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I. INTRODUCTION

1. Geography

The Netherlands, situated on the North Sea coast, at the delta of three large and busy rivers – the Rine, the Meuse and the Scheldt – forms part of the West European lowlands. A large part of the Netherlands has always been susceptible to flooding from earliest times, as much from the sea as from the rivers.

Thus at an early stage the need arose for an adequate organization for the fight against the water, an organization which could undertake the building and maintenance of a system of protective dikes round the threatened parts of the country. If the Netherlands were not protected by these dikes, then the largest and most densely populated part – whose lowest point lies about 20 feet below sea level – would be flooded.

The country's position in the delta of three big rivers offered certain advantages which were utilized by the population from the beginning. In various places, seaports grew up which flourished because of their sheltered position. As early as the 17th century, Amsterdam and Rotterdam were important ports which traded with virtually all parts of the world.

The delta area, moreover, provided fertile land created by deposits along the river banks and in the sea, which already from 1200 was subjected to a process of land reclamation.

Land reclamation has been undertaken on a large scale, especially since 1900, when plans were drawn up for the draining of large parts of the Zuyderzee, which constituted a continuing threat to the surrounding areas. The first part, the Wieringermeer, was ready for agricultural use in 1930. Of the five parts which comprise the draining project, four are

now finished or almost finished (Wieringermeer, the North-east Polder, Eastern Flevoland and Southern Flevoland).

In the Middle Ages, many towns in the Netherlands developed as centres of trade, finance, craftsmanship and business as well as being administrative centres. Moreover, many towns grew important in being responsible for looking after the surrounding rural area.

Urbanization in the Netherlands gained impetus in the 19th century and particularly in the 20th through the gradual transformation of what was still to a large extent an agricultural country into a modern industrial society. Its unique situation in the delta did as much as anything to ensure that the services sector, such as transport services, began to develop vigorously. Due to this, especially in the west of the country, industries and sea ports developed which attracted numerous other activities. Coupled with this a close network of water ways, roads and railways and of pipelines for transporting fuel and gaseous or liquid raw materials was created.

At the same time all this contributed to the substantial growth of the urban population. The four large towns – Amsterdam, Rotterdam, The Hague, and Utrecht – together with several smaller ones, grew into one large urban area, the West Holland Conurbation, also called the Randstad. In the centre of the Conurbation a large, open agricultural area is situated called the Green heart of the Netherlands.

Amsterdam and Rotterdam, both in their own way, owe their foundation and growth particularly to their favourable situation; these towns are so to speak, the gateways to the European hinterland. Rotterdam, situated in the Rhine-estuarium, has grown quickly as a port, due to the development of the Ruhr district in Germany and the

rapid industrialisation of the Netherlands itself during this century. The Hague is traditionally the seat of government. Utrecht, in the middle of the Netherlands, is the central point at which routes from different parts of the country meet.

In addition to being useful as farmland, the part of the country outside the urban areas performs a number of complementary tasks for the benefit of the urban areas in the sense that it provides the necessary space for infrastructural amenities, which are necessary for good communications between the various centres of population. Moreover, the rural area offers space for the recreational needs of the urban population. Finally it contains a number of nature areas – some of which are protected by law – which to a large extent consists of forest land. There is practically no real waste land in the Netherlands; it forms less than 2% of the total surface area of the country. A large part of the non-urban area is used for agricultural purposes, in fact 85% of the total rural acreage.

The agricultural areas support highly developed arable, farming and livestock breeding. Especially horticulture, partly under glass, is highly developed and gives very high yields per hectare. Large scale agricultural areas are chiefly situated in the north of the Netherlands, in the Lake IJssel polders (the former Zuyderzee) and in the south west. In the east and in the south the rural areas are used for both agricultural and recreational purposes.

The agricultural areas are of great significance in the social development of the Netherlands. Agriculture plays the largest part in determining what the countryside looks like. For most of the rural area this will remain the same for years to come.

2. Population

At present, the Netherlands – which occupies an area of approximately 34000 sq. km – is inhabited by 13½ million people, which means that the population density is extremely high – 400 inhabitants per sq. km. The population is not evenly distributed over the country. The population density in the North of the Netherlands is under 200 inhabitants per sq. km, whilst the density in the western part of the country is almost five times as great.

The growth rate of the population is

rather high. Shortly after the war, births exceeded deaths by 15.5 per 1000 inhabitants per year.

Since then the rate has decreased and is at the moment 5.8 per 1000 inhabitants per year. The birth rate is at the moment 13.8 per 1000 inhabitants per years. The death rate, which has dropped considerably since the beginning of the century, because of improvements in social care, health care and hygiene is now one of the lowest in the world. In 1974 it was 8.0 per 1000 inhabitants per year. Dutch society is characterised by good social services, wellorganised health services and a high average level of education and training.

3. Means of support

As said, the Netherlands has developed from what was originally a mainly agricultural country with some trade and shipping into a highly industrialised one.

Particularly since the Second World War, industry and the services sector have expanded vigorously.

Because of the country's unique position, an import-export centre – Europoort – developed at the mouth of the Rhine – specialising in importing and refining crude oil and in the associated petro-chemical industry. Rotterdam became the almost biggest port in the world. 200 million people live within a radius of 600 km of Rotterdam in the Netherlands and the surrounding countries so that the transit trade was able to develop on a large scale. Only a limited amount of heavy industry has developed apart from the petro-chemical industry. Light industry is various and includes electronics, machinery and cars. This industrial activity results in extensive export trade to numerous countries.

