dwellings, make a leasing contract or buy the dwellings.

The State Housing Agency obtained permission to finance the buildings of rental flats by the Iceland Federation of the Handicapped in 1965. Later the permission was extended and applied also to the elderly and other disabled persons' organizations. According to this, legal authorization and subsequent authorizations for around 100 dwellings have been completed with the support of the institution.

Co-operation with organizations of the elderly and the disabled has been good and it is of course first and foremost their initiative that has resulted in the achievement seen today.

The housing situation of students has been reformed in recent years, e.g. by the Icelandic Student Services, the Apprentices' Union of Iceland and other student unions. The State Housing Agency has been very much involved and given its support by granting them loans for 90% of the building cost of their rental flats. Building co-operatives and many types of associations, e.g. the new house co-operatives, have also built flats for their members.





## Flats for the elderly, club and service centre at Lindargata, Reykjavík 1987-1994



Builder: The City of Reykjavík, the Building Committee of the Elderly.

Description: 94 rental and owner occupied flats for the elderly in buildings of three to eight floors and a club and service centre for the elderly. Under the buildings are public car parks as well as car parks for the inhabitants, altogether for 225 cars. The buildings are made of reinforced concrete, insulated on the outside and covered with tinted aluminium. The buildings are heated with geothermal power from the Reykjavik Municipal Heating Service.

Surface area of plot: 6,587 m<sup>2</sup>. Surface area of building: 17,939 m<sup>2</sup>. Cubic measure of building: 52,424 m<sup>3</sup>.

The planning criterion of the project is the concept of increasing the number of residents in a populated area by turning an industrial plot in the outskirts of a town centre into a residential area. The project is developed on the basis of an approved detailed plan of the new residential area, where the area is, for example, divided into separate units, 11 x 11 m each. The designers have laid particular emphasis on adjusting the new area to the old area on the plot. When they designed the central square in connection to the main entrance, the direction of the sun and shelter from wind were taken into consideration. In designing the windows an attempt was made to capture a view of the sea, keeping at the same time in mind the objective of saving energy.

Technically, the buildings reflect certain changes in Icelandic building history which have been emerging in the past years. The method of building load-bearing concrete walls of houses on the spot and insulating on from the inside, which has been the most common method in Iceland in this century, is yielding because the concrete in the load-bearing external walls of many constructions has not resisted the exposure to the Icelandic ocean climate, as was intended. Instead, load-bearing concrete walls are insulated on the outside and covered with metal which creates a kind of "raincoat" as a protection against "horizontal" rain, i.e. rain in high winds. The model for this solution is partly the local tradition of covering wooden houses on the outside with corrugated iron, which was common in Iceland around the turn of the century.

In the past few years, the designing of specialized flats for the elderly and handicapped has been developing more rapidly than other designing. Progressive solutions in general housing constructions in Iceland are less common and stagnation has set in up to a point. Part of the explanation is that the flats are built by the state or the local authorities, which generally demand better designs than contractors on the open market.

## 4.2 Housing situation

The average age of dwellings in Iceland is one of the lowest in Europe. Only 4% of the total stock consists of houses built before 1918 and more than 40% has been built since 1970.

Generally speaking, dwellings in Iceland are spacious and well equipped and Icelandic housing standards rank high, measured by all customary housing indicators. As early as 1970, 99% of all dwellings had piped water, 97% central heating, 94% WC's, almost 80% bathrooms, and 96% had an electric or gas stove.

In recent decades, geothermal energy has replaced imported oil for space heating, and now approximately 85% of all households are heated with geothermal energy. The remaining 15% of the space heating market is covered by electrical (12%) and oil (3%) heating. Oil imports (fuels and lubricants) accounted for 7% of the total value of merchandise imports in 1995, as compared to 19.3% in 1979.

