



THE REGIONAL ENVIRONMENTAL CENTER

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AS MAVES

ESTONIAN NATIONAL DEVELOPMENT PLAN
FOR THE IMPLEMENTATION OF
THE STRUCTURAL FUNDS OF THE EUROPEAN UNION –
A SINGLE PROGRAMMING DOCUMENT 2003–2006
(Final version, 12 November 2002)

STRATEGIC ENVIRONMENTAL ASSESSMENT

12 February 2003

Contents

1. SUMMARY	3
2. INTRODUCTION	4
3. OVERVIEW OF THE STRATEGIC ENVIRONMENTAL IMPACT ASSESSMENT	5
4. OBJECTIVE AND SCOPE	7
5. METHODOLOGY OF THE ENVIRONMENTAL ASSESSMENT	8
6. STRATEGIC ENVIRONMENTAL ASSESSMENT	10
6.1. Analytical part and strategy	10
6.2. Selection of Regular Environmental Objectives	11
6.2.1. State of the Environment and Environmental Problems in Estonia	11
6.2.2. The Objectives of the Environmental Strategy	12
6.2.3. Regular Environmental Objectives of the National Development Plan	16
6.2.4. Indicators of the State of Environment	18
6.3. Assessment of Measures of the National Development Plan by the Priorities	20
6.3.1. Development of Human Resources (Measures 1 to 5)	20
6.3.2. Competitiveness of Enterprise (Measures 6 to 8)	21
6.3.3. Rural Life and Agriculture (Measures 9 to 20)	21
6.3.4. Local Development and Infrastructure (Measures 21 to 27)	23
6.3.5. Technical Assistance (28 and 29)	25
6.3.6. Summary of Assessment of Measures	25
7. SUPERVISION AND INSPECTION	26
8. CONSIDERATION GIVEN so far TO RECOMMENDATIONS OF STRATEGICAL ENVIRONMENTAL IMPACT ASSESSMENT	27
9. EXPERIENCE AND RECOMMENDATIONS FOR THE FUTURE	28
10. REFERENCES	31
11. ANNEX	32

1. SUMMARY

“The Estonian National Development Plan for the Implementation of the EU Structural Funds – A Single Programming Document for 2003–2006” is good base material to proceed in the implementation of the European Union Structural Funds, to ensure the sustainable development of Estonia.

The environmental review of the National Development Plan provides a sufficient overview of the state of the environment. In cooperation with the workgroup of the strategic environmental assessment, this document was complemented with environmental policy aspects. For example, reviews of past pollution and landscape degradation were added. The description of transportation measures was supplemented with environmental mitigation measures.

The future task is to harmonize quantitative definitions of the state of different environmental topics, including the introduction of a register of destroyed landscapes and areas influenced by past pollution.

Measures with significant potential environmental impacts are rural and agricultural priority measures and the transportation infrastructure development measure. The energy industry has developed to a large extent outside the development plan. Rural life, agriculture and environment together are virtually a single entirety that should be developed using clear policy. In the development of transportation infrastructures, the objectives would be the development of projects that involve environmental considerations, and the maximum mitigation of negative environmental impacts.

EU environmental policy is integrated into the National Development Plan. Further analysis is required for Estonian environmental law, which has been harmonized with EU law rapidly. The time limits for achieving the environmental conditions determined by legislation should be partially revised. This is due to the lack of financial resources, and the need for simultaneous solving of various social problems.

Activities related to ensuring environmental safety cannot be postponed. Valuable landscapes and habitats subject to protection should also be defined in a short period of time. So far there is no complete list of these and some valuable landscapes have been disregarded. For example, the protection of unique springs is not guaranteed.

Application of human resources, administrative capacity and business measures should be performed together supporting environmental education, environmental management systems and application of the best possible technology.

To facilitate planning, a single programming document should be compiled in the next programme period for the use of structural funds and the Cohesion Fund.

The principles of supervision presented in the National Development Plan and the Estonian environmental supervision system disallow the financing of projects that have a significant negative environmental impact. However, eliminating the possible negative impact associated with several projects is more complicated. In some cases (e.g. application of hydropower, foundation of fish farms), a respective thematic planning should be prepared together with the environmental impact assessment to avoid this.

The application of the National Development Plan is supported by the improvement of the administrative capacity of the public sector via horizontal cooperation, and the improvement of the preparation of projects by means of technical assistance from the EU.

Environmental policy should be integrated into the policies of all sectors with an aim to achieve the balanced development of social, economic and environmental aspects. Each agency should provide for the environment in its own administration area, reducing the impacts resulting from their earlier activities (past pollution, controlling the spread of alien species, elimination of unused objects) and guiding the completion of new projects as a whole.

Integration of environmental measures into activities supported by the National Development Plan together with the measures of the Cohesion Fund help to maintain the state of the environment of Estonia in a good condition.

2. INTRODUCTION

This report of Strategic Environmental Impact Assessment is a part of the “Estonian national development plan for the implementation of the EU structural funds – A Single Programming Document for 2003–2006” (National Development Plan).

Joining the European Union (EU) is one of the main objectives of the Estonian government. One of the preconditions for the accession is the ability to implement the policies of the EU. Along with the membership in the EU, Estonia will have an opportunity to participate in the EU regional policy and to receive financial support from the EU budget. Support provided through the **structural funds of the EU**, comprises the following:

- European Regional Development Fund (ERDF);
- European Social Fund (ESF);
- EAGGF Guidance section;
- Financial Instrument for Fisheries Guidance (FIFG).

In addition to structural funds, support to underdeveloped countries is provided also from the **Cohesion Fund, which** supports environmental projects and trans-European network projects in the field of transportation.

To receive the support, a member state should prepare a programme to be approved by the Commission, and provide administrative structures and procedures necessary for proper implementation of the programme. **The “Estonian National Development Plan for the Implementation of the EU Structural Funds – A Single Programming Document for 2003–2006” is a draft of such programming document (abbreviated as National Development Plan).**

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The environmental assessment workgroup included:

- Madis Metsur (AS Maves) – head of the expert group – coordination, representation of the strategic environmental impact assessment workgroup, problems related to water and natural resources;
- Toomas Ideon (AS Maves) – waste;
- Margus Kört (Estonian Environmental Research Centre) – atmosphere;
- Jaak Tambets (Estonian Nature Preservation Centre) – landscapes, natural diversity.

This Strategic Environmental Impact Assessment is performed at the request of the REC Estonia (The Regional Environmental Centre for Central and Eastern Europe, Foundation REC Estonia (contact person Tuuli Rasso, e-mail: tuuli.rasso@recestonia.ee.)

An expert of the Regional Environmental Centre, Jifi Dusik, has consulted the strategic environmental impact assessment expert group about methodology and experience from similar work performed in other countries. In the analysis of the strategic environmental impact assessment procedure the materials of Tuuli Rasso (REC Estonia) were used.

The work was co-financed by the Norwegian Ministry of Environment.

The environmental assessment workgroup would like to thank everyone participating in the process for his or her cooperation and understanding.

Environmental assessment complement was prepared on the basis of the full version of the National Development Plan dated 10 February 2003 (see annex). All annexes the environmental assessment report available in the Estonian language.

3. OVERVIEW OF THE STRATEGIC ENVIRONMENTAL IMPACT ASSESSMENT

The strategic environmental assessment of the national development plan - a single programming document for 2003–2006 was initiated by a Minister of Finance order from 12 March 2002, establishing a committee for organizing the assessment of the environmental impact.

The Strategic Environmental Impact Assessment Programme approved by the Ministry of the Environment on 25 April 2002.

The experts of the strategic environmental impact assessment have participated in the work of the National Development Plan methodical workgroup since March 2002.

Environmental impact assessment of the strategic base of the National Development Plan was made to the National Development Plan version from 8 May 2002 in the strategic environmental impact assessment interim report from 3 June 2002 (*Assessment of the environmental aspects of the strategic basic part of the National Development Plan, selection of environmental objectives, specification of the indicators of the state of the environment*). In

the framework of this assignment comments were made on the analytical part of the National Development Plan version of that time and discussed in consultations with the representatives of ministries responsible for the preparation of the respective sections (see Section 6.1). During the consultations with the representatives of the respective ministries, the main environmental aspects in their field of administration and the possibilities of integrating environmental measures into their planned measures were discussed.

The strategic environmental impact assessment workgroup reviewed the environmental objectives and indicators established with documents thus far. These were generalized in cooperation with the departments of the Ministry of the Environment as environmental objectives and indicators current in the National Development Plan (see Section 6.2). The connection between the environmental objectives and the National Development Plan measures are given in table 43 *Connections between environmental objectives and measures* in Section 4.2.2 of the National Development Plan.