Agricultural production also makes a major contribution to economic development, in which the export of traditional dairy products such as cheese and butter, greenhouse products like tomatoes, lettuce, grapes and flowers, and products of intensive animal husbandry (pork, veal, poultry and eggs) are the most important.

With the exception of mineral salt which is found in the north and in the east, the Netherlands has, virtually no natural resources. However, about fifteen years ago rich deposits of natural gas were discovered. A network of pipelines

throughout the Netherlands now supplies in heating and energy for homes and industry in the form of natural gas, a relatively minor pollutant.

Natural gas also has been found in the parts of the North Sea bed allocated to the Netherlands and exploitation of these will shortly get underway. In the Netherlands, including the North Sea, there is a supply of 2000 milliard cu.m. of natural gas. In 1975 the year's production of natural gas is estimated at 100 cu.m. More than half of total production of natural gas in the Netherlands at present is exported to European countries.

Every administrative level has its own powers which depend on the size of the area in which the authority is exercised. Recently much attention has been paid to public participation in the administrative process. An attempt for instance is being made for more direct public participation in actual decision making besides the participation through the normal representative bodies.

4. Administrative organization

The Kingdom of the Netherlands is a constitutional monarchy ruled by the House of Orange. It also is a parliamentary democracy, in which the parliament consists of two chambers. The country is administrated at three levels: the state, the 11 provinces and approximately 840 municipalities. Besides these, there exists since early times, as a result of the fight against the water a specialised administrative set-up for water management, the water control boards.

A certain revision of the tax system is also under consideration, giving the municipalities wider powers to levy taxes. Their financial dependence on the central government will in this way become less and the exercise of their autonomous powers, the specific task of the municipalities, which at the moment is severely restricted by their financial dependence, will become a greater reality.

The tax system is also of great importance to the operation of the administrative system, the principal taxes being those levied by the state. There are restrictions on the taxes which can be levied at provincial or local level. The lower levels receive the majority of funds from the National Treasury, the money being distributed according to certain allocation scales.

At the moment a review of the administrative structure is being considered. In addition to the amalgamation of the many small and often rural municipalities, the provincial structure is also being reviewed. A bill is being drafted for the division of the country into 26 provinces instead of the existing 11.

II. OUTLINE OF THE FIELD OF PROBLEMS

1. General

An enormous number of claims on the available space arises from the high population density and from the numerous, divergent demands made by the public in connection with housing, work, travel, recreation, protection of landscape and nature conservation – in short, demands made of the quality of life. As the interests involved can clash with one another in all sorts of ways a careful balance of interests is necessary. Physical planning and environment protection therefore have a high priority in government policy.

For this policy a number of points are of particular importance, namely the growth of the population, developments in the urban and rural areas, mobility and the use of space in general.

2. Physical planning

Population

During the last ten or twelve years, the growth of the population in the Netherlands has been characterised by the following factors:

- a) a reduction in the natural growth rate at an accelerated pace since 1970;
- b) an increase in the number of immigrants, in particular from the Mediterranean countries and from Surinam and the Netherlands Antilles;
- c) despite this increase in immigration, a decrease annual population growth;
- d) a relative decrease in the number of young people;
- e) growing migration from the west of the country to the east and south, compensated in the west by immigration surpluses.

For the time being, the social and physical consequences of these trends are still

slight. Hitherto, the consequences of the immigration of foreign workers have made themselves felt most.

The reduction in the population growth will not start to have a direct influence on physical problems until about 1985, since this reduction is chiefly caused by the drop in the birth rate since 1965 and thus mainly affects persons born after 1964. By the time the first of these generations approaches the age of 20, the reduction of the population growth will begin to have a direct bearing on housing needs, job opportunities, the volume of road traffic and the demand for services. An important factor is the diminishing family size, which reduces the need for large homes. This is something to be taken into account for new construction even now.

Urban areas

In the field of urban development especially housing is an important issue. A striking feature of recent developments in housing has been the substantial increase in the total area occupied, for which there are three main reasons:

- a) the smaller average number of occupants per dwelling;
- b) the increased size of individual dwellings in new construction, due to the increased quality of amenities per dwelling as central heating, showers, baths, etc.
- c) the reduction of the number of dwellings per hectare in new construction.

The average number of occupants dropped from 4.00 in 1960 to 3.46 in 1970, a reduction of over 13 per cent. This figure reflects, inter alia, the greater number of one person households; people are much more likely to live by themselves than was the case in the past.

The average floor space per dwelling has increased considerably. It rose from 85 sq. metres in 1960 to 102 sq. metres in 1970 for newly built dwellings in the social sector, an increase of roughly 20 per cent. In addition the reduction in the number of dwellings per hectare has also been exceptionally high. Whereas in city centres in purely residential areas, there are often more than 150 homes per hectare, this figure has dropped in post-war suburbs to around 75. In typical commuter areas the figure is now between 25 and 30.

These figures point to a development in living habits in the recent past which is characterised by strong individualization and a large area occupation. These trends also account for the greater interest displayed in the one family house. The increased enthusiasm for living in a small residential centre also fits in with the emphasis on individuality. This and the housing shortage in the large agglomeration has led to extensive suburbanization.