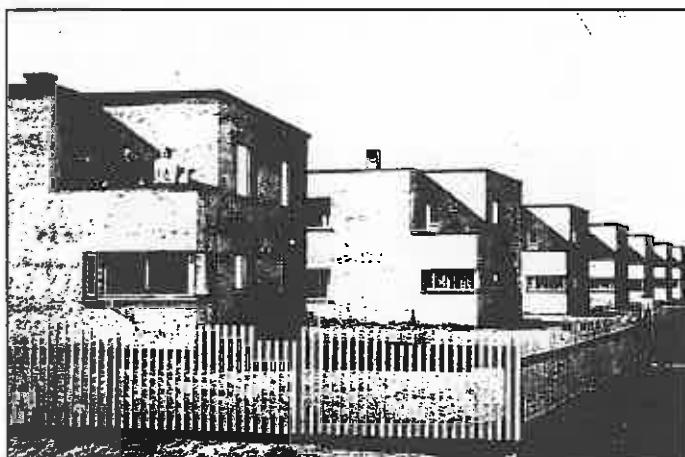
The average size of dwellings completed in the past 40 years has fluctuated considerably, but in the past 20 years new dwellings have, on the average, been considerably larger than those registered for the housing stock as a whole. In 1995 the average size of dwelling units was about 130m<sup>2</sup> and medial usable living space per person was approximately 50m<sup>2</sup>.



### Construction in Iceland 1900-1990

In the first half of this century, construction work was relatively slow and could hardly keep up with the population increase. There were exceptions from this in Reykjavík where there was a great deal of construction work in the first and third decades of the century.

During the latter years of World War II and the first few years of the post-war period, there was much construction everywhere in the country, but mainly in Reykjavík and neighbouring areas. As a whole, the post-war period was a period of dynamic construction work in Iceland, and the boom peaked in the 1970's.





The present Disabled Persons Act entered into force on 1 September 1992. The objective is to ensure disabled persons equality and to provide them with conditions that enable them to lead a normal life.

Group homes are homes for handicapped individuals in ordinary neighbourhoods in blocks of flats, terraced houses and detached houses or other dwellings. Group homes are operated for disabled individuals who can not provide for themselves and need considerable aid. On average there are 5-6 inhabitants in each home and the homes are as close to being ordinary homes as possible.

The objective with group homes is for example to enhance the skills and independence of the inhabitants so as to make them as self-sufficient and independent as possible. To achieve this objective the inhabitants are taught and trained to the extent necessary and are included as much as possible in everything concerning the household. The inhabitants can go to school, day-care or work outside the home.

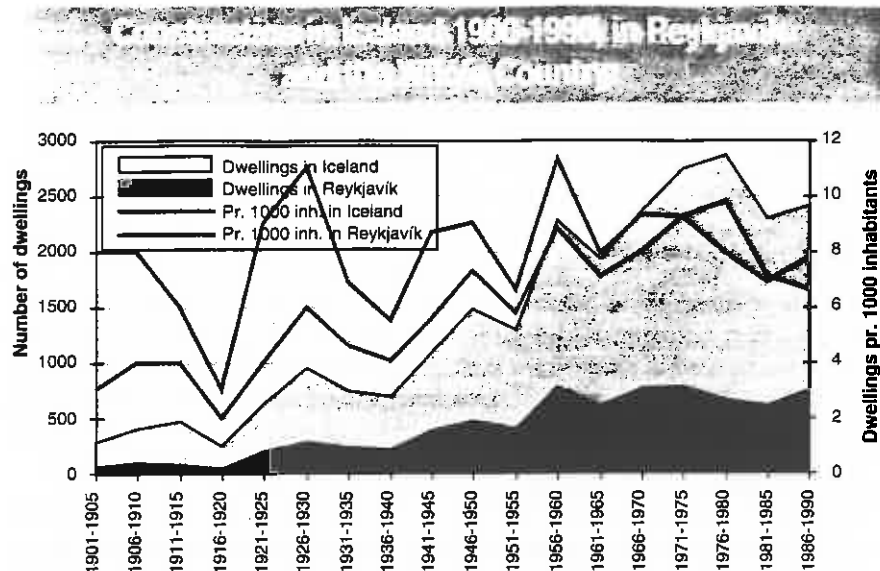
Group homes are run by the regional offices or disabled persons' associations which have obtained operating licenses.