The environmental indicators used in the National Development Plan can be found in table 42 *Main achievement levels of the objectives of the programme and its priorities* in Section 2.4 of the National Development Plan. The formulation of priorities and measure-specific objectives and indicators was not possible within the scope of this strategic environmental impact assessment due to the prolonged preparation period of the main document and limited scope of work of the strategic environmental impact assessment. This work should be performed during the preparation of the programme complement and implementation of the National Development Plan.

The first assessment of the environmental impact of the National Development Plan measures and the proposal for complementing the measure descriptions was made on 30 July 2002, based on the version of National Development Plan measures from 19 July 2002. The proposals of the strategic environmental impact assessment experts for complementing the measures were introduced in the methodical workgroup session on 7 August 2002. In the final version of the National Development Plan from 12 November 2002, on which this assessment here is based, the strategic environmental impact assessment proposals have been taken into account. The assessment of the specified measures of this version is given in Section 6.3 and in the combined table of the assessment of measures in Annex 11.2.

The environmental experts participated in the work of the Ex-ante workgroup. The Ex-ante workgroup took into account the proposals by the experts of strategic environmental impact assessment.

In addition to the above-said, the strategic environmental impact assessment experts made several interim comments and complementing proposals to the National Development Plan. The proposal for complementing the environmental part (16 August 2002) and the proposal for adding the section on past pollution (28 August 2002) are worth to be pointed out.

The public release of the strategic environmental impact assessment started with a public discussion of the programme on 26 March 2002. As during the first discussion opinions could be heard that not enough time had been provided for reviewing the material, additional discussion of the programme took place on 3 April 2002. The discussion with the departments of the Ministry of the Environment over the environmental objectives in the national development plan (see Section 6.2) took place on 11 November 2002 and the discussion of the plans of measures and supervision on 3 December 2002.

The strategic environmental impact assessment report of the National Development Plan was introduced in the Ministry of the Environment on 9 January 2003; the public discussion of the draft of the report took place on 13 January 2003.

Most of the questions by the public on the implementation and methodology of the National Development Plan and the strategic environmental impact assessment were raised because of an interruption in the involvement of the public in summer, resulting from a delay in completion of the National Development Plan strategy section. A drawback in the draft of the strategic environmental impact assessment report is the insufficient treatment of the methodology.

The draft of the report was specified on the basis of the results from the public discussion and received opinions (replies to the views of the public, proof-reading and expounding on the section of methodology and proposals, and references on the main document), and the final strategic environmental impact assessment report was presented (27 January 2003).

The final report was complemented (see annex) with an overview of the amendments of the National Development Plan full version in comparison with the National Development Plan final version (12 November 2002).

4. OBJECTIVE AND SCOPE

The preparation of the draft of the national development plan – a single programming document for 2003–2006 has involved, in addition to the coordinator of the process, the Ministry of Finance, the Ministry of Economic Affairs, Ministry of Social Affairs, Ministry of Agriculture, Ministry of Transport and Communication, Ministry of the Environment, Ministry of Education, Ministry of Internal Affairs and the Bureau of the Minister of Population. Preparation of the draft started in August 2001.

The draft of the programming document was presented to socio-economic partners and the European Commission for consultation and opinions on 12 November 2002. At the same time preparation of the final report on the strategic environmental impact and the preliminary assessment (Ex-Ante) was started, involving additional proposals for amendments to the draft of the programme. After the examination and due consideration of the received proposals, the document will be submitted to the Government of the Republic of Estonia. Approved draft will be delivered to the European Commission for the application for support in the 1st quarter of 2003.

General objective of the National Development Plan. The most general objective of the Estonian state is to promote the welfare of the population of Estonia and to develop the national culture. One of the main preconditions for achieving these goals is rapid sustained economic development. To ensure that economic growth involves the improvement of the welfare of all the members of the society and is sustainable, it should preserve the natural environment and be both socially and regionally balanced at the same time. To ensure sustainable economic growth, sufficient attention should be paid to the development of human resources, especially lifelong learning and the development of a knowledge-based society.

Becoming a member of the EU offers Estonia an opportunity to accelerate the economic and social development by means of the support provided by the EU. As a country with the GDP per capita less than 75% of the average in the EU, Estonia is the target region of the objective 1 of the EU regional policy – promotion of the development and structural adapting of the underdeveloped areas. According to Subsection 8(1) of the Council Regulation No. 1260/1999, the measures of the Community complement national activities or promote these. Therefore, both the Estonian economic policy and the supporting EU policies share the same general objective in relation to Estonia: **fast, socially and regionally balanced sustainable economic development.**

This programming document guides the approved implementation of the means of the EU structural funds and the Estonian public sector in the development of the Estonian economic structure in conformity with the above-said objective. The connection of the National Development Plan with other development plans and programmes is treated in depth in Section 4 of the main document.

Objectives of the strategic environmental impact assessment:

- To assess the analytical part of the national development plan (National Development Plan) and select environmental objectives in high-priority areas of interest;
- To assess the measures and supervision plan of the National Development Plan implementation plan;
- To prepare the interim report and final report of the strategic environmental impact assessment;
- To analyse the procedure and the used methodology of the strategic environmental impact assessment, and to make recommendations for similar processes in the future.

The strategic environmental impact assessment workgroup assessed different National Development Plan versions up to the final version from 12 November 2002, which was published on that date on the home page of the Ministry of Finance.

The strategic environmental impact assessment expert group did not assess the social and economic impacts of the National Development Plan. In this part the strategic environmental impact assessment expert group was cooperating with the Ex-Ante workgroup.

5. METHODOLOGY OF THE ENVIRONMENTAL ASSESSMENT

In performing the environmental assessment, the relevant directive 2001/42/EC [1] and instructional materials [4, 5, 6], guidance's for environmental management systems [8, 9] and instructions provided in the relevant strategic environmental impact assessment manual [7] of the EU were followed.

Directive 2001/42/EC provides general principles for performing environmental assessment of certain plans and programmes. The environmental assessment should facilitate the use of environmental information in decision-making. The hierarchy of the environmental assessment and National Development Plan should be reasonable, to avoid duplication in the different levels of planning and carrying out projects. These principles were the starting point of determining the volume of our work.

The instructional materials [4, 5, 6] describe the contents of the programming document. The documents show the place and the required volume of the environmental impact assessment as a part of assessment in the programming document Ex-Ante (see Annex III of reference 5), and the general principles for the selection of indicators.

The strategic environmental assessment programme has been prepared, taking into account the methodology provided in the environmental impact assessment manual [7]. The planned methodological principles of the strategic environmental impact assessment could not be followed in full. The process slowed down in June 2002 while devising the National Development Plan strategy.

At the beginning of the work (19 April 2002) it was agreed to base the assessment methodology for the National Development Plan on the principles of environmental management. Any plan is a part of a management system. Several EU legal acts concerning the environment (e.g. the Water Policy Framework Directive) are written, following the logic of “continual improvement” [9]. These principles are already followed in the planning of the water management and will be followed in other areas of environment.

The preparation of the National Development Plan followed for the most part the activities developed so far in Estonia, continued by means of the EU structural funds. Purposeful combination of environmental action with management of public sector would rather require an audit of environmental management in the previous activities, and training. Also, training is necessary for non-governmental organisations. The implementation of the process of the strategic environmental impact assessment in the Environmental Assessment and Environmental Auditing Act of Estonia would provide a formal framework for the work, without which the treatment of environmental aspects could remain superficial.

The strategic environmental assessment proceeded from the environmental objectives [10, 11], following simultaneously the general objectives of sustainable development [2, 3, 12]. The environmental objectives were systematized during the strategic environmental impact assessment. The environmental assessment of the National Development Plan measures was based on the indicators of the status of the environment (air, water, wastes, noise, protection from radiation, landscapes).

On the basis of the defined potential environmental risks and relevant environmental impacts, the environmental objectives were divided into two groups. The objectives of Group I are related to environmental safety and the reduction of risks connected directly with the safety, and the preservation of valuable landscapes. The objectives of Group II are related to the maintenance and achievement of a good state of the environment, and economical use of natural resources.

During different stages of the work, we explained to the methodical workgroup and the public the reciprocal connections between the economy and the environment and the principles of sustainable development. During different stages of the work, the workgroup of environmental assessment submitted its proposals for complementing the National Development Plan and reformulation of the measures.