Because of these factors, concentration of residential areas in a limited metropolitan conurbation has not been entirely successful.

These developments have also had consequences for housing and living conditions in the large cities, where because of depopulation there has been a deterioration in the residential function.

Such a situation has arisen mainly in the older parts of the cities, particularly in 19th century neighbourhoods around the city centres.

Depopulation is caused mainly by the departure of younger and financially better-off families. This causes the district to run down and is the start of a process of economic deterioration and a change in the social structure of the area. In some places, certain processes occur which closely resemble the formation of ghettos.

This gives rise to significant social problems which require clear short-term policy guidelines.

Rural areas

The structure of the rural parts of the Netherlands is also currently under active discussion.

The development of the city regions with large areas of suburbs claims large parts of the country concerning areal needs as well

as recreational needs.

The following activities influence the rural development:

- a) agriculture
- b) forestry
- c) landscape management
- d) nature and landscape conservation.

Mobility

The mobility of the population has increased spectacularly during the last decade. The number of kilometers travelled per passenger in private means of transport has increased by four times within ten years. This development can largely be ascribed to the enormous increase in the number of private cars. From 1960 to 1970 the number of private cars increased by five times from about 0.5 million to 2.5 million. In addition the number of mopeds doubled in the same period to two million. What is more, public transport shows a sharp relative decline.

Expressed in passenger kilometer, its share of total transport in 1960 was about 47% whilst in 1970 this figure had dropped to 18 per cent. In absolute figures, public transport has remained constant.

No single technological development in the past decade has affected the physical order as much as the motorization of the population.

It has been an important factor in the process of urbanization and has greatly encouraged the tendency for people to live out of town and separate their place of residence from their place of work.

Areal Occupation

In the recent past, there has been a substantial increase in the average area occupied, because of the drop in the average number of inhabitants per dwelling, the increased size of the unit and reduction of the number of dwellings per hectare. Apart from housing, other forms of urban land use are constantly on the increase. This includes social and cultural amenities, offices and industrial establishments, open areas and traffic areas. All in all, the growth of the urban area is proceeding at a much faster rate than the corresponding rate of population growth; whereas by the end of the century the population is expected to have increased by one quarter, urban land use, including all built-up areas and adjoining recreational facilities, will have doubled. Consequently the density of housing has become the decisive factor in

the formulation of policy on the structure of urban areas. If present trends continue, 16 per cent of land will be in urban use by the year 2000 as opposed to 8 per cent in 1970.

Similarly, developments outside the cities lead to the occupation of a very considerable area. This is where infrastructural projects are of great importance.

Because of the experience of recent years, a reconsideration of physical planning policy seems necessary. The change from the optimism about growth in the sixties to the understanding that there are limits and that these limits should be adhered to has proved to be an important aspect in the work of physical planning. In the sixties, policy was characterised by an underlying optimism about prosperity, increased leisure, greater mobility, freedom of choice, more space, environmental protection and the ways of financing essential social services. This optimism has waned for several reasons. The awareness that there are limits is concentrated on the following:

- a) the shortage of space
- b) the limited availability of raw materials, for example for producing energy
- c) the limited capacity of the environment
- d) the limited funds available; the high cost of sound physical planning makes it necessary to draw up a list of priorities.

Furthermore, economic growth as a goal is being reconsidered both inside and outside economic circles. There is, however, a growing awareness that imposing the restraints previously mentioned, however necessary this may be, is not a satisfactory answer. Human society is part of a whole — of inanimate and animate nature — and depends therefore also on the proper functioning of the ecosystem of which it is a part. Because of his nature and his intellect man has a special responsibility but he cannot exempt himself from the laws of the system of which he is part. Maintaining or improving the quality of life in human society demands sound ecological control.

3. Problems of the environment

In environmental control it is most important to combat the pollution of ground and surface water, air and soil.

Especially in a country with plenty of water such as the Netherlands growing

population, increasing consumption per capita of energy and products and the specific geographical situation have created a significant pollution problem: the quality of the surface water and the ground water requires close attention to prevent pollution wherever possible. It must be added that the pollution of the surface water may also be the result of transfrontier pollution. As far as this goes the position of the Netherlands in the lower course of a number of major European rivers is not an advantage.

In the Netherlands, water is not only important as a means of transport, it is also used for drinking and for industrial consumption. Until recently the emphasis was placed on drawing water out of the ground, but in the future more and more use has to be made of surface water. This water also plays a part in recreation and — as far as certain shallows and littoral zones are concerned — for nature conservation.

As has already been mentioned, the deep navigable waterways of the estuary have contributed to the creation of extensive industrial and dock areas. The activities pursued in such places involve in many cases pollution of the surface water. Private householders also make their contribution to this pollution because sewage is discharged into the surface water. Sewage water is now purified to an increasing extent. Nowadays 50% of this water is purified before it is discharged.

Intensive animal husbandry and certain kinds of recreational activity can also contribute to water pollution. Moreover, another important factor is the influence on the temperature of the surface water when it is used in the cooling systems of electric power plants and similar installations.

The danger of soil pollution in the Netherlands is also very real. Problems derive principally from the uncontrolled dumping of private and industrial waste resulting in dangers for several other uses of the soil, for the structure of the soil and for the low water table. The same problems arise in case of the storage in the deep underground or the transport via pipelines of dangerous products. Junk yards full of old cars are also a problem in the typically open Dutch countryside. The collection and treatment of waste materials is an increasingly difficult problem as it is in other developed countries.

