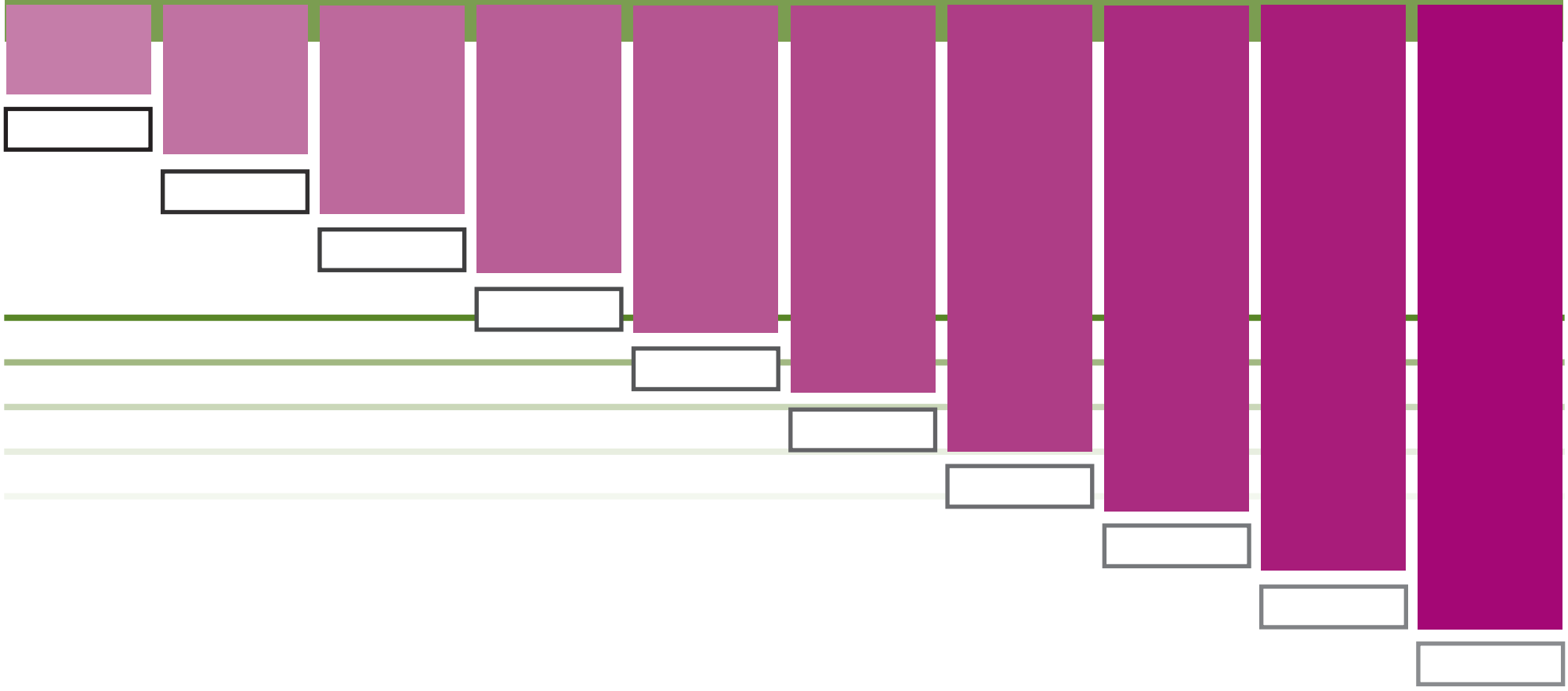
METHODOLOGICAL PAPER ON THE NATIONAL STATE OF ENVIRONMENT REPORT



SLOVENSKÁ AGENTÚRA ŽIVOTNÉHO PROSTREDIA
SLOVAK ENVIRONMENT AGENCY

European Environment Agency

This project is funded by the European Union

This document is prepared by the experts from:
Slovak Environment Agency - Zuzana Lieskovská, Dorota Hericová, Beáta Kročková, Slávka Štroffeková, Sylvia Baslarová

Everyone has the right to timely and complete information about the state of the environment and about the causes and consequences of its condition — Article 45 of the Constitution of the Slovak Republic

FOREWORD

The EEA and the Slovak Environment Agency (SEA) project team are aware of the diversity of countries participating in the European Neighbourhood Instrument (ENI)Shared Environmental Information System (SEIS) II East projectand their objectives and needs in terms of environmental assessment and of access to and publication of environmental information. However, there is a demand and need for increasing the harmonisation of environmental data, indicators and reports through development of and support for common approaches and methodologies. This is expected to improve the quality and comparability of environmental information, both internationally and nationally.

PURPOSE OF THE METHODOLOGICAL PAPER

This document, developed as part of the ENISEIS II East project outputs, is intended to help the Eastern Partnership countries to implement the process of environmental assessment and analysis and produce a state of the environment report(SOER) as the main output of the work in this area.