Assessment of environmental impact of the measures relied on the experience of the experts of strategic environmental assessment, considering the prevailing impact of an activity similar to the planned activity. Assessment rendered the potential direct environmental impact of the measures to air, water and landscapes and provided a summary opinion on direct impact. Assessment also covered the potential indirect impact, which depends largely on environmental actions implemented under master project and environmental education of the participants. The methodological principles of the environmental assessment are described in Estonian in the manual of environmental impact assessment [16]. Attention was paid to potential cumulative impacts of the National Development Plan measures; however, the generalisation level of the National Development Plan material did not allow making any significant conclusions. In some cases it was possible to point out risks of a possible negative cumulative impact.

Alternatives in the sense of a project-based environmental impact assessment cannot be treated in the process of the environmental assessment of such an extensive programme. Essentially, during the strategic environmental impact assessment we made several proposals for complementing the main document, providing preconditions for better compliance with the environmental policy in implementing the National Development Plan.

The methodical work of the environmental assessment was hindered by constant changes in composition of the National Development Plan; practically simultaneous preparation of all sections of the National Development Plan; and above all the delay in preparation of the section on strategy and objectives of the National Development Plan. The deciding mechanism remained unclear – why one or other measure was omitted, or how the priorities and percentages of financing these were determined.

A list of the main references is presented at the end of the report. The daily updates were published on the home page of the Ministry of Finance. The working versions of this strategic environmental impact assessment are given in the interim strategic environmental impact assessment reports and are archived by AS Maves. The strategic environmental impact assessment report, minutes of public discussions, proposals from third persons and replies to these, together with grounds for taking into account or ignoring the proposals, are appended to the report.

This strategic environmental impact assessment report does not duplicate the environmental sections of the main document of the National Development Plan. The National Development Plan, Ex-Ante [13] and strategic environmental impact assessment reports together contain the essential environmental information and necessary assessments. Thus, for a comprehensive view of the planning of the implementation of the structural funds, it is necessary to refer to all the above-mentioned documents. The work performed for the implementation of the structural funds is continued with compiling the complement of the programme and preparing the projects. This environmental assessment should be regarded in the context of the main document (National Development Plan), and the development of Estonia and the EU.

6. STRATEGIC ENVIRONMENTAL ASSESSMENT

6.1. Analytical part and strategy

Generalisation level of the material in the National Development Plan. The extensive work in collecting and organizing background information has not been sufficiently generalized. A conclusion based on the background material should be added to the end of Section 1 of the National Development Plan – primary objectives and tasks in the areas of economy, human development and environment. In addition, urgent activities necessary for the prevention of considerable setbacks should be defined (for example, in the area of environment delays in the collection of abandoned hazardous wastes has resulted in some areas in contamination of drinking water and can cause contamination of foodstuffs).

There is no general national strategic document, and this is a problem in this work. The closest objectives: joining the EU and NATO are about to take place. The uncertainty about further aims is increasing. In developing the vision, the principles of the sustainable development strategy of the EU [3] should be followed that emphasize the need for a positive extensive long-term vision.

So far, neither policies nor development plans have been defined in a number of sectors. Clear definition of the rural and agricultural policy is especially needed. Confusion and populism in this area has caused useless efforts by rural people in restoring small farms and spending of public funds with no actual results.

Priorities and objectives. Implementation of the National Development Plan should also ensure adherence to environmental objectives, in addition to the priorities and objectives of the National Development Plan (see Section 6.2).

Failure to emphasize clear preferences may create a situation where sufficient means are not directed to projects necessary for ensuring strategic success or preventing developments dangerous for the whole state. One example is ensuring environmental safety where the environmental accidents remedial sums exceed the “saved” sums by several times. Focusing on the hazards that require immediate action, including environmental problems with a risk to public health, is recommended in the sustainable development strategy [2] and environmental policy [3] of the EU.

Fulfilling the economic objective set for the candidate states by the EU (GDP close to the average of the EU) and the EU environmental policy simultaneously is difficult.

Balanced and sustainable economic growth is the main objective of the Estonian economic policy and the National Development Plan. This, however, is not defined explicitly at the level of necessary measures. The concept of sustainable development is not sufficiently explained, which should be done in the future. Also, work with the respective EU documents is still in progress and the measures for sustainable application of natural resources will be worked out during 2003 [2].

The definition of sustainable development is not clear for the public, and is regarded as a political declaration. The various definitions of sustainable development are given in the working documents of Sustainable Estonia 21 [15]. The principles of sustainable development can be explained by means of the term ‘national wealth’, which comprises the produced capital, natural capital and human capital [14]. **To understand the idea of sustainable development, the objective of the National Development Plan should be explicitly stated: the objective is a balanced development of economy, social sphere and environmental protection.**

In the short run, following the environmental goals becomes a hindrance to economic development and requires additional expenditure. However, this is inevitable from the perspective of sustainable development.

Activities necessary for the achievement of environmental goals should be integrated into all activities, which is a natural precondition for help from the EU. To greater or lesser extent, this has been done in the National Development Plan. The respective procedures should be explained in the implementing part (complementary to the programme).

All planned measures should be completed and should include environmental necessary activities. Each ministry should take care of the environmental issues within their jurisdiction. This includes the elimination of the hazards resulting from earlier activities (neutralizing past pollution and reconditioning the damaged areas to industrial space, controlling the spread of alien species, elimination of unused objects etc.)

6.2. Selection of Regular Environmental Objectives

6.2.1. State of the Environment and Environmental Problems in Estonia

The state of the environment in Estonia as a whole is good in comparison with the countries of the European Union. This caused by a low population density, less intense economy and efforts made in the environment area. At the same time, the negative environmental impacts of economic activities on water and air, in relation to the population or the productivity of economy, is very high.

Estonia is an “averagely” clean country, but the state of the environment of Northeast Estonia, Tallinn and intensive agricultural production areas is poor in some aspects (aquatic environment, landscapes). However, in these areas lives a large part of the population. With

further concentration of economic activities, pressure on the environment is growing in the industrial (air and water pollution, waste) and agricultural (contamination of ground water near the surface, aquatic flora and fauna), and transport sectors (environmental accidents, noise, damaged habitats). In these areas the achievement or maintenance of a satisfactory or good state of the environment requires continuous efforts.

A significant part of the Estonian territory is damaged by past pollution. The frequency and likelihood of environmental accidents is high. The environmental awareness of the population and entrepreneurs is inadequate. Due to the decreasing practice of traditional land use, the preservation of habitats in valuable areas requires constant effort. Opportunities for using landscapes for recreational purposes become worse: some recreation areas surrounding towns are used for house building or littered. Elsewhere private owners have started to restrict accessibility to land.

We must concentrate on the following environmental problems:

- Inadequate environmental awareness and concern of some inhabitants, enterprises and organisations;
- Insufficient supervision of the use of hazardous substances, past pollution, environmental accidents;
- Locally poor state of the environment in the industrial areas of North-East Estonia, Tallinn and Harju County;
- Regional pollution of the ground water in areas of intense agricultural activity;
- Putting valuable landscapes and habitats at risk both by boosting economic activities in one rural areas and terminating the land use in peripheral regions, and by decreasing the number of recreation areas.

Besides the investments into the elimination of environmental damages and reduction of further contamination, more attention should be devoted to the prevention of problems. For a detailed overview of the state of the environment, see Section 1.4 of the National Development Plan.

6.2.2. The Objectives of the Environmental Strategy

The latest comprehensive document to establish the environmental objectives of Estonia is the Environmental Strategy of Estonia [10]. This document is presently in force and it is, in the most part, topical. Below we will provide the opinion of experts of strategic assessment of environmental impacts about meeting the environmental objectives as set in 1997.

The environmental strategy focused on attaining ten primary objectives:

1. Promotion of environmental awareness;
2. Clean technologies;
3. Reduction of negative environmental effects of energy Sector;
4. Improvement of air quality;
5. Reduction in waste generation and improvement of waste management;
6. Elimination of past pollution;
7. Better use and protection of ground water resources;

8. Protection of surface water bodies and coastal seas;
9. Preservation of landscapes and biodiversity;
10. Improvement of the quality of built environment.

1. Promotion of **environmental awareness** is targeted at preserving and stimulating the Estonian tradition of environmental awareness; promoting public participating in decision-making, active environmental protection and supervision; to encourage future generations to adopt environmentally sound consumption habits and to support further development of environmentally sound consumption patterns.