The total amount of solid waste processed now amounts to about ten milliard tons per year or roughly 700 kg per head of the population. It is expected that by the year 2000 this amount will have increased to 14 milliard tons.

Agricultural production, which is extremely important in the Netherlands, can also involve a certain risk of soil pollution, for instance through the concentration of large numbers of animals within a limited space, as is the case in intensive livestock farming. The problems in the storage and distribution of the manure produced are being resolved by the institution of manure banks.

Not only over-fertilization but also the use of insecticides, pesticides and chemical fertilisers can easily disturb the natural balance in such a densely populated country as the Netherlands.

Air pollution in the Netherlands can be attributed in virtually equal proportions to industry, traffic and domestic and other heating. Compared with other countries natural conditions are relatively favourable. The countryside is generally very flat and long periods without any wind are rare as are long periods of fog. Concentrated air pollution does not therefore happen very easily. With a very few exceptions SO₂ concentrations are relatively low mainly because of massive use of low sulphur content gas for domestic heating. Nevertheless the need to control air pollution is increasing rapidly because of industrialisation, urbanisation and the increase in the use of motorised transport. One favourable point is that difficulties relating to domestic heating and other heating requirements have been currently decreasing as a result of a further increase in the use of natural gas.

Noise can also be considered as a form of pollution. Created by traffic on motorways and in cities, by aircraft in the vicinity of airports, by industry and by mobile plants and machinery belonging to the building industry, noise now constitutes a growing nuisance in all industrialised and urban areas of the country.

III. THE INSTRUMENTS OF GOVERNMENT POLICY

1. Legislation

Physical planning

In a small, densely populated country like the Netherlands, the space available has to be carefully apportioned in order to ensure a balanced development of the various interests. Physical planning aims to do just that. It has been described in recent years as the formulation of that policy which will ensure the best possible utilisation of available space, in the interests of society as a whole.

The first attempt to formulate a physical planning policy was the Housing Act of 1901. This Act required municipalities to draw up street plans for all new town districts. From this beginning, physical planning developed over the years into a system for the implementation of a co-ordinated policy at the different administrative levels (municipality, province and state).

The Physical Planning Act, which came into force on 1 August 1965, was the culmination of this gradual development. The Act defines the planning tasks and powers of each administrative body based on the existing regional system of government.

The government aims to ensure a coherent physical planning policy at central government level and to this end the Physical Planning Act states that all measures and plans relevant to the policy must be referred to a central co-ordinating body (the National Planning Committee). By General Administrative Order, the Crown can make exceptions for those projects which have been thoroughly worked out in practical terms and which also meet physical planning requirements.

At state level there is no plan in the strictly

prohibited to build without the permission of the municipal authorities. These authorities have to refuse permission if the projected building would not comply with the established municipal allocation plan. Provision has been made for the possibility of incorporating within the allocation plan the granting of general permission for carrying out work other than building projects. Such permission must also be checked against the allocation plan. The allocation plan also provides for compulsory purchase which is the most important instrument of government policy concerning land and land use. On the other hand, both the regional and the structural plans are exclusively programmes for the future.

legal sense, but the Physical Planning Act refers to a government policy on physical planning. The Minister of Housing and Physical Planning must report to Parliament once a year on how this policy is being carried out.

The provinces are authorised to adopt regional plans, which they can apply at their discretion to the whole province or to one or more parts of it. The Act stipulates that municipalities affected by such plans must be consulted, as must the Provincial Physical Planning Committee. The provinces are not obliged to adopt such plans, but the Crown can order them to do so or to review any existing plan within a given period of time and directions can also be given concerning the contents of a regional plan.

Municipalities are obliged to adopt allocation plans for the whole of their municipal territory that is not part of the built-up area. They can also draw up structural plans indicating future developments for the total municipal area under their jurisdiction. Apart from being required to adopt allocation plans for those parts of the municipality outside the built-up area, municipalities are as a rule free to draw up further plans for those areas within the built-up sector. The Act allows the municipal council a considerable amount of freedom as to the contents of these plans. The general principle is that, in the interests of sound physical planning, the plan must indicate the purpose chosen for the land and how the land and any buildings it contains are going to be used in the future. Within these wide limits, it is possible to draw up both extensive and detailed plans confined to broad outlines. Regional, structural and allocation plans have different legal consequences. Only the municipal allocation plans contain regulations which are directed to and directly binding upon the citizens. It is

The Act establishes a number of physical planning organizations — the National Physical Planning Committee, an interdepartmental consultative body (operating at national level), the Advisory Physical Planning Council, which functions as a channel of communication between the government and the community, and the National Physical Planning Agency. Co-ordination within the Council of Ministers takes place in a Committee on Physical Planning (not referred to in the Act).

The Act does not contain any provisions for the Provincial Physical Planning Agencies which exist in all the provinces. The Act does contain certain provisions for Provincial Physical Planning Committees, thus preserving the principle of co-ordination. No provision is made for physical planning bodies at municipal level. Large municipalities usually have their own town planning departments, whilst small municipalities use private town planning offices.