The starting cost is paid by the Disabled Persons' Investment Fund. Employees' wages are paid by the State, the number of employees depending on the nature of the individuals' disabilities. In group homes with multi-handicapped people there is staff 24 hours a day.



Other running cost is paid by the inhabitants of the group home so that they contribute to a special home fund a common contribution of the maximum of 75% of their total invalidity pensions and income insurance or the equivalent. The home fund pays their common expenditure, such as food, electricity, heat, public levies, phone bills and media. The fund also pays minor repairs on household appliances and furniture and the house. The manager of the regional office or his representative is responsible for guarding personal assets of the inhabitants and running the home fund.

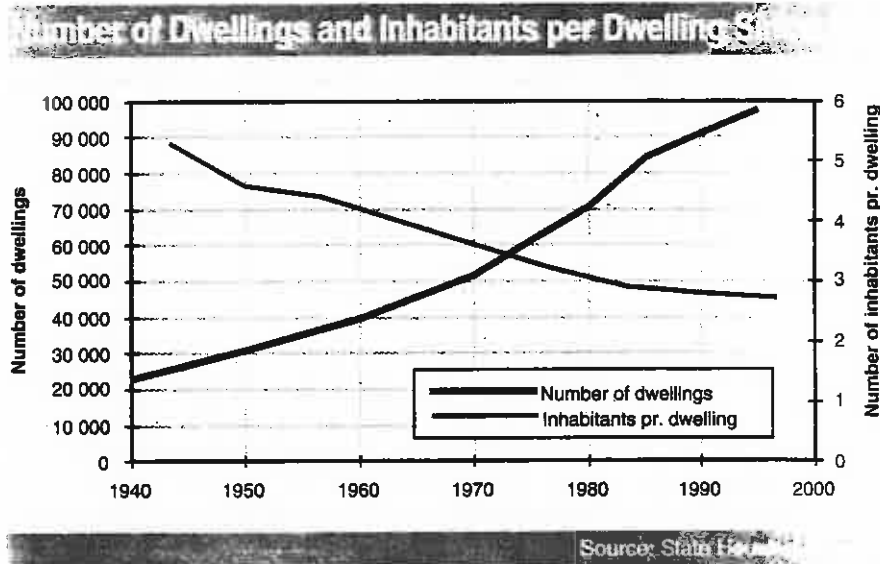
There are over 60 group homes in Iceland, with nearly 300 disabled inhabitants.



\*Figures before 1930 are estimates.

**Figure 4.2**

As in most countries, the share of multi-family buildings in the total housing stock has increased greatly in recent years. Thus, to take Reykjavik as an example, in 1994 only 20% of all dwellings were one-family houses (i.e. detached and semi-detached houses), while 80% of all houses contained



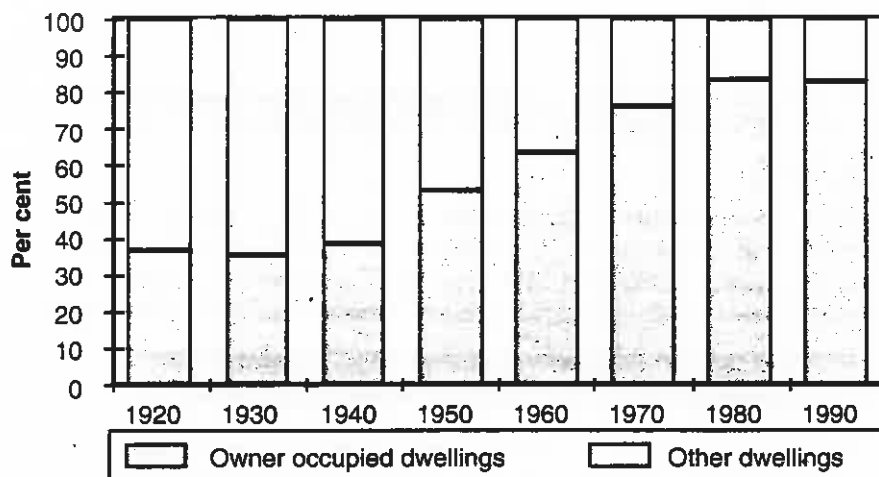
**Figure 4.3**

two dwellings or more. Of the dwellings in multi-family buildings in 1994, about 43% were in buildings with 2-5 flats and 57% were situated in larger buildings.