Availability of environmental information has increased; cooperation with other countries is providing information and support; some of the nature reserves and landscape protection areas have been well adapted for visitors.

The established objectives have not been met. A part of the Estonian population has a poor respect of the environment. Some hold the opinion that they can heedlessly ignore environmental protection, as the overall state of the environment is good. Contradictions between the requirements of legal acts on environmental protection and actual possibilities encourage complacency in some entrepreneurs.

Some people are maliciously careless of their surroundings: they erect illegal buildings on the shoreline, littering of landscape is widespread and there are cases of illegal disposal of hazardous waste and burying of chemicals. As a result, environmental costs frequently have failed to produce noticeable effects.

2. Application of **clean technologies** is targeted at establishing sustainable use of the environment, raw materials and energy, and reducing pollution and generation of waste.

This objective has been met partly in companies with foreign owners. Legal acts on environmental protection need to be organized into a comprehensible set in the near future.

Use of the best available techniques (BAT) and the best environmental practice in production and everyday life, also making the price reflect the environmental friendliness of a product all through the product's life cycle remain current objectives. The objective has already been implemented in some areas, e.g. by large liquid fuel companies. Implementation of BAT is especially difficult in agriculture, because of its high cost. Application of the best available technology in production of shale oil is unclear.

3. Reduction of the negative environmental impact of the **energy industry** is targeted at energy efficiency programmes, both for production and consumption; more extensive use of renewable energy; reducing emissions of greenhouse gases in energy production; including all environment-related costs of energy consumption in the price of energy.

While this issue is subject to intensive treatment at national level, by Eesti Energia, results have been achieved in reducing the negative environmental impact of oil shale based energy production. At the same time, a number of efforts need yet to be taken to apply "good housekeeping" principles at local heating stations.

4. The **improvement of air quality** is targeted at reducing the emission of air pollutants, focusing primarily on substances causing climate change and ozone depletion, and on pollution originating from transport.

So far the results have been satisfactory, but a general target programme is needed.

No progress has been made in development of use of less polluting modes and means of transportation (railroad, streetcar, trolley bus) and other means of public transport.

Regarding the pollutant emissions exceeding the EU regulations, it was agreed at the EU negotiations that the oil shale power plants could operate until 2015.

5. **Reduction of waste generation and improvement of waste management** is targeted at supporting sustainable use of raw materials; reducing waste generation; stimulating waste recycling; reducing pollution caused by waste; reducing areas contaminated by waste; and improving waste management, especially hazardous waste.

While a lot has been accomplished, the achievement of the objectives as a whole is proceeding with difficulty. Establishment of an entirely functional waste treatment system has failed so far. Littering of landscapes with hazardous and non-hazardous waste has not ceased. Control has not been achieved over each significant producer of waste – this control does not function (e.g. confusion regarding generation of marine waste). Optimisation of the number of landfill sites for household waste has been accomplished.

6. The elimination of **past pollution** is targeted at removing the past pollution caused by closed-down sites and reclaiming disturbed landscapes.

Too little attention has been paid to meeting this objective, thus it is unaccomplished in most part.

Responsibility for removal of past pollution upon change of ownership has been specified in legal form. Inventory and risk analysis of past pollution have not been finished. Past pollution continues to be a threat to groundwater and people's health. Some of the landscapes damaged by mining have not been recultivated and some of such areas have been abandoned. Closing and recultivation works of industrial waste storage sites are in the preliminary analyses and planning stage. Isolating past pollution with high environmental risk is in the final phase at the waste storage site of Sillamäe.

7. More considerate use and protection of **ground water resources** is targeted at ensuring good quality ground water resources and providing for their sustainable use and protection.

The objectives have been met partly. The delay attributable to delays in the waste and past pollution management programmes and the transitional difficulties in applying advanced technology in agriculture. In some areas (North-East Estonia, Tapa etc.) the pollution of groundwater is permanent and its purification is not possible.

The objective of environmental strategy to establish drinking water supply systems in settlements which intake works are polluted with hazardous substances has partly been met (Tapa, Aruküla, Kärđla). Full completion of the task by 2005 is questionable.

Meeting of the objective to ensure efficient protection of the groundwater recharge area in the upland of Pandivere by 2005 is questionable. Analyses and initiatives for legal acts have been made, but in the shadow of other issues. Implementation of measures in nitrate-sensitive areas requires the cooperation of the Ministry of the Environment and Ministry of Agriculture.

Removal of the main sources of groundwater pollution by 2005 is impossible.

Considering the objective to provide high-quality drinking water attention is required concerning providing safe drinking water to scattered settlements. There are several areas in Estonia where no alternative is available but to use hazardous water from polluted private wells (polluted with oil products, nitrates, micro organisms, natural high fluorine content).

It is above all in terms of food safety that restrictions to use of groundwater with high content of radionuclides needs to be clearly specified.

8. Protection of surface water bodies and coastal seas is targeted at ensuring ecological balance of surface water bodies and coastal seas, natural regeneration of fish stock and aquatic flora and fauna by rational use of water bodies.

Until now coastal areas (sea) has often been neglected in preparation of programmes of both national and regional scope. Very little has also been done regarding natural reproduction of fish stock and water flora and fauna. These shortcomings are now being compensated for via water management programmes.

9. Maintenance of landscapes and biodiversity is targeted at survival of viable populations of local plant and animal species, natural and semi-natural communities and landscapes typical of Estonia.

Valuable landscapes will be specified by thematic mappings. Survival of all valuable landscapes is questionable – a large part of the efforts taken in this field are limited to conservation areas only.

A network of protected forests is being established. The work concentrates on two basic tasks: establishment of a network of forest protection areas (financed by the government of Denmark) and determining of key habitats of woodlands (financed by Sweden). While the results of the first task are going to be realised as protection areas, the protection of key habitats will be based on respective agreements with the forest owners. Presently, 7.2% of woodlands are considered subject to strict protection, but the feasible plan comprises 10% of the woodlands.

In addition, types of habitats are being studied in relation with Natura 2000. Estonia features so many natural and semi-natural landscapes that it requires an enormous amount of work even to get a comprehensive picture of these landscapes. For example, little has yet been done to ensure protection of habitats of water biota. The natural springs that are unique in Europe are still waiting to be researched.

On the other hand, a system of protection areas and other environmental limitations needs to be accomplished soon, in order to avoid unreasonable delay of economic development.

10. Improvement the quality of built environment is targeted at bringing the state of built environment into conformity with the principles of health protection and sustainable development.

Establishment and preservation of human and nature friendly built environment is both a slow and expensive process. To achieve that goal, it is necessary to step by step and systematically direct the national economic, regional, agricultural, housing etc. policies towards:

1. Preservation of cultural landscape heritage;
2. Promotion of country life as a life style;
3. Encouraging industrial production in small towns and rural settlements;
4. Promotion of energy and water saving in buildings;
5. Promotion of construction requiring the use of less materials, including reduction of the use of non-renewable building materials;
6. Prolongation of the lifetime of buildings and reduction of repair volumes;
7. Demolishing of redundant buildings or parts of buildings and the recycling of demolition and construction waste;

8. Reduction of noise levels;
9. Promotion of construction of private houses;
10. Increasing the number of green areas in towns and other settlements and attaching more value to the aesthetic aspects of built environment.

These objectives should be compared to actual possibilities. While several of the objectives (No. 4, 5, 6, and 9) can be met without any significant measures as a result of normal economic development, meeting of others requires constant attention and major expenses (No. 1, 2, 3, 7, 8, and 10).

To sum up, the environmental objectives set forth in Environmental Strategy of Estonia are still current. Harmonisation of Estonian environmental law with that of EU has outdated some of the terminology in this document. Today the document cannot be used as such get measurable indicators.

6.2.3. Regular Environmental Objectives of the National Development Plan

The majority of the EU legal acts have been prepared upon encountering specific environmental problems of importance, relying on the experience of the EU member states. Estonia is undergoing rapid development and we should make use of the experience of the EU member states when alleviating the same problems in the future.

Defining of environmental policy and assessing environmental impacts has to be based on the environmental policy of EU, natural characteristics of Estonia and both local and worldwide research and experience.

Environmental directives of EU and Estonian environmental acts stipulate a variety of environmental requirements, large number of which are also quantitatively defined. Acts of different levels tend to result from a political compromise. Thus compliance with the acts need not accomplish the objectives set forth in the act. One of such acts is the Nitrate Directive that carries political will to protect groundwater from nitrate pollution. However, following the directive does not accomplish the objective, as the directive does not restrict the use of mineral fertilizers. Excessive use of mineral fertilizers is the main generator of nitrate ion pollution in groundwater.