The legal instruments available to the government in physical planning are not, in the opinion of many people, adequate to solve the problems of many village and town centres which for a variety of reasons are still deteriorating. For this reason a special Urban Renewal Act is in preparation. This Act is designed to bring about an acceleration of procedures in drawing up and implementing plans. The Act will also make greater support to the municipalities from the central government possible in those areas where extremely advanced deterioration makes quick action necessary.

The Land Consolidation Act of 1954 which opens up the possibility of drawing

up plans for the consolidation of land is of great importance to the rural areas of the country.

These plans for land consolidation have to fit schemes of physical planning. From simple alterations in land use these plans have developed into full-scale agricultural reconstruction programmes, which can alter the appearance of an area. In these new-style consolidation schemes, increasing attention is given to the appearance of the landscape and to nature conservation. Where possible, efforts are nowadays made to make the preparations for a land consolidation scheme run parallel to those for a regional plan.

The plans for land consolidation must be submitted to a central co-ordinating body (The Central Land Consolidation Committee). This Committee is supported by the Government Service for Land and Water Use. Moreover, the Government Service for Land and Water Use plays a major part in the preparation and implementation of these plans.

In the preparation and implementation of individual plans local committees are set up on which interested parties are directly represented.

A Land Use Act is in preparation to replace the Land Consolidation Act of 1954 which will assure fairer treatment for the rural areas of the country than they have had in the last decade.

A number of other Acts such as the Forestry Act, the Nature Protection Act and the Preservation of the Countryside Act containing arrangements for the protection of areas of woodland and areas of natural beauty also affect land use in the Netherlands.

Finally the Monuments Act deserves mention in connection with both urban and rural areas. It not only aims to protect individual buildings of historical or artistic value but at the same time it contains provisions for designating listed groups of buildings in towns and villages for preservation purposes. The designation obliges a municipality to draw up an allocation plan for that area. The process of urban renewal can in this way receive an extremely positive boost in the right direction.

Environmental legislation

Environmental legislation is based on the principle of 'the polluter pays'. Another important starting point is the idea accepted by the E.E.C.-countries, of a 'standstill' of 'non-degradation principle' - meaning that the quality of the environment in those areas relatively slightly affected up until now may not deteriorate. Amongst other things, the standstill principle is designed to prevent sources of pollution from moving to a still unaffected or virtually unaffected area.

Only in this way will it be possible to impose effective restraints on pollution as a whole.

A third important principle is that pollution must as far as possible be controlled by measures taken 'at source'. As a rule such measures would be of a technological nature. However pollution will not always be sufficiently controlled by 'cleaner' technology.

In order to fight pollution and also to promote the development of cleaner products and productions methods, the various environmental laws use two instruments: licences and levies. Certain activities which could represent a threat to the environment are best controlled by subjecting them to a licensing scheme. By imposing levies on those industries and similar bodies which cause pollution money can be collected to pay for making good the damage.

The most important legislation in the Netherlands relating to the protection of the environment is:

- The Nuisance Act (1952) which aims to prevent danger, damage or nuisance
 - from noise or noxious odours for example - by factories, businesses or other undertakings. The Act operates a system of licences. The licence
 - issued by the local authority - can be refused when public health is threatened.
- Until recently the Nuisance Act has been the most important instrument available to the government of the Netherlands in combating the nuisance caused by industry including air pollution. However, as air pollution crosses municipal boundaries the system of local authority licences is not adequate to deal with it. Moreover, under the terms of the Nuisance Act no

measures can be taken against air pollution which is not industrial in origin, such as that from road transport, aviation, domestic heating systems and mobile equipment like machines which make asphalt and concrete.

- The Air Pollution Act (1970). This Act covers the shortcomings of the Nuisance Act enumerated above. It lays down regulations concerning air pollution from industry, traffic and spatial heating. Inspection of vehicles and of fuels used for spatial heating is undertaken by the state.

The Act also lays down the monitoring of air pollution, establishes standards and lays down how everything is to be paid for in which the 'polluter pays' principle applies.

On the basis of this Act it will be possible to impose restrictions on air pollution by sulphur dioxide, a chemical compound which is emitted when fuel is burned for heating purposes.

- The Pollution of Surface Waters Act (1970) aims to prevent or put an end to the pollution of surface water. This Act also provides for a system of licences and levies. The Act itself does not establish any criterion for the quality of the surface water. The Explanatory Memorandum states that the water must be fit for the provision of good drinking water, to be used by industry and agriculture, for recreation and for supporting fish in reasonable numbers.
- The Pesticides and Allied Substances Act (1962) aims to establish regulations for the trade and use of pesticides and allied substances (pesticides, insecticides, etc.) not only from the point of view of manufacturing standards but also to ensure the safety and health of man and beast.
- The Nuclear Energy Act (1963) controls the proper development of nuclear energy and provides protection from the attendant dangers.

A number of other acts in the sphere of environmental protection are in preparation. Of these the Noise Nuisance Act, which was put before parliament in 1975, will impose severe restraints on the nuisance created by traffic and by industrial noise. The Aviation Act and the Road Traffic Act also contain restrictions on

noise. A Soil Protection Act is also in preparation.

2. Other instruments

Reports

It is not only legal measures which are of importance for the realization of government policy. At the same time great significance must be attached to the various reports issued by the government either as discussion topics in the preparation of future policy decisions or as clarification and explanation of policy choices which the government has already made.