The average number of inhabitants per dwelling has fallen from about 5.3 in 1940 to about 2.7 in 1995. The largest decline occurred in the period 1970 to 1980.

### Housing tenure

Iceland belongs firmly to a group of countries where the transfer from private rental housing, which dominated the first stages of urbanization, has in recent decades taken the form of an ever more widespread home-ownership. This transformation took only about three decades, from 1940 till 1970.



\*Figures from 1980 and 1990 are estimates

Figure 4.4

Due to better statistics, the figure only shows the development in Reykjavík, but the pattern for Iceland as a whole was basically similar, albeit with home ownership reaching an approximately 5% higher proportion for the country as a whole. The ratio of a median free-market price of a dwelling unit and the median annual household income is now 2.73.

It is noteworthy that the expansion of home ownership took place together with a large population increase. Thus, at the same time as the rate of home ownership rose from 40% to over 80%, the population increased by 68%.

In Reykjavik there were about six times as many owner-occupied dwelling in 1970 as in 1940.

Recently, there are indicators pointing to a slight drop in the home ownership rate, probably best perceptible in the younger age groups.

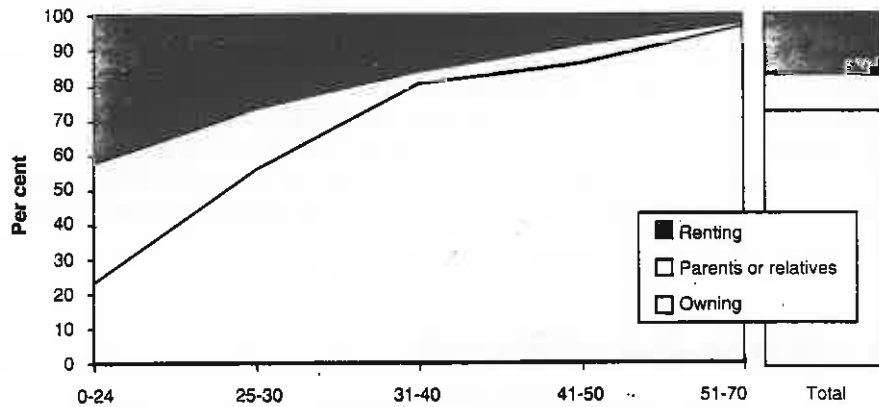


Figure 4.5

Housing tenure in Iceland is clearly strongly age-related. Comparisons with the other Nordic countries indicate clearly that young people in Iceland stay at home much longer than young people in Scandinavia. This is probably partly an expression of the low supply of rental housing but also in some respect a result of strong family ties and spacious dwellings.

Owner occupation seems fairly well established in all occupational groups in Iceland. Renting is, somewhat surprisingly, relatively most frequent among the middle strata and academics.

## 5. Icelandic Involvement in International Development

Iceland started participating in international development projects in the 1970's. During the first years this consisted almost solely of financial contributions to international organisations and Nordic co-operation projects but the foundation of the Icelandic International Development Agency (ICEIDA) in 1981 marked the beginning of the independent participation by Iceland in international development co-operation. Before that time, however, Icelanders had often demonstrated their will to help the needy. Normally, collections in the name of institutions such as the Red Cross and the Icelandic Church Aid gave, and still give, considerable returns. The following summary, however, is not an account of sums collected by various organisations but rather an indication of the measures taken by the authorities in this field.

### 5.1 Official development aid

Icelandic authorities are still far from meeting the criteria adopted by the UN that 0.7% of the GNP be allocated to development aid. The annual contribution of Iceland in the last years has been just over 0.1% of GNP, which ranks Iceland among the developed countries making the lowest contributions.