It is necessary to analyse and systematise environmental acts, and organize the practice of implementation of the acts (including abandoning of restrictions of low importance).

On the governmental level it is necessary to integrate the development programmes of different fields with EU and Estonian environmental policy as well as with each other. As Estonia is aiming to join EU, the Estonian environmental policy has to be clearly formulated, combining the environmental goals and indicators of different areas. Initial systematising of this kind is presented below.

We defined the regular environmental objectives on the basis of the objectives aimed at maintaining and achieving environmental safety and a good state of different areas of environment (air, water, landscapes). These regular environmental objectives are to be considered in implementation of any project funded in relation to the National Development Plan.

The relation between environmental objectives and the measures in the National Development Plan is outlined in Table 43 of Section 4.2.2 of the National Development Plan, *Relations between environmental objectives and measures*. Measures have not yet been established for

implementation of environmental management systems and best available technology. This is to be done through a project in the case of the majority of the measures.

In the current National Development Plan programme period it is recommended to focus on environmental investments to accomplish environmental safety and urgent environmental objectives (group I).

Accomplishment of the objectives related to achieving a good state of environment and to sustainable use of resources (group II) remains largely a current task in the coming programme periods.

Group I Environmental Objectives

- Promotion of environmental awareness;
- Safety of environment (air, water, landscapes, built environment) regarding people's health and wildlife;
- Prevention of environmental accidents, ensuring solving of such accidents and reduction of environmental risks;
- Implementation of environmental management systems and best available technology;
- Providing for survival of valuable landscapes and habitats.

Group II Environmental Objectives

- Achieving a good state of environment;
- Reconcile emissions with EU and Estonian requirements;
- Saving of energy and using renewable sources of energy, if possible.
- Sustainable use of natural resources (forest, water, fish, mineral resources)

The relation between environmental objectives of National Development Plan and these measures is outlined in its Section 4.2 (see Table 43). The same section provides a brief overview of integration of environmental policy in other policies.

Options for measuring achievement of environmental objectives. Taking a closer look, we see that environmental objectives differ in their essence. While some directly describe the desired state of environment, others address the attitude of people and organisations towards environment.

The objectives of environmental state describe the state of environment and are easy to measure:

- Safety of environment (air, water, landscapes, built environment) regarding people's health and wildlife;
- Prevention of environmental accidents, ensuring solving of such accidents and reduction of environmental risks;
- Providing for survival of valuable landscapes and habitats;
- Achieving a good state of environment;

- Reconcile emissions with EU and Estonian requirements.

For these environmental objectives it is possible to establish measurable criteria and indicators for determining the levels of accomplishment. For air and water environment these have largely been established with various Estonian legal acts. So far the problematic issue has been understandable generalisation of detailed indicators (e.g. water quality, physical state and living conditions of water biota of watercourses) for making management decisions.

The generalised indicators of environmental state that enable control over accomplishment of objectives on environmental state are provided in the following section (6.2.4).

Environmental objectives that express **attitude and actions** of people and organisations:

- Promotion of environmental awareness and active lifestyle;
- Implementation of environmental management systems and best available technology;
- Saving of energy and where possible, use of renewable sources of energy;
- Sustainable use of natural resources (forest, water, fish, mineral resources).

These environmental objectives are meant to ensure public support to achieve the objectives regarding the environmental state and, on a wider scale, sustainable development. The control over the accomplishment level of such environmental objectives is more complicated and largely subjective.

Implementation of the best available technology (BAT) is expected above all from companies subject to the regulations established by the Integrated Pollution Prevention and Control Act (IPPC). The Environmental Impact Assessment and Environmental Auditing Act obliges the organizations of increased environmental risk to have their environmental management system audited at least once in every three years. Of course, this presumes the existence of an environmental management system (EMS). Other companies and organizations need to comply with the best available technology and environmental management systems in order to retain competitiveness in EU. The number of companies (in different categories of companies) that have implemented the BAT or EMS may serve as the indicator for measuring the accomplishment level of an environmental objective, being also easily included in development programmes.

The scope of this document does not include indicators for saving of energy, utilisation of renewable sources of energy or indicators of sustainable use of natural resources (forest, water, fish, natural resources). In this issue, there still is much vagueness between political will and actual possibilities. These objectives covered also by indicators of environmental state. The current period of the National Development Plan needs to implement sustainable use of nature following the general principles, which quantitative indicators will probably be defined in the programme document of the next period.

6.2.4. Indicators of the State of Environment

The generalised indicators of objectives on the state of the environment are as follows.

Air

- The outside air quality meets the limit values of pollution level established in Estonia, including the requirements of EU directives and bilateral agreements.

- Decrease of emission volumes from industry and agriculture, according to the limit values.
- Fuel quality meets standards.
- Technical state of motor vehicles and development of traffic do not deteriorate outside air quality.
- Saving of energy and reduction of negative environmental impact of energy industry, and using renewable sources of energy, if possible.

Water

- Proportion of people consuming drinking water that is safe to health and meets the quality requirements.
- Proportion of surface water bodies and coastal seas in good state.
- Proportion of areas with polluted ground water.

Landscapes

- Survival of valuable landscapes is provided with administrative means.
- Survival and development of green area network in towns.
- Abandoned structures on landscapes open for the public have been made safe.
- State forest and protection areas have facilities for guided hiking and natural recreation.
- Use of common rights has been provided for, including on shores of water bodies and seashore.
- The share of damaged landscapes has decreased.
- Sufficient protection has granted to plant and animal species as well as water habitats in need of protection.

Radiation Protection

- Radiation hazard from natural and human sources has been studied and control ensured.

Noise

- Implementation and results of planned projects will not cause noise level in excess of norms.

Waste

- Proportion of hazardous waste treated in compliance with requirements.
- Proportion of households involved in specialized waste collection.
- Number and area of closed and environmentally neutralized landfill sites compared to the total area of landfill sites.

- No waste heaps can be seen while moving on roads.

The indicators listed have been used in compiling the assessment table of possible environmental impact of measures of the National Development Plan provided in Appendix 11.3.

Assessment of environmental impact of the measures relied on the experience of experts of strategic environmental impact assessment. Separate assessments were performed for possible impacts on air, water, landscapes and wildlife, and for the danger of considerable increase in radiation, noise or waste. Summary assessment provided the possible direct (primary) environmental impact of the measures.

Assessment also covered possible indirect impacts, which depends largely on environmental actions implemented under master projects and environmental education of the participants.

Assessment of the National Development Plan environmental results expected to be done following the environmental indicators provided in table 42 *Main Accomplishment Levels of the Programme and its Priorities* in Section 2.4 of the NDP. Compiling of priorities and measure-specific objectives and indicators in the course of this strategic environmental impact assessment was excluded by the delay in preparation of the master document and the limited scope of the present strategic assessment. This task is to be performed while preparing the programme complement and implementing the National Development Plan (see also Section 7, Supervision and Control).

6.3. Assessment of Measures of the National Development Plan by the Priorities

6.3.1. Development of Human Resources (Measures 1 to 5)

People's level of development (knowledge, emotional intelligence, goodwill, activeness, foresight) will be, in the long run, of decisive importance in development of the state. The energies of people have to be directed by intelligible, simple and gradually performable objectives.

One might consider implementation of quality criteria in **education (1)**. Increased efficiency of education would result from better integration of different subjects and integration of teaching and practical world. A person with secondary education should understand the basic matter cycles (e.g. water; N; C) in nature and the role of humans in these. A person with academic education should be able to compile mass balances and to assess the environmental impact of his/her company or field of activity.

To accomplish environmental objectives (especially regarding landscape protection and waste management) people must be motivated to perform these objectives, making them aware of the benefits that each of them receives personally. This task also includes the training planned in relation to implementation of the National Development Plan.

The measures implemented in relation to a priority produce an indirect environmental impact via human activities.

Actions in support of **competitiveness of the economy (2)** need to combine business consulting and training with environmental consulting and for development of environmental management systems in companies. This measure will reduce the economical risks of companies and is necessary to ensure competitiveness on the EU market.

The essential precondition for accomplishment of environmental objectives and economic development is sufficient **administrative efficiency (4)**. Achievement of administrative efficiency requires not only training of officials, but also application of modern management system both at municipal and state levels. It is also important to support development of cooperation of different offices.