The document is based on the long-term experience of the Slovak Republic in the field of its SOER, which has been published in Slovakia continuously since 1993. It also takes into account the experience of Slovakia's involvement in the activities of the EEAas an active member. The team has sought to generalise this experience so that it can be used in the various Eastern Partnership countries, despite the different environmental analysis and assessment conditions they currently have and their specific objectives in relation to the SOER process.

THE PROCESS OF ANALYSIS AND ASSESSMENT OF THE ENVIRONMENT AND PROVIDING AND MAKING AVAILABLE INFORMATION ON THE ENVIRONMENT — ITS IMPORTANCE, OBJECTIVES, METHODOLOGICAL APPROACH AND MAIN OUTPUTS

IMPORTANCE AND OBJECTIVES OF THE PROCESS

The main role of the activities in the field of environmental analysis and assessment is to monitor the state and development of individual areas of the environmentand their progress, mainly in relation to the fulfilment of set objectives and adopted documents and measures. The process aims to provide true, comprehensive and timely environmental information to interested groups of society, in the form of analyses, studies, indicators and evaluation reports, as well as partial information on environmental components, their quality, impacts, etc.

Activities in the field of environmental analysis and assessment are a tool for supporting planning, decision-making, and educational and information processes. The results of these activities serve as:

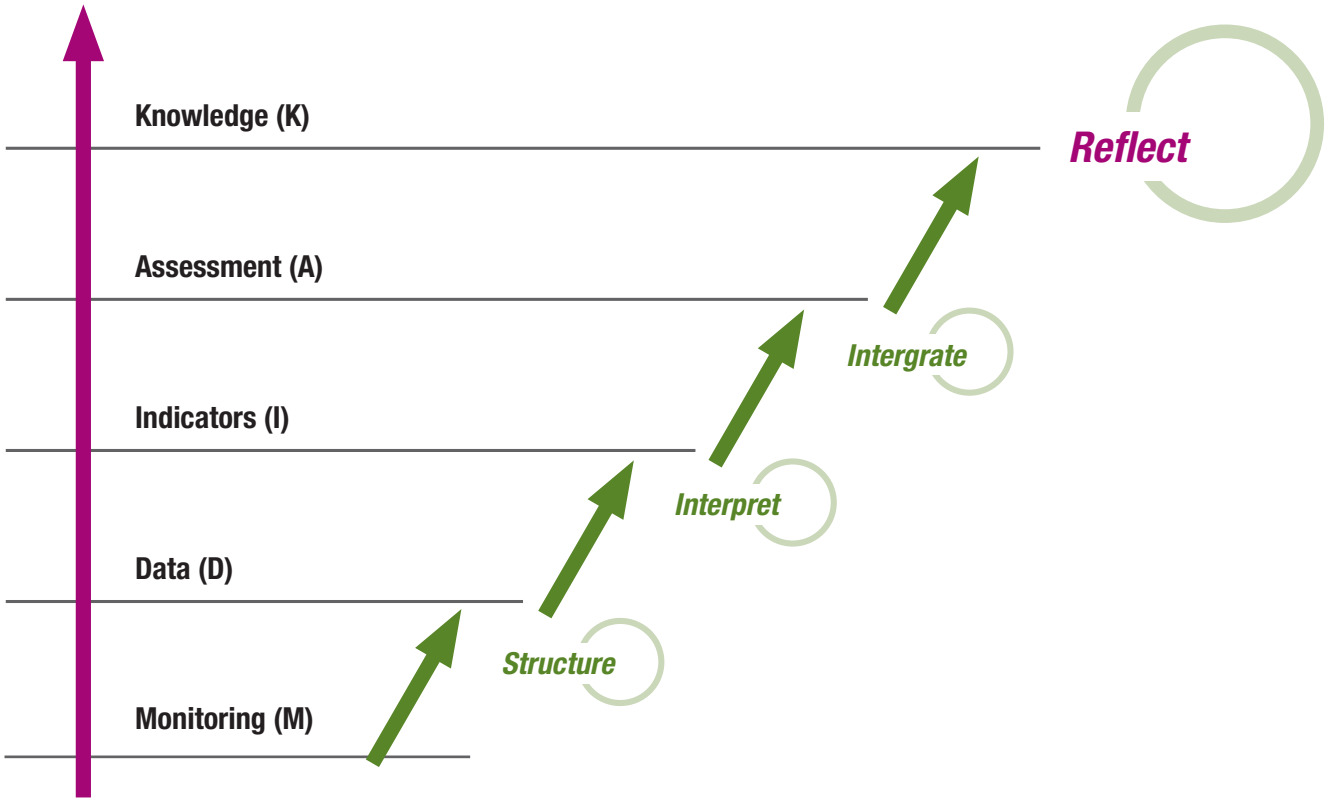
- information for politicians at different territorial levels to support the decision-making process;
- a tool to assess compliance with national and international environmental commitments;
- background data for other forms of environmental assessment through various assessment reports (e.g. strategic environmental assessment documents, environmental impact assessment documents, environmental management financing programme documents)
- support for the educational process, mainly for study programmes related to environmental care;
- an officially verified source of environmental information for the general public.