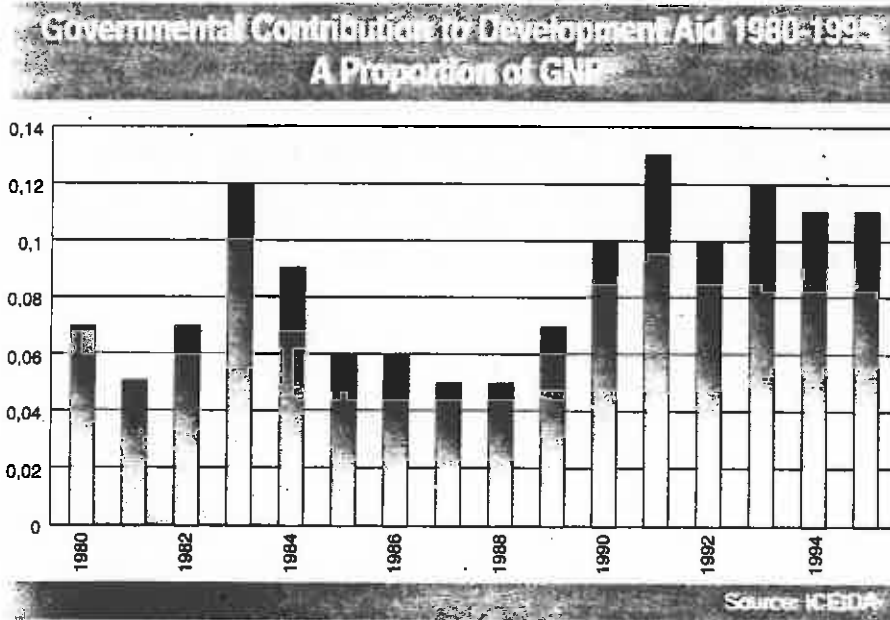


Figure 5.1



The basic goal of Iceland's development assistance is to support developing countries in their efforts to improve their economy and participate in strengthening social progress and political independence in accordance with the Charter and basic tenets of the UN. Emphasis is placed on assistance to the least developed countries in a manner intended to benefit the most underprivileged groups.

One-third of the State contribution to development aid goes to projects sponsored by the Icelandic International Development Agency (ICEIDA). The International Development Association (IDA) receives about 35% of the amount and what remains is divided between the International Bank for Reconstruction and Development (World Bank, IBRD), the UN Geothermal Training Programme in Iceland, the International Monetary Fund (IMF), the UN Development Program (UNDP), the Nordic Development Fund (NDF), the UN Children's Fund (UNICEF), the Food and Agriculture Organization (FAO) and the UN Development Fund for Women (UNIFEM). In recent years less than 10% of the total governmental contribution has gone to special projects concerning emergency relief. Thus a considerable part of Iceland's development aid consists of contributions to institutions. Iceland has almost certainly limited opportunities to have a say in the allocation of these contributions, possibly with the exception of the Nordic Development Fund (NDF).

### UN geothermal training programme

The Geothermal Training Programme of the United Nations University (UNU) has operated in Iceland since 1979 with six-month annual courses for professionals from developing countries. Candidates must have a minimum of one year's practical experience in geothermal work in their home countries prior to the training. Specialized training is offered in geological exploration, borehole geology, geophysical exploration, borehole geophysics, reservoir engineering, chemistry of thermal fluids, geothermal utilization, and drilling technology. Each trainee attends only one specialized course. The training is conducted in English.

The trademark of the training is to give university graduates engaged in geothermal work very intensive on-the-job training in their chosen fields of specialization. The trainees work side by side with professionals of Orkustofnun, an agency actively working on most aspects of geothermal exploration and development. The training is tailor-made for the individual and the needs of his institution/country.

The aim is to assist developing countries with significant geothermal potential to build up groups of specialists that cover most aspects of geothermal exploration and development. Priority is given to candidates from institutions where geothermal work is already under way. All candidates are selected by private interviews and receive scholarships (covering tuition, per diem and international travel) financed by the Government of Iceland and the UNU. Upon completion of their training, the participants receive a UNU Certificate. During 1979- 1995, 163 scientists and engineers



from 29 countries have attended a full program; of this number, 20 have been women.