Measures for active labour market and for increased social involvement (3; 5) allow involving the unemployed and marginal groups in environmental projects. It is recommended to specify such pilot projects in programme supplements (e.g. projects on reconditioning the landscape in North-East Estonia and Paldiski, or participation in extensive projects on residual waste (cleaning, landscaping etc.)).

6.3.2. Competitiveness of Enterprise (Measures 6 to 8)

6. Development of enterprise and 7. Promotion of research and development and innovation. We recommend enhancing positive environmental impact by supplementing description of measures with support for implementation of environmental management systems and best available techniques.

8. The environmental impact produced by development of **tourism** may be both negative (if the flow of tourists and hikers is uncontrolled and the environment is overloaded regionally) and positive (if landscapes are thereby opened for hiking, providing sufficient maintenance and impact control).

The *National tourism development programme* deals with preparation of hiking, boating and bicycling routes and specialised nature tourism. It is recommended to specify this section better on the National Development Plan programme complement. The special features in Estonia allow extending nature tourism and hiking, which requires coordinated preparations. For most of the EU states, possibilities for extension of this type of product do not exist. The attraction centres should be used as the starting points for developing hiking routes. In addition to short hiking routes, it is necessary to establish longer routes and to provide lodging, also to link the routes with supplementary housing and catering facilities.

6.3.3. Rural Life and Agriculture (Measures 9 to 20)

9. Investments into agricultural production. The possible impact may be considerably negative (in case of failure both to avoid excessive concentration of production and to assure involving of environment in investments into agricultural production) or positive (if environmental measures are applied and diversification of agriculture and rural economy succeeds).

Already the objectives of the measure are inherently contradictory, as they include both the objective to increase competitiveness of agricultural production and the objective to preserve cultural landscape heritage.

Description of the measure claims the following: ‘Subsidiary investments into agricultural production contribute via environmentally friendly production to increased competitiveness of agricultural production.’ However, it is unclear what the different parties mean by environmentally friendly production. The issue is still being discussed. The National Development Plan document or description of measures must define the term of environmentally friendly production!

The document does not clarify how environmentally friendly agriculture is going to be developed. This needs to be clarified at least in the programme complement.

The experts of strategic environmental impact assessment take ‘Environmentally friendly production’ to mean the following: organization of production aimed at the meeting

environmental objectives (see Section 6.2.3) and involving implementation of environmental management systems and best available techniques (BAT).

We recommend including the following items:

- In supported actions: investments for implementation of best available technology (BAT) to prevent acquisition of outdated technology and ensure overall integrity of the technological process.
- Elimination of past pollution (hazardous and abandoned storage sites of chemicals, storage sites of liquid fuel, storage sites of fertilizer), as these may cause the pollution of water and foodstuffs.

10. Subsidiary investments into improvement of treatment and marketing of agricultural products. The expected result is neutral or positive. To ensure a positive result, it is recommended to implement environmental management systems in agricultural products treatment facilities.

11. Subsidiary investments into advancement and diversification of alternative economic activity in rural areas. The expected result is neutral or positive. The measures are to be implemented in cooperation with the measures of the priority of local development (see chapter 6.3.4).

12. Integrated land improvement and land use management. The expected result is negative or neutral. Positive impact is possible only if elaborate combining of land improvement actions with measures of improvement of physical state of water bodies, applied in implementation of water management programmes of river sub-basins (see measure development of environmental infrastructure).

Value of land is decreased by introduced alien species, of which the most unpleasant is *Heracleum sosnowskyi*. It is worth considering include neutralizing of this species in agricultural measures. In case it is not feasible within the National Development Plan, it should be realized with other means.

13. Restoring and developing of villages and 14. Implementation of development projects based on local initiative, so-called LEADER. Neutral or positive environmental impact. The projects require sufficient instruction and supervision (even single projects may involve negative environmental impact – noise, littering).

15. Agricultural training. Neutral or positive environmental impact. We recommend combining environmental training with agricultural training, including training of instructors for the use of the environment, environmental protection, best available technology and environmental management. We recommend that environmental training should include independent environmental experts.

16. Forestry. Deals with private forestry. The expected impact is neutral or positive.

17. Subsidiary investments into crayfish and fish farming. May result in a considerable negative impact on the state of water bodies. With regard to the environmental requirements, the impact might be fairly negative or partly positive.

As negative impacts, above all the following should be prevented: deteriorating the natural state of water bodies (dams, dredging); damaging valuable springs and hindering access to these; damaging natural spawning areas of fish; spreading fish diseases; and closing the bank paths along rivers.

We recommend to include in supported actions restoring of natural fish stock, including improving of physical state of water bodies at reproduction areas and habitats of fish. An

alternative option is to involve the named measures in actions of sub-measure of water of **environmental measures (24)**: restoration of water bodies and coastal sea, purification of water bodies, restoration of valuable habitats.

18. Subsidiary investments into treatment and marketing of fish and fish farm products. The expected impact is neutral or positive.

19. Modernisation of fishing harbours. Neutral impact. In renovation of some harbours, the costs of removing past pollution are to be considered; otherwise the pollution may be dispersed into the environment.

We recommend including the following items in the list of supported actions:

- Renovation of environmental structures of fishing harbours to meet the requirements, removal of past pollution;
- Ensuring qualification of harbour personnel, including in the field of environmental protection.

20. Modernisation of fishing vessels. Neutral impact. The recommendation of strategic environmental impact assessment to include in the list of supported actions environmentally safe disposal of old fishing vessels has been considered.

6.3.4. Local Development and Infrastructure (Measures 21 to 27)

21. Development of local physical environment. Neutral or positive impact. The integrity of structures established and renovated under these projects has to be ensured also with regard to environmental structures.

The purposefulness of subsidiary investments has to be considered, regarding not only the requirement of technical compatibility of buildings but also the requirement of compatibility of environmental requirements. If necessary, following of environmental requirements has to be ensured by involving other measures. In any case, the integrity of the projects must be ensured also in terms of the environment.

Is the action of renovating local heating stations (including removal of remaining coal-fuelled heating stations, and elimination or renovation of environmentally hazardous storage sites of liquid fuels) to be included in this measure, as the separate energy industry measure has been removed (transferred to the Cohesion Fund)? If it is not the concern of the National Development Plan, the issue has to be settled by means of national programmes and municipal administrations, as these facilities are environmentally hazardous.

22. Increasing the value of urban and rural environment and supporting their development Environmental impact is neutral, or positive in case of good organization. If not managed as a whole, a negative environmental impact cannot be excluded (e.g. damaging sensitive areas or valuable habitats due to ignorance).

Reconditioning valuable landscapes requires elaborate action. State coordination of this activity has to be done in cooperation with Ministry of the Environment.

We recommend: in relation to the **measure (28) of technical aid (TA)** of the National Development Plan, consideration could be given to including the measure of implementing Natura 2000 in the investment, and finance thereby also instructing the municipal administration in this field. If this is considered unnecessary, the programme complement is to provide another way of performing supervision and instruction.

23. Development of infrastructure of transport. The current practice may result in a considerable negative impact (neglect of past pollution, littering of roadsides, pollution of air from traffic, noise). However, development of transport sector is the main driver of economic development, and is also a social necessity. The negative impact of the measure has to be reduced by applying a maximum number of alleviating actions. As it is not possible to alleviate the negative impact entirely, compensatory measures are to be used in addition.

Description of measures lists the following alleviating actions:

- Removing outdated, environmentally hazardous infrastructure and past pollution from the territory around railroads and highways, and from harbours and airfields;
- Establishing rest stops by transport highways, applying alleviating safety measures for traffic of animals on heavy traffic highways;
- Building noise barriers;
- Providing views from the roads;
- Combining environmental supervision with overall system of supervision.

Regarding the programme complement and projects, it is recommended to give further consideration to the following items:

- Providing waste management on transport highways and bordering area;
- Establishing bicycle lanes in the towns and cycling tracks in the rural areas through which the highways under construction or renovation pass;
- Improving the pedestrian traffic under same conditions.

The following item needs considering in cooperation with the Ministry of Internal Affairs:

- Developing the system of preventing and swift solving of environmental accidents of transport (including providing access ways in case of forest fires). If this is not feasible for the support in the National Development Plan, it should be indicated how this is going to be provided for with other means.

24. Development of environmental infrastructure. Development of environmental infrastructure supports the actions of other measures.

Examples of questionable double measures are:

- Discussion of the sub-measures of air include development of public transport and establishing of bicycle lanes – Ministry of Economic Affairs and Communications is more competent regarding this issue;
- Supported actions of the sub-measure of water include an action of the Ministry of Agriculture – reducing agricultural pollution. The required investments have to be provided by producers and the Ministry of Agriculture. The Ministry of the Environment may help here by preparing legal acts and training, perhaps also support to some extent development of water supply in rural areas.