METHODOLOGICAL APPROACH TO THE PROCESS OF ENVIRONMENTAL ANALYSIS AND ASSESSMENT

The methodological approach of the analysis and assessment process consists of two frameworks:

The MDIAK conceptual framework was developed by the EEA:

- K What do we need to know?
- A What assessments are needed?
- I What indicators and information are needed?
- D What data are needed at a given level?
- M What monitoring is needed to deliver the datarequired?

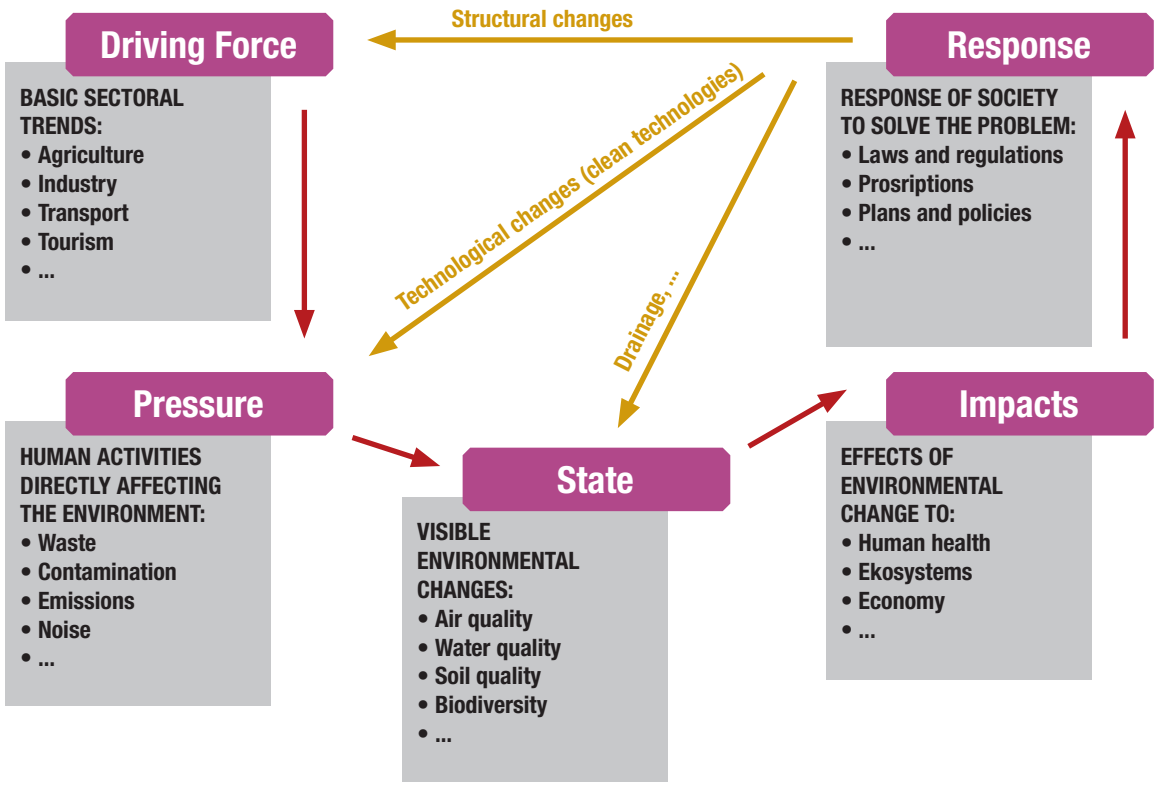


The DPSIR analytical framework was conceived by the EEAand built on the SGP, established by the Organisation for Economic Co-operation and Development (OECD):