Surveys have shown that the Training Programme has been effective. A large majority of its students now work on geothermal projects in their own countries and many of them are leading experts in this field in the developing countries.

### Multilateral and bilateral aid

In recent years the amount appropriated for development aid has been divided so that well over 50% goes to multilateral aid and about 35% to bilateral aid. Emergency relief is less than 10% of total aid and is partly directed to non-governmental organizations that also raise funds from the Icelandic public. Iceland's participation in the activities of various international organizations that grant so-called multilateral aid is carried out by various bodies in the Icelandic public administration, which makes it more difficult to survey and possibly less organized than might be feasible.

ICEIDA handles bilateral aid granted by the Icelandic government. It comes in the form of grant aid and is focused on project cooperation.

ICEIDA has adopted the following missions and priorities as the basis for its work:

- \* The development co-operation shall help people to be self-sufficient, in particular by transfer of knowledge and professional skills. The cooperation shall promote sustainable development, protection of the environment and natural resources, progress of the productive sectors, equality of individuals, democracy and human rights.

- \* It is important to improve the living conditions of the poorest; the circumstances of women and children are often neglected in the granting of development aid. ICEIDA shall endeavour to make sure that its development assistance will be beneficial to as many as possible and does not adversely affect the living conditions of the recipient people.

- \* Emphasis shall be placed on co-operation with the least developed countries as evaluated by competent institutions.

- \* Development assistance shall be given primarily in areas in which Icelanders have special knowledge and experience which can be transferred by teaching and training.

Owing to limited funds, ICEIDA must concentrate its activity on a limited number of countries and sectors. This makes it possible to determine

budget allocations on a long-term basis and ensure the optimal use of financial resources. At the same time it facilitates knowledge and understanding of the countries and areas to which ICEIDA directs its efforts.

ICEIDA's selection of co-operation countries is based on the UN definitions of least developed countries. In all the countries ICEIDA co-operates with, it focuses its activities on the development of fishing and fish-processing. Fish is an important protein supplement in the diet of the poorest part of the population and the fisheries sector is also the field in which the Icelanders consider themselves to have expertise.

The fish resources of many developing countries have in the past been heavily exploited and over-exploited by the trawler fleets of industrialized fishing nations. The goal of ICEIDA has been to make the coastal developing nations able, through research and development, to manage and harvest their marine resources. On shore fisheries and semi-industrial fisheries support the livelihood of coastal communities. Although fishermen are traditionally among the poorest segments of society, extreme poverty and hunger is seldom found in fishing villages. Fishing villages are traditionally rather small and free from urban problems. Increased income from fishing will strengthen the rural communities along the coast.

Recently, ICEIDA has also directed its attention to health care and adult education. These projects aim at improving the living conditions of the most underprivileged groups in the developing countries, which are mostly composed of women and children. Such social projects also strengthen the fishing communities and make them better places to live in.

Poverty and unemployment are the most serious social problems in the world; the conditions are worst in the poorest countries. It has been shown that the most fruitful way to increase employment opportunities is to support small companies. It is important that the operators of those companies have access to capital, training, technical expertise and service, as those elements are all important factors in the survival and success of the companies.



## 5.2 Perspectives for the future

Demands for quality development aid are increasing steadily. In recent years, emphasis has been placed on careful preparation in order to prevent misuse of funds and to ensure that the aid reaches its destination. The importance of co-ordinating all governmental development aid and placing

it under a single administration has also been pointed out. For the time being, however, issues relating to development aid, development cooperation and relief work are in the hands of numerous bodies within Iceland's public administration.

It is the aim of the Icelandic Government to make Iceland's participation in the activities of international organisations granting multilateral aid as intensive and effective as possible. To be able to influence the allocation of our own contributions is a goal worth striving for, which is why the authorities consider it feasible to limit our contribution to multilateral aid to 50% of the total development budget.

During recent years, political interest in this area has been growing and the present government has also made a modest increase to the development budget, although cutting back almost all other areas of government spending. Plans have also been made to increase aid progressively over the next few years.

## Photographs:

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