Energy industry. In the present version, it has been reduced to an environmental sub-measure. The expected impact of action is positive (if any noticeable amount of means remains for this). Major investments regarding environmental protection measures of energy industry will be made by the means of the Cohesion Fund.

In relation to waste treatment, the question is how to ensure transfer of management of treatment of non-hazardous waste into jurisdiction of municipal administrations and their associations and to increase considerably their financial involvement.

Regarding the sub-measure of radiation safety, we recommend that the programme complement the following actions: supporting and certifying the technical basis of a laboratory of radiation safety, partly to ensure radiological tests of ground water and drinking water.

The National Development Plan does not detail the actual deadline of meeting the requirements set by environmental objectives and legal acts. There is a considerable delay in several actions, like in clean up of past pollution and supply of safe drinking water.

It needs to be specified, **what means will be used in addition to these of the National development Plan to provide development of Natura 2000 and investments for preserving biodiversity.** There are many valuable landscapes, habitats and objects of virgin nature in Estonia that are unique in the EU and which preservation has not been provided for convincingly.

25. Modernisation of infrastructure of vocational and higher education. Neutral impact. We recommend including in the description of measures (or programme complement) the following actions:

- Providing that the study buildings, training centres and laboratories meet environmental requirements, so as to give an example to the students;
- Supporting providing trainees with jobs in environment-wise exemplary companies cooperating with universities and vocational establishments.

26. Reorganization of the network of hospitals. Neutral or positive environmental impact.

27. User-friendly information technologies and development of information society. Neutral or positive environmental impact. Alleviating possible negative effects also needs attention: increased impact of electromagnetic radiation and social factors (loss of privacy, forced services by monopolies, and IT crimes/frauds).

6.3.5. Technical Assistance (28 and 29)

By supporting preparation and supervision of projects, it is possible to raise the quality and provide sufficient supervision of projects. Actions of measures need a more thorough explanation in the programme guides.

6.3.6. Summary of Assessment of Measures

Combining of environmental measures and separately planned measures of Cohesion Funds with actions supported by the National Development Plan contributes to preservation of overall good state of environment in Estonia. Regional small-scale deterioration of the environment by economic development is inevitable. The rate of neutralizing past pollution and reconditioning damaged landscapes has been insufficient. Directing the Cohesion Fund measures into Ida-Viru County creates the hope for improvements in the environment of the region.

7. SUPERVISION AND INSPECTION

Compatibility of projects with EU environmental policy is ensured in terms of Estonian environmental law, which has been harmonized with the EU environmental law.

Preliminary assessment of environmental impacts provided by checklists and environmental memoranda to be included in all project application procedure rules. Further inspection is necessary regarding applicants' need for and validity of environmental permits and following the environmental requirements thereby imposed. Under the Integrated Pollution Prevention and Control Act, large companies are to prepare integrated environmental permits (also known as 'IPPC permits'). The permit provides a complete overview of environmental requirements for the company.

If the planned action is likely to cause a significant environmental impact, the Environmental Impact Assessment and Environmental Auditing Act prescribes implementation of assessment of environmental impact. A licensed expert performs environmental assessment, the assessment programme and report are subject to public discussion, and the report provides the basis for the environmental protection body to decide upon issue of permit.

The Environmental Impact Assessment and Environmental Auditing Act obliges the organizations of increased environmental risk to have their environmental management system audited at least once in every three years. The materials of such audits provide a good basis for preparing environmental assessment of a planned project, saving time on compiling environmental section of projects and environmental supervision plan.

Several legal acts oblige companies to keep records on their activity. For example, Water Act obliges an agricultural producer to keep a field book for making entries on area of arable land, characteristics of soil, crop, types, quantities and time of usage of fertilizers and plant protection products used. These records enable to check whether the limitations on the use of fertilizers have been followed.

Environmental state control based on monitoring performed on national level or voluntary company level, or by environmental permits.

National environmental supervision is performed by Environmental Inspectorate, whose scope of jurisdiction comprises organizing and performing supervision over use and protection of natural environment and resources, and applying enforcement powers of state on the basis and in the scope provided by the law.

Thus Estonia does have a general environmental supervision system, which enables to provide environmental supervision of projects.

Present problems in providing purposeful supervision are the following:

- Excessive bureaucracy and time required for implementing projects of minor environmental impact;
- Difficulties in defining possible negative synergy of projects on project level;
- Small and uncoordinated projects do not provide implementation of integrated technology.

To avoid excessive time, decisions upon projects of minor impact should be based with less hesitation on investigation questionnaires and preliminary assessments. For this purpose we recommend to elaborate the Environmental Impact Assessment and Environmental Auditing Act, which in many cases does not provide this option.

In some cases (e.g. application of hydropower, establishment of fish farms), the project-centred approach may not prevent potential negative cumulative impact of several projects. Prevention must be based on preparing corresponding thematic planning with assessment of environmental impact.

If financing of development projects is subject to allotment, it must proceed from company's integrated action plan, which includes the necessary environmental management system elements. Such plan has to indicate relation of the specific investment to achievement of company's compliance with environmental requirements.

Improved harmonization of supervision system with implementation of measures and projects of the National Development Plan is to be backed by administrative efficiency measure of public sector and improvement of preparation of projects via technical support from EU.

Implementation of the National Development Plan has to be backed by action to provide more efficient environmental policy in the following:

1. Increasing environmental awareness and responsibility of citizens;
2. Organization of environmental acts and clear harmonising them with other laws;
3. Combining environmental policy with policies of other sectors;
4. Raising environmental administrative efficiency and cooperativeness of public sector;
5. Implementing environmental management systems and best available technology in organizations;
6. Supporting environmentally friendly product development;
7. Planning and directing land use;
8. Supporting preparation and implementation of environmental projects.

8. CONSIDERATION GIVEN SO FAR TO RECOMMENDATIONS OF STRATEGICAL ENVIRONMENTAL IMPACT ASSESSMENT

Most of the recommendations made by the experts of strategic environmental impact assessment have been taken into account. Some recommendations (e.g. including co-financing of Natura 2000 network in the measures) have been rejected on the grounds that these are not of use for the National Development Plan.

Environmental assessment of the environmental considerations of strategic basis section of National Development Plan was completed on the 08 May 2002 version of the Plan in the 03 June 2002 interim statement of the environmental impact assessment. This task included commenting on the analytical section of the version of National Development Plan that was current at the time, and discussing the comments in consultations with representatives of Ministries responsible for compiling the corresponding sections.

The experts of strategic environmental impact assessment proposed several complements to the National Development Plan. The proposal for complementing the environmental part (16 August 2002) and the proposal for adding the section on past pollution (28 August 2002) are worth pointing out. These recommendations were approved and included in the updated version of National Development Plan.

The team of strategic environmental impact assessment reviewed the environmental objectives and indicators provided in the current documents. These were generalized in cooperation with the departments of Ministry of the Environment into regular environmental objectives and indicators of the National Development Plan (see Section 6.2.). Compiling of priorities and measure-specific objectives and indicators at that stage was excluded by the delay in preparing the master document. This task is to be accomplished in preparing the programme complement and implementing the National Development Plan.

In consultations with the representatives of specific Ministries we discussed the primary environmental aspects of the fields of their responsibility and possibilities for combining the environmental measures with planned measures.

The first assessment of environmental impacts of National Development Plan measures and recommendation to complement the measure descriptions was made by the experts of strategic assessment on the 19 July 2002 version of the National Development Plan measures on 30 July 2002. The proposed complements by experts of strategic assessment were presented on 07 August 2002 in a methodological workgroup. This present assessment is based on the final version of the National Development Plan, dated 12 November 2002, which has largely considered the recommendations by the experts of the strategic assessment. The specified assessment of measures of this version is provided in Section 6.3.

As recommended in the environmental assessment, regarding the mitigation measures of environmental impact, the measure of developing transport infrastructure was considerably complemented (see Section 6.3.4, measure 23).

The recommendation of environmental assessment to include in the list of supported actions environmentally safe disposal of old fishing vessels has been considered.

The experts of environmental assessment participated in the sessions of the methodological workgroup, presented their opinions on the National Development Plan on current basis to the Ex-Ante workgroup and participated in the seminars of the latter as well. Both the methodological and the Ex-Ante workgroups considered the majority of the recommendations by the workgroup of the strategic environmental impact assessment.