- D Drivers
- P Pressures
- S State
- I Impact
- R Response

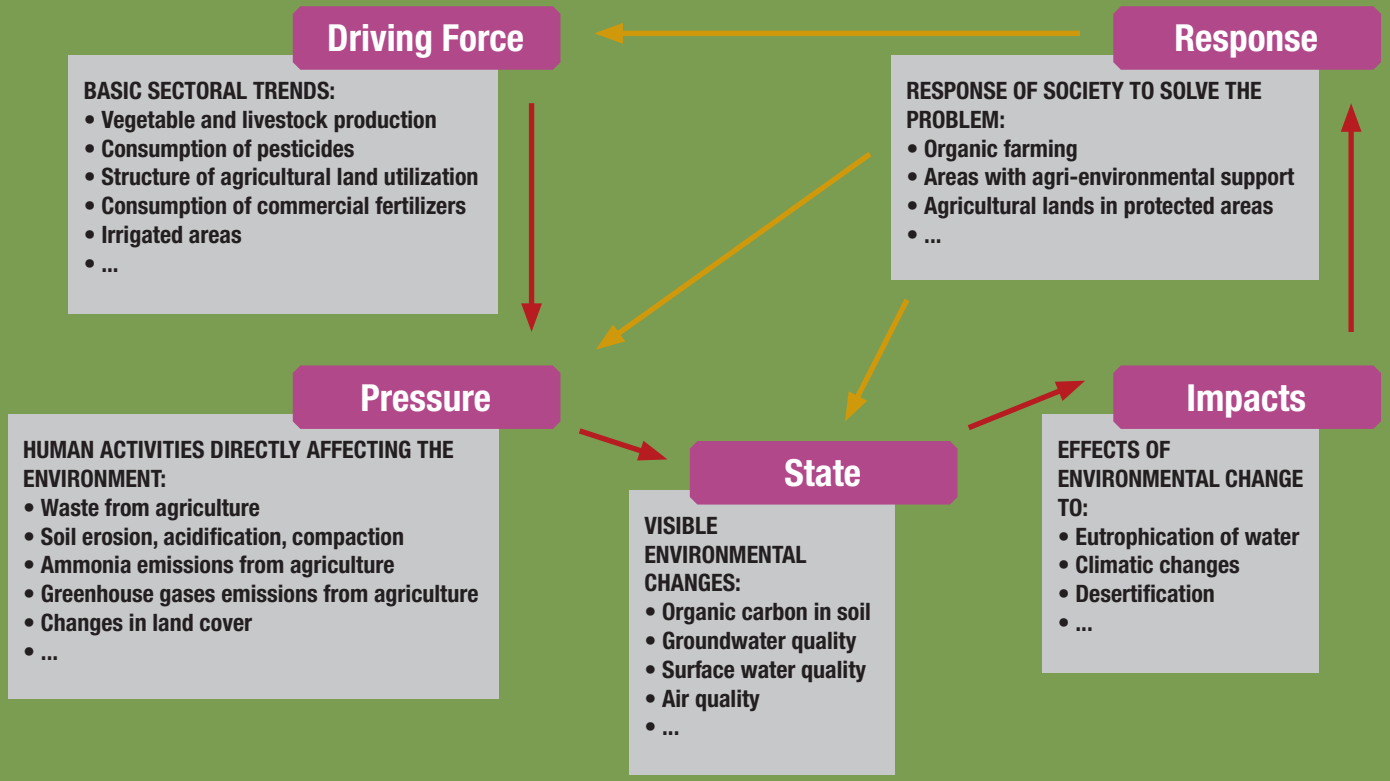
The DPSIR framework provides a suitable model for describing the interaction between human activities and the environment. It helps to clarify the scope of assessment and the extent to which assessments are integrated into a chain of causes and consequences or are closely based on, for example, simple descriptions of the state of the environment.
The drivers are mostly human activities and activities caused by our present lifestyle.
They lead to **pressures** on natural resources that undermine ecological stability and cause the quality of the environment to deteriorate (e.g. emissions and waste). **The state** is, for example, the quality of water, soil, air and nature, energy and material flows, and waste generation. Pressures and the state cause **impacts**: health problems, invasions of alien species, ecosystem change, etc. Finally, **responses** are society's responses to identified problems in the form of certain measures (e.g. legislative amendment).

DPSIR model



All five components of the DPSIR model can be described using indicators.

The SEA regularly assesses the impact of sectors on the environment using indicators included in the DPSIR structure. The following figure shows an example of a causal chain of agri-environmental indicators in Slovakia, according to the DPSIRmodel in the agricultural sector.



This model provides a theoretical basis for the development of the sectoral report, themain objective of which is to understand the causal and consequential relationships between human activity and the state of the environment and thus to provide a comprehensive view of the state and development of the environment through integrated assessment.

MAIN OUTPUTS OF THE PROCESS

The main outputs of the environmental analysis and assessment process are sets of indicators and different types of assessment reports, depending on their objective. However, the most significant output is the regular SOER.

Environmental indicators

What is an indicator?

Environmental information is available in large volumes and is often complex. Indicator methodology can be usedto clarify and systematise the information. Indicators are measurable quantities providing information on the development of and trends in phenomena and processes, in quantitative and qualitative terms. They should have good source data and a well-described methodology. The indicator is a tool that describes positive or negative trendsin summary form, and its key function is to communicate a short and clear message in an understandableway. Indicators are instrumental in planning and setting policy objectives, including in monitoring their implementation and in developing follow-up measures and instruments to achieve them in various policy and strategy documents. They are a comprehensive source of information on the state and development of the environment and related aspects for the general public. They are an important basis for the subsequent drafting of relevant types of reports, such as the SOER.

Evaluation of indicators

When selecting indicators, one should take into account:

- the relevance to established strategic objectives and priorities;
- the availability and quality of data as well as their geographical and temporal coverage;
- personnel, technical and financial support.

Indicators can be compiled at various levels of aggregation (detail, complexity), ranging from complex major policy issues to very specific ones related to specific environmental issues.
A smaller set of politically relevant and easy to interpret indicators is best used to support the political process. Itspurpose is to provide high-quality evidence for political decision-making, in particular when it comes to establishing priorities and measures to implement these priorities. A relevant set of indicators should provide answers to key environmental issues at the national or international level.

For several years, the SEA has been regularly collecting, processing, interpreting and evaluating data for selected sets of environmental indicators. Such information further serves as a basis for the processing of various evaluation reports, as an information base for environmental data, and as a tool that contributes to the process of creating or evaluating environmental policies and their direction andof meeting objectives at different levels.

The SEA processes and regularly evaluates the following sets of indicators:

- key indicators (which stem from the key questions that were defined for individual topics in the SOERin Slovakia);

- sectoral indicators (a means of assessing progress in the implementation of sectoral policies in relation to the environment and the degree of integration of environmental aspects into sectoral policies);

- sustainable development indicators (which serve to fulfil the need to monitor and evaluate the direction towards the fulfilment of the principles of sustainable development — especially its environmental pillar — and the achievement of its objectives in Slovakia);
- green growth indicators (which monitor the progress of the Green Growth strategy implementation in the Slovak political system);
- resource efficiency indicators (which provide statistical support for the implementation of the Roadmap for a Resource Efficient Europe, one of the seven initiatives of the Europe 2020 strategy for smart, sustainable and inclusive growth);
- biodiversity status and conservation indicators (which provide comprehensive and representative information on

biodiversity status in Slovakia and factors directly affecting this status);
- circular economy indicators (which monitor the circular economy package, adopted by the European Commission).

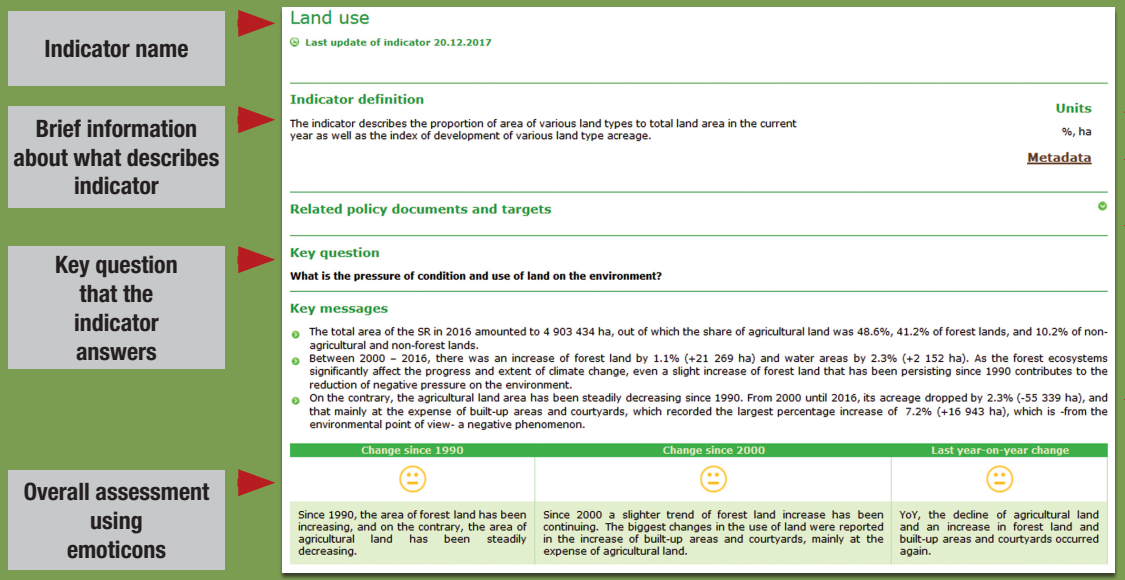
To simplify the processing of environmental assessment indicators and to edit evaluation reports, an information system for indicators (ISI) was developed by the SEA. Its main task is to unify the outputs on the web and to modernise and simplify the preparation of documents for the editing of evaluation reports. It also aims to centralise the entire database in one place, archive data and make it easier for all employees to access it.

Disclosure of indicators

All indicators published in paper or electronic form should be managed in a structured and uniform manner. An indicator sheet must be used for this purpose and should contain:

- basic indicator specification:
  - indicator name;
  - indicator definition;
  - unit;
  - data source;
  - methodology of data collection;
- political relevance
  - related political objectives and documents;
- custom indicator evaluation
  - graphical evaluation of the indicator
  - textual evaluation of the indicator
- additional related information.

Each indicator sheet has a fixed structure consisting of two parts. The first part is devoted to the specification of the indicator, and the second part is focused on the actual indicator evaluation.



Land use

Last update of indicator 20.12.2017

Indicator definition

The indicator describes the proportion of area of various land types to total land area in the current year as well as the index of development of various land type acreage.

Units

%, ha

Metadata

Related policy documents and targets

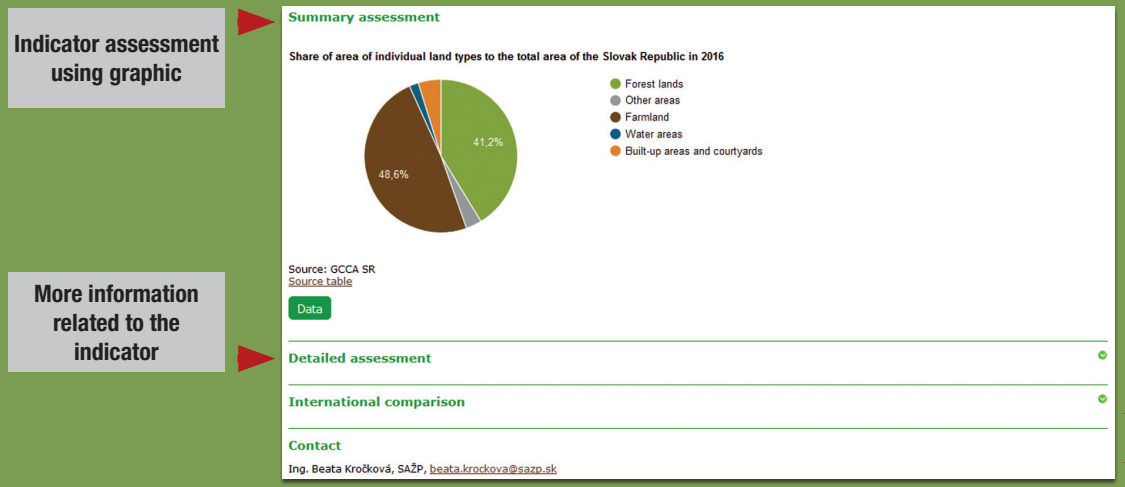
Key question

What is the pressure of condition and use of land on the environment?

Key messages

- The total area of the SR in 2016 amounted to 4 903 434 ha, out of which the share of agricultural land was 48.6%, 41.2% of forest lands, and 10.2% of non-agricultural and non-forest lands.
- Between 2000 – 2016, there was an increase of forest land by 1.1% (+21 269 ha) and water areas by 2.3% (+2 152 ha). As the forest ecosystems significantly affect the progress and extent of climate change, even a slight increase of forest land that has been persisting since 1990 contributes to the reduction of negative pressure on the environment.
- On the contrary, the agricultural land area has been steadily decreasing since 1990. From 2000 until 2016, its acreage dropped by 2.3% (-55 339 ha), and that mainly at the expense of built-up areas and courtyards, which recorded the largest percentage increase of 7.2% (+16 943 ha), which is -from the environmental point of view- a negative phenomenon.

Change since 1990	Change since 2000	Last year-on-year change
Since 1990, the area of forest land has been increasing, and on the contrary, the area of agricultural land has been steadily decreasing.	Since 2000 a slighter trend of forest land increase has been continuing. The biggest changes in the use of land were reported in the increase of built-up areas and courtyards, mainly at the expense of agricultural land.	YoY, the decline of agricultural land and an increase in forest land and built-up areas and courtyards occurred again.



Summary assessment

Share of area of individual land types to the total area of the Slovak Republic in 2016

Source: GCCA SR
Source table

Data

Detailed assessment

International comparison

Contact

Ing. Beata Kročková, SAŽP, beata.krockova@sazp.sk

Indicator name

Brief information about what describes indicator

Key question that the indicator answers

Overall assessment using emoticons

Units used in the indicator

Metadata

References to current conceptual and strategic documents

Key message of the indicator assessment

Indicator assessment using graphic

More information related to the indicator

International comparison

Contact

The metadata should provide the user with the maximum possible transparency on the formation of the indicator. Each indicator is based on one or more data source, and the data are processed according to the methodology specified in the indicator specification.

Metadata

Related definition

Methodology

Data sources

Related indicators

Related definitions:

Changes in land use represent annual losses or increases of the aggregate values of the various types of land.

Farmland is arable land, hop fields, vineyards, gardens, orchards and permanent grassland.

Forest lands consist of land covered with forest trees, lands on which forests were temporarily removed in order to restore them, lands without forest stands for forestry use, lands above the upper tree line in high mountain areas, with the exception of built-up lands and their access roads.

Water areas are rivers, streams, channels, canals, ponds, swamps, lakes, exposed groundwater as gravel and dredge quarries.

Built-up areas and courtyards consist of lands on which buildings and courtyards, highways, roads, local roads, tracks, airports and water constructions are built.

Methodology:

Types of lands and ways of their use are in the real estate cadastre marked with different codes according to Annex no. 1 and 2 of the Decree of the Geodesy, Cartography and
Cadastre Authority of the Slovak Republic no. 461/2009 Coll., implementing the Act of the National Council of the Slovak Republic no. 162/1995 Coll. on the Real estate cadastre and registration of ownership and other rights to immovable property (Cadastral Act), as amended.

According to the acts:
- **no. 220/2004 Coll.** on the **Protection and use of agricultural land** and on Act no. 245/2003 Coll. modification on Integrated prevention and control of environment pollution and on amendment of certain laws and
- **no. 326/2005 Coll. on Forests,** as amended, which provides for the definition of forest lands and their protection in the permanent set-aside, which means a permanent change of forest land use or permanent change of land type,
the body for the protection of agricultural land, which is the **District Office - Land and Forest Department,** issues a **decision on a land type change.** Subsequently, the district office sends a copy of decision on the agricultural land or forest land change to the competent authority of Geodesy, Cartography and Cadastre, which processes the data supplied.
Geodesy, Cartography and Cadastre Authority of SR (GCCA of SR) provides the data to the Statistical Office of SR and publishes the **Statistical Yearbook of the SR land resources.**

Data sources:

GCCA SR, Eurostat

Related indicators:

- Štruktúra využívania poľnohospodárskej pôdy
- Erózia poľnohospodárskych pôd
- Kontaminácia poľnohospodárskych pôd

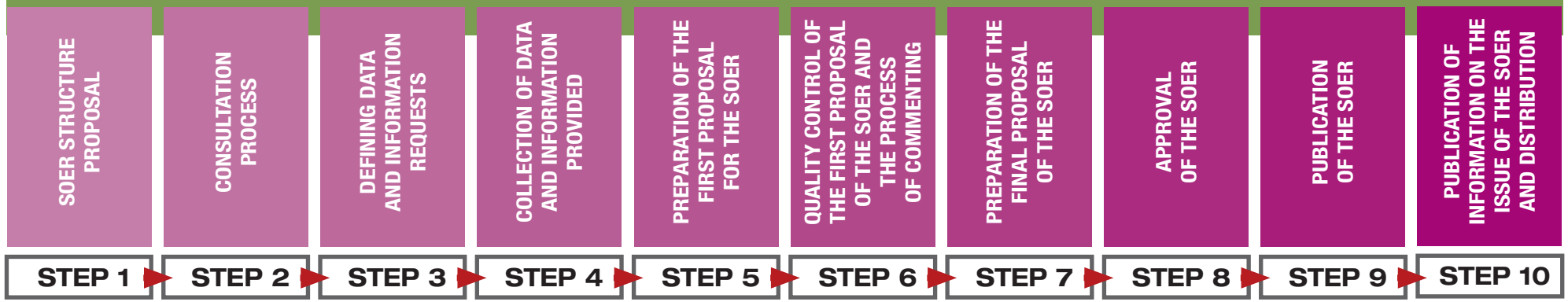
The aim of the SOER is to provide a comprehensive overview of the state of environmental components – air, water, rock environment, soil, flora and fauna – as well as cumulative environmental problems, in particular climate change and ozone depletion. Attention should also be paid to nature and landscape protection and to risk factors in the environment, with a focus on waste, material flows, and chemical and physical risk factors. At the same time, it is important that it also contains information on how economic sectors – transport, energy, industry, agriculture, forestry, recreation and tourism – affect the environment. In addition, it should highlight the results of the application of selected environmental management instruments, including financial mechanisms to promote environmental management. It is appropriate to include international comparisons for selected areas, as part of the evaluations.

The SOER is an official and verified source of environmental information at national level.

Schedule of SOER preparation

The SOER is a comprehensive and cross-cutting document which, given the nature of the environment, affects a wide range of authorities and organisations. Therefore, for the entire process – from the preparation of the structure to the distribution of the SOER – it is necessary to establish a suitable schedule that will allow enough time for the implementation of the individual steps of the process. This schedule may be drawn up differently depending on how frequently the SOER is published.

EXAMPLE OF THESCHEDULE FOR SOER COMPILATION IN SLOVAKIA (WHERE THE SOER IS PUBLISHED ANNUALLY)



SOER STRUCTURE PROPOSAL

STEP 1

Objective: develop the SOER structure proposal – a list of chapters and their categorisation, and a methodological approach to the creation of the chapters' content; define the scope of the chapters.

Output: proposal for the SOER's structure and breakdown of chapters and their scope.

Before designing the SOER's structure, it is necessary to define the objective of the report and the target groups to which the report will be addressed. Depending on the objective and target groups, the structure of the report may also change. The proposal for the SOER's structure should be prepared by the organisation responsible for the SOER proposal, in accordance with the SOER content requirements,as defined in the relevant international and national regulations. At the same time, the frequency, form and date of publication of the report should also be determined.