Memoranda of this nature, in which certain questions are dealt with in their entirety are, for example, the two reports concerning physical planning which came out in 1960 and 1966.

A third report of this kind is in preparation. The first part of it, the Orientation Report on Physical Planning, appeared in early 1975. Within the framework of the Third Report on Physical Planning a series of structural plans that is to say studies in which a certain section of physical planning was subjected to thorough examination and in which models for possible future development were established, were foreseen.

Examples of structural plans of this kind are the structural plan concerning urbanisation, the structural plan concerning the rural area, the structural scheme concerning drinking and industry water supplies and the structural scheme concerning electricity supplies.

Physical planning reports from the government which deal with a subsidiary but nonetheless important physical planning problem are the National Parks Memorandum and the Interim Memorandum on National Country Parks.

In the Netherlands, a good deal of attention is paid to scientific research and to the publication of advisory documents to be used in the preparation of policy by special non-governmental advisory councils, such as the Physical Planning Advisory Council, the Housing Council and similar bodies.

Financial support

The various measures brought into existence by the state for the granting of

financial support in the form of loans, subsidies and guarantees to municipalities, organizations of various kinds and private individuals are also powerful instruments of government policy. The state has numerous possible ways of providing financial support which are of great importance in the development of town and country. Examples of this are the financial support for new construction, amelioration of dwellings, urban renewal, housing construction, land consolidation and the restoration of monuments. A further illustration of this point is the fact that 80 per cent of the total annual building in the Netherlands is accomplished with the financial support of the state in one form or another. The amount of government loans for housing in 1974 came to more than 3 milliard guilders.

Policy concerning land use

Finally it should be said that in the Netherlands the acquisition and administration of land by the government is an effective method of achieving the aims of government policy. This is as true at provincial and municipal level as it is at state level. As far as state involvement goes the land drained in the area of the former Zuiderzee is still to a large extent the property of the state; after the final completion of the work this land will either be sold or leased to the people using it. Beside the Government Service for Land and Wateruse the Agricultural Lands Management Organization plays a major part in putting into practice the Land Consolidation Act. This government institution purchases agricultural land for all sorts of purposes connected with land use planning such as providing the public amenities needed in the area concerned.

The land use policy of the municipalities is also of great importance. For several decades the big municipalities have operated municipal land enterprises which purchase large areas of land for carrying out municipal plans of urban expansion and renewal. Thus virtually all of the land on which the extensive expansion of Amsterdam has taken place since 1930 belongs to the municipality. As far as possible such land is acquired by negotiated purchase but where compulsory acquisition is necessary the Compulsory Purchase Act provides the municipalities with far-reaching powers. The municipal development plan, for example, constitutes a legal basis for compulsory purchase. In practice frequent use is made of these powers.

The function of the municipal authority as 'price leader' is of great importance to the market price of land. The fact that the authority, either by compulsory purchase or otherwise, buys and sells land, has a moderating effect on prices.

Environment policy

Obviously, policy on the environment expresses itself not only in the previously mentioned legislation but also in other ways. The Priority Memorandum on Environmental Hygiene published in 1972 gives concrete form to such policy. Of further importance is the 1974 memorandum in which the available instruments of environment policy and the options open are analysed. The Memorandum on the discussions held so far on standards relevant to environmental policy in the Netherlands and the European Economic Community was published at the same time.

As far as the whole problem of pollution goes, great value must be attached to an efficient regulation of the volume of pollution produced. In addition to the existing system of monitoring air pollution, the forthcoming environmental pollution charts are expected to make an important contribution.

Great value is also attached to the education of the general public and in particular of schoolchildren, in order to arouse an awareness of the great importance of a sound and healthy environment. In spite of the generally recognized necessity, environmental education is not yet integrated in schoolcurricula. Curriculum Development Committees are developing plans in this direction.

IV. THE MAIN OBJECTIVES OF GOVERNMENT POLICY

1. Physical planning

Because of the fast progress of science and technology in the Netherlands, developments are taking place on a much larger scale and at a much faster rate than ever before. In addition, physical planning problems are increasingly occurring within an international framework, related to the European role of the Netherlands. For these reasons the government and society in general have devoted growing attention, since the sixties, to maintaining acceptable environmental conditions. At the request of parliament, government policy on this subject was elaborated in the Second Report on Physical Planning in the Netherlands (1966), in which the interaction between human society and its environment was the subject of detailed consideration.

In this Second Report, the government chose 'concentrated deconcentration' as the basis of the urbanization pattern for the country. This took as its starting point the trend of deconcentration seen in the migration from the towns to the quieter atmosphere of existing and new commuter villages, where the accent is mainly on the one-family house. On the other hand, the government thought that this deconcentration should take place in concentrated form, restricted to the immediate vicinity and in the sphere of influence of the large cities.

The Second Report presumed that only by this concentration a satisfactory standard of facilities, good communications and proper public transport could be ensured. Such a development would undoubtedly also be less costly and would make fewer demands on valuable space than would a more dispersed concentration.

The choice of the city-region as the unit

of development, which is implied in the idea of concentrated deconcentration, fitted in with efforts to ensure a high degree of variety in the residential environment.