9. EXPERIENCE AND RECOMMENDATIONS FOR THE FUTURE

Activity of different sectors must rely on a clear, long-term and flexible vision of development. In Estonia there is frequently no clear understanding of the role of development plans in political decision-making.

It would be purposeful to regard planning and preparing of development plans as a part of managing activities, and not as a single or periodically reoccurring project. Project-centred approach concentrates interest on providing funds for new projects. Analysing of earlier action and learning from own and neighbour's mistakes is neglected. As a negative experience, it can be said that performance of several earlier development plans is not followed nor analysed. Development plans of different sectors are often in contradiction, sometimes even containing mutually exclusive actions.

For example, to our knowledge there is no official analysis of accomplishment and or changing of objectives set in Estonian Environmental Strategy [10]. This analysis is not substituted by information on accomplishment of Estonian National Environmental Action Plan [11], as its information does not provide an essential analysis of accomplishment of the objectives.

Another problem is hiding important issues under statistical data and wordiness. Systematizing of different aspects, bringing out of priorities and urgent problems has proceeded with difficulty.

While allotting the development plan preparing time, less time has to be spent on finding background data. In the future, material source data should be aggregated from the respective offices on current basis. Monitoring indicators are to be dealt with in terms of daily statistics and cadastres. So far, this is not the practice and each time experts are dealing with a development plan, they waste their time on preparing summary opinion. Such expert opinions are inevitably subjective and impossible to compare as the time passes.

The future task is to harmonize quantitative defining of state of different environmental topics, in order to enable prompt access to summary information on environmental state of air and water environment and landscapes. Damaged landscapes and past pollution sites accounts are necessary. Presently there is no systematic information on noise. Not all parties gained a comprehensive view of the topic of objectives and indicators and it would be wise to discuss the topic further and prepare corresponding information materials.

To facilitate preparing of a National Development Plan, the task of the following programming period is to compile a single programme document for use of structural funds and Cohesion fund.

Involvement of the public was hindered by lack of brief conceptual summaries on different sections of the development plan and the long preparation period the development plan.

Methodological work was also hindered by the following: constant changes in composition of the National Development Plan; practically simultaneous preparation of all sections of the National Development Plan; and above all the delay in preparation of the section on strategy and objectives of the National Development Plan. The deciding mechanism remained unclear – why one or other measure was omitted, or how the priorities and percentages of financing these were determined.

In the future it would be wise to begin the strategic environmental assessment simultaneously with preparation of the master document. The work should begin with the scoping of content and objectives of the master document and the environmental assessment. To ensure comprehension of the scoping, the definitions have to be discussed in a working meeting of compilers of master document and environmental experts.

The scheme of information exchange needs further elaboration. After the summer vacation it was difficult even to find the discussed version among the versions of the document. One possibility to prevent such confusions is to keep current documents on one server, which is always accessible by the performers of the work. In addition to the master document and materials on environmental assessment, such database should also provide an overview of all other opinions under preparation. Ideally, it would also provide the decisions on different sections of the work.

Each agency responsible for preparing the description of a priority and measure must employ his/her own personnel in defining environmental risks and significant environmental impact of the planned action and the mitigation measures. This guarantees comprehensive elaboration of measures and projects. The environmental experts investigate the sufficiency of the measures against their experience.

While performing the environmental assessment we failed to follow all methodological principles (see Section 5). For better elaboration of a future similar procedure we might question the need and place for strategic environmental assessment of the National Development Plan.

The assessed National Development Plan has planned the continuation of established activities by the help of EU structural funds. In this case, the strategic environmental impact assessment is not inevitable, as the programme does not foresee an action that is new in principle. Purposeful combination of environmental action with management of public sector would rather require auditing of environmental management of Ministries in charge of the priorities and training, in case auditing reveals a respective need.

To provide horizontal cooperation, we recommend organizing joint seminars of different offices to clarify the horizontal policies of EU. The officials responsible for priorities could use knowledge on assessment of environmental impact, environmental audit and environmental management. This is necessary even to communicate in the 'common language' with the EU officials and specialists of companies.

Above all, the above-mentioned support activity is necessary in implementing the priority of which the Ministry of Agriculture is in charge, since rural life and the field of activity of agriculture are the most complicated ones.

Involvement of the public needs to be assigned sufficient time and means. Regarding our limited resources it is essential to involve non-governmental organizations and interest groups in preparing national development plans. While involving the public in preparing national development plans, it is recommended to take into account the need to train non-governmental organizations. The outcome of brief publication meetings may be insufficient due to lack of information or even increase discredit. The people involved will later be the initiators to implement the plans. Otherwise we will be standing alone with our plans and forget these plans again.

To involve the public it is necessary to prepare non-technical summaries of final reports on completed stages of documents and both the National Development Plan and the strategic environmental impact assessment. In ideal case, an expert who has been not involved in the process prepares the summaries. This enables to check whether the technical material is complete and understandable.

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11. ANNEX

Comments of strategic assessment of environmental impact on amendments in the full version (10 February 2003) of the National Development Plan, as compared to the final version (12 November 2002)

This Annex to the Strategic Assessment of Environmental Impact report (27 January 2003/13 February 2003) presents the results of the overview of the National Development Plan draft project (version of 10 February 2003).

In the last full version of the National Development Plan (10 February 2003), there should be emphasized a positive aspect: the summary at the beginning of the document, providing an excellent overview of the whole document. The summary shows the level of generalisation reached in the preparation of the development plan. For example, there appears to be some confusion about the general comparative environmental indicators, illustrated with surprising initial acceptance levels of waste management (the initial level of both hazardous and municipal waste is 0% in 2001).

The full version of the National Development Plan is complemented with an overview of the pre-assessment and the strategic assessment of the environmental impact, providing a comprehensive and objective view of the assessment process.

The following is a review of the information added to the chapters of the most recent version of the National Development Plan, from the aspect of possible environmental impacts.

Section 1. Socio-economic situation

Complements to the chapter have mainly specifying nature. Section 1.6.4. 'Impacts of the Accession to the European Union' is added. Other changes include several specifications that highlight environmental aspects better, among others. The following keywords can be named: regulating the amount of fish catch of the fishing fleet; extinguishing forest fires and administration of the information system on forest fires; and development of the railroad transport. The main shortcomings of administrative capacity and weak coordination of the public service are also more clearly denoted.

Section 2. Starting-points of the strategy

An important part has been added to the section: The common strategy of structural funds and the Cohesion Fund in the field of transportation and environmental protection. This part also discusses investments related to nature protection, which have been not treated in the document so far. Here the preparation of these investment projects on account of resources from the Cohesion Fund is discussed.

Section 3. Priorities

3.1. Priority 1: development of human resources

The description of the measure increasing the administrative capacity (4) is complemented with the objective of developing the management quality of the public service.

3.2. Priority 2: competitiveness of businesses

Measure No. 7 has been added: Supporting the development of the business infrastructure. This measure supports the development of the business infrastructure in less developed areas. No negative impact on the environment is foreseen. Implementation of neglected industrial

areas of peripheral regions together with reconditioning of these has a positive environmental impact.

3.3. Priority 3: rural life and agriculture

The Ministry of Agriculture has increased the number of measures from 12 to 13. The measure of finding new markets has been added, but this does not involve relevant environmental impacts. Information has been added that, in the framework of measures, support is also provided to investments into the improvement of the processing and marketing of organically produced agricultural products.

3.4. Priority 4: infrastructure and local development

The renovation of heating stations has been added to the development of the local technological infrastructure. The reduction of the risks of environmental accidents is discussed. Dubious duplications are omitted from the descriptions of the measures of environmental investments.

The most recent version of the description of the hospital network reorganisation measure does not include the reference to investments into waste treatment and purification equipment, to be made in connection with the reorganisation of the hospital network. According to good practice, this would be a natural part of the reorganisation of a hospital network; however, it was not possible to check this immediately from the online Estonian Hospital Network Development Plan 2015.

3.5. Priority 5: technical assistance

More explicitly than in the earlier version, public notification and public release form a measure that contributes to more efficient implementation of the means of the structural funds, to the involvement of the public in carrying out the programme and to more objective assessment of the results.

In conclusion: the most recent National Development Plan document version (10 February 2003) is more comprehensive than the previous one and treats the environmental aspects better than the previous version. Several proposals of the strategic assessment of environmental impact have been complementarily added to the National Development Plan. The positions and proposals of the strategic assessment of the environmental impact report not treated in this Annex remain unchanged.

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12 February 2003