The proposal for the breakdown and content of the SOER chapters is to take into account the related national and international regulations and documents setting out the objectives in each area, information obligations, data and information collection and evaluation flows. When creating chapters, it is necessary to adhere to the following principles:

– design evaluations in a user-friendly form, i.e. present the topic in the most comprehensible form and use graphical elements to make it easier to

understand;
- evaluate the area in a clear and unambiguous way, with the most up-to-date information;
- evaluate the area in a targeted and concrete way – state, development, achievement of objectives and direction towards objectives;
- compare the national situation with other countries.

The proposal for a breakdown of eachchapter should allow for rapid assimilation of information on substantive findings and, for those interested, more detailed information. To unify the chapters, it is necessary to define the period that is to be evaluated in the SOER. At the same time, the depth of the development of the evaluations and information within the individual chapters should be harmonised. It is recommended that indicators in the SOER are used for assessments that are defined in an international context. The breakdown of eachchapter must be logical and clear. It is advisable to start eachchapter by summarising the essential findings as the basic output of the evaluation to quickly orientate the reader to the topic. Subsequently, to give the reader access to more detailed information, it is appropriate to provide a more detailed assessment with more detailed data and information. For consistency, a uniform breakdown across all chapters of the report should be used.

It is necessary to agree on the overall scope of the SOER and define the number of pages per chapter according to its content, so that individual chapters are balanced. Given that a wider team of experts is involved in the creation of the SOER, it is necessary that they have the specified scope at the beginning of the work and prepare the relevant documents accordingly.

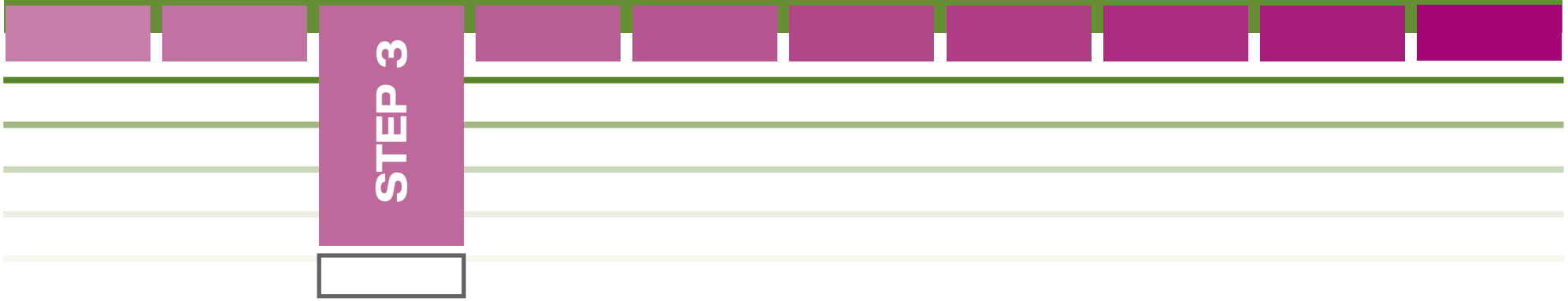
CONSULTATION PROCESS

Objective: discuss the draft SOER structure, the breakdown of chapters andtheir scope and other issues related to the publication of the SOER with the target groups concerned.

Output: final version of the SOER's structure, breakdown of chapters and their scope.

Given the cross-cutting nature and objective of the SOER, feedback on the proposal of the structure should be obtained as well as opinions, comments and complementary suggestions from various target groups (representatives of the relevant departments and organisations, self-governing bodies, universities, non-governmental organisations, the public). In addition to its structure, the consultation process may also cover other areas related to the preparation, publication and distribution of the SOER (e.g. form of publication, form of presentation of findings, promotion of results). The feedback received must be subject to expert judgement by the institution responsible for the publication of the SOER, in terms of its suitability, feasibility and compliance with the SOER's objective. The results of the process are included in a final version of the report structure.

DEFINING DATA AND INFORMATION REQUESTS



Objective: in relation to the approved report structure, process requests for data and information for their owners.

Output: list of data and information requests in a structured form.

The responsible organisation's team for processing the relevant chapters needs data and information, the acquisition and processing of which are/may be the responsibility of organisations under the central body responsible for environmental care and other bodies (depending on the organisation in each country) as well as statistical authorities. Obtaining these data and information is much easier when there is a document that imposes obligations to provide them for the SOER (legislation, interministerial agreements, a methodological procedure for SOER preparation approved by the government, etc.). It is also necessary to enter a date by which the provider needs to submit the data and informationrequired.

To unambiguously define and understand data and information requests, it is appropriate to clearly define the requests made by the responsible organisation. It is necessary to choose an unambiguous form for their definition (forms of prefilled tables, web applications with predefined content and scope of requests, etc.). To facilitate further communication, it is advisable to ask the provider to designate a contact person. The availability of data and information should be taken into account when defining requests. Identifying a set of data that is not currently available but which would be needed to describe and evaluate new environmental problems and challenges can help to prioritise the need for future data.

COLLECTION OF DATA AND INFORMATION PROVIDED