In its statement of May 28th, 1973, the government announced the presentation of the Third Report on Physical Planning. In the meantime, it has emerged that the volume of material to be dealt with makes it impossible to have the Third Report ready within the originally envisaged period of twelve months. Nevertheless, the government considered the elaboration of a number of main policy outlines — in particular those relating to urbanization and its immediate consequences — to be a matter of urgency. The government has therefore decided to publish the Third Report in the form of a number of successive parts i.e. the Orientation Report, the Urbanization Report and the Report on Rural Areas, which together will cover the overall policy area of physical planning. This approach has the advantage that any future need for changes of additions to policy or instruments can be met promptly by appropriately adapting the part of the report concerned. At the same time this emphasizes that physical planning in a dynamic society such as ours can hardly be condensed into a single overall concept presented at one moment, but that such planning is rather a matter of continuous reevaluation and reformulation.

In this position, however, there is clearly a need for a general introduction to provide a framework for the parts which follow. To fulfil this need, the present Physical Planning Orientation Report has now been published as Part 1 of the Third Report.

According to this Orientation Report, developments in our society and changes

of insight necessitate a number of essential changes in the main outline of physical planning policy.

Briefly speaking, three new elements stand out: the care of the environment, the control of growth and the reduction of inequality and delays.

Seen against this general background, the government considers the following as objectives of its physical planning policy:

- better distribution of population, employment and welfare amenities throughout the country;
- concentration of urban building within the urban zones ('concentrated deconcentration', with the stronger accent on concentration);
- development of growth centres in places where the volume of the overspill renders this necessary;
- development of city-region structures with a diversity of residential environments (environmental differentiation);
- greater integration of residential and work areas in order to restrict mobility, except in those places where industrial establishments are concerned which may give rise to nuisance;
- strengthening of the residential function of city centres;
- the promotion of public transport;
- guaranteeing a reasonable volume of traffic on the network of motorways, particularly on those between major centres of economic activity;
- maintaining and developing the quality of the natural environment;
- the protection of nature areas and attractive landscapes;
- the conservation of the central open area between the urban zones (the central area of the Randstad, the open area between the edges of the Randstad and the string of towns in the Province of North Brabant, the central area of the delta);
- the conservation of open areas between the city regions and within these regions (buffer zones);
- combating nuisance from air, water and ground pollution and from noise;
- revision of earlier plans if this is deemed necessary after scrutinizing the arguments on which such plans were based.

Listing these main points does not of course imply that in practice no further weighing of interests will be necessary or that no infringement whatsoever of these outlines will be accepted. However, they

do indicate clearly the direction in which government efforts are being made.

2. Urban structure

Physical planning policy for the urban area involves keeping alive the urban structures already in existence and giving direction to new developments.

In the opinion of the government, efforts to ensure the flourishing continued existence of available urban structures deserve a more central position in the policy.

One of the most important phenomena that has affected the position of the older parts of towns has been the steady process of depopulation. During the last three years, the population of the three large cities in the west of the country has dropped by more more than 110,000.

Improvement of living conditions in the old neighbourhoods is a matter of primary importance. To ensure the continued existence of our cities in a healthy condition, it is important that they should be able to continue to function as amenity centres for the entire city region. The urban structure policy must be constantly aware of this fact.

As the level of amenities depends to a large extent on the size of the population making use of them it is important for the town centres that good communications should be available between these centres and the residential centres in the city region. Urban renewal policy requires above anything else measures concerning legislation, finance and organization. An example of such a measure, announced in the Budget, is the Urban Renewal Act currently in preparation. The policy is furthermore directed to the goals summarized below:

- a) improvement of the residential quality of the old parts of towns, particularly of the 19th century residential neighbourhoods.
- b) protection of the diversity of inter-related activities in city centres and of the town planning structure of such areas; shifting the emphasis from new construction via demolition to the conservation and rehabilitation of the existing buildings.
- c) conservation of the socio-cultural function and protection of the socio-historic value of the city centre; it is

precisely these two functions which are indispensable to the character of the city, but which threaten to be pushed aside by a purely economic approach to the issue of land value.

- d) in maintaining or developing the economic function further, the element of accessibility for the general public should constitute an important criterion.
- e) unavoidable radical operations should take place in such a way as to allow as much scope as possible for initiative by future occupants and other users.
- f) the accessibility of city centres must be ensured by maintaining or extending a good system of public transport, the building of properly situated parking garages and proper facilities for bicycles.
- g) promotion of the economical use of space, whilst preserving differentiation by limiting a reduction in density and by promoting space-intensive town-planning solutions.
- h) the promotion of more recreational facilities in the residential neighbourhoods.
- i) decentralization of planning and decision-making in order to ensure the greatest possible participation by inhabitants.

In the urbanization policy to be followed the principle of 'concentrated deconcentration' continues to be the general guide. However, as far as this is concerned, emphasis will be placed on concentration, because suburbanization has already gone too far.

3. Rural areas

In the development of rural areas and the policy implemented to improve them, the accent has been laid very much on the economic value of the areas for various functions: agricultural, forestry, recreation, holidays and so on.

In recent years, another criterion has emerged: the appreciation of the landscape in its totality.

Furthermore, developments in rural areas are subject to the influence of a growing environmental consciousness. As a result of the search for a new equilibrium the government has compiled a report on the Relation of Agriculture and Nature and Landscape Conservation.

The government considers a more detailed and extensive application of the policy relating to rural areas to be of great importance and it will stimulate such

developments to the best of its ability.

Research and studies, some of which have already begun on a national scale, are taking place with a view to establishing a stronger foundation for the policy. In this connection, it may be added that work is now in progress on a global ecological method and on a national environmental map. These studies can form a basis for an ecological evaluation of physical developments and for clearly formulating those choices concerning the natural environment with which society is faced.

The following are the main points of the policy envisaged by the government:

1. Further reconstruction of rural areas with due respect for the means of livelihood of the agrarian population, the living conditions of the rural population, the economics of land use, the appreciation of the value of the landscape, the significance of the rural area for natural science and ecology and, near the cities, to the contrasting effect of the open area, still requires a lot of new research, which will be encouraged. The compilation of a structure sketch for the rural areas will be promoted.
2. The development of a long term structural view of agriculture; compilation of a structure scheme for land use.
3. Promotion of the formulation of a Land Use Act.
4. Promotion of a long term view for the expansion of the acreage under afforestation.
5. Development of a structural view of nature and landscape conservation.
6. Development of a structural view of recreation.
7. Compilation of a structural scheme for nature and Landscape conservation.
8. Compilation of a structural scheme for recreation.
9. Promotion of the setting up of national parks and national landscapes.
10. Promotion of the introduction of a Camping Act.

4. Infrastructure

For more than one reason, the large infrastructural projects occupy a key position in national physical planning. These projects include:

- the public communications systems, such as the network of roads, railways, waterways, ports, airports, pipelines, etc.
- works for public utilities, such as the

supply of drinking water, the supply of energy, refuse processing etc.; land consolidation schemes and military training grounds are also involved.

It is clear that these projects are of decisive importance for the implementation of any physical planning scheme envisaged such as the planning of urban and rural areas. Conversely, such physical planning concepts determine the need for and the possibilities of implementing the infrastructural methods mentioned. Finally, their influence on physical development is also considerable because the infrastructural projects involve the direct occupation of many hectares and are therefore major land users.

Moreover, they often affect the development of even larger areas of land, because they intersect the landscape and the land-allocation pattern; they command the area by virtue of their height and design; they cause it to be visually reduced in size; and they disturb the peace and quiet with noise and movement or they pollute the air.

The important physical consequences of the large infrastructural projects create the need for the formulation of long-term policy.

5. Economic growth and living conditions

In physical planning, full employment and a fair distribution of incomes enter into consideration as these goals have consequences for the reduction of differences in prosperity between the various parts of the country. In physical planning policy the balanced distribution of population, employment and amenities is also important.

There is also a relationship with physical planning policy in other areas. An income policy aiming to reduce individual income differences will in the end also leave its mark on the social physical structure of society in the Netherlands and of its cities in particular.

The economic policy directed to full employment is based on a view of a pattern for industry and services which also shows an interrelationship with the goals of physical planning policy.

The Orientation report contains a critical account of the goal of economic growth in particular.

Whereas until recently, maximum economic growth was generally recognised as a worthwhile objective, there is now both nationally and internationally a growing need for reconsideration of this goal.

This is particularly the case in the highly industrialised western countries where the adverse effects of strong economic growth manifest themselves most clearly.

6. Environmental hygiene

As far as the environment policy is concerned, interest in recent years has not only extended to preventive and curative health care but has placed particular emphasis on protecting the various ecosystems.

As has just been said, this means, for example, taking more care about the quality of surface water and ground water through the prevention of pollution and through the purification of effluent in cases where certain kinds of pollution are unavoidable. Air pollution is being controlled in a similar fashion.

In the prevention of soil pollution, the treatment of domestic waste is most important. In this area, three methods are adopted:

concentrated tipping, incineration and the production of compost. Because of the unpleasant smell, the production of compost can only take place at a sufficient distance from residential areas. The Waste Disposal Company established in 1929, has sites at its disposal where the production of compost can take place without creating a nuisance and it has entered into arrangements with a considerable number of municipalities for the removal and treatment of domestic waste.

Most of the large quantity of industrial waste produced is handled by industry itself. Quantities are constantly increasing and the kind of waste varies from harmless substances to deadly poisons and explosives. Uncontrolled dumping of industrial and other waste will be prohibited. Some of the possibilities open to industry are changes in production methods, recycling of waste and the sale and incineration of waste products. Sometimes these measures are, however, too expensive or too complicated for small concerns. In the area near the mouth of the Rhine, near Rotterdam, an interesting solution to the problem has been found in building an incinerator for indus-

trial, chemical and domestic waste. The waste heat is used to distil drinking water from brackish water.

Special ships are available for burning hydrocarbons out on the North Sea. In addition, the deposit of radio-active waste receives special attention. Of great importance in solving the problems of waste are a Waste Disposal Bill and a Chemical Waste Bill, which have been submitted to parliament.

In the fight against noise as an increasing source of nuisance policy is in the first place directed towards separating the sources of noise – traffic, industry, airports from those areas which experience the nuisance, particularly residential areas. This means that in the choice of residential and work locations new roads, airports, industrial areas etc. must be planned in the right places so as to prevent noise as much as possible. Where a certain volume of noise cannot be avoided protective measures are employed such as building roads at deeper levels and using stretches of trees and shrubs to muffle the sound. Policy is further directed to the prevention of nuisance from noise in houses and other buildings by demanding that interior and exterior walls should provide adequate insulation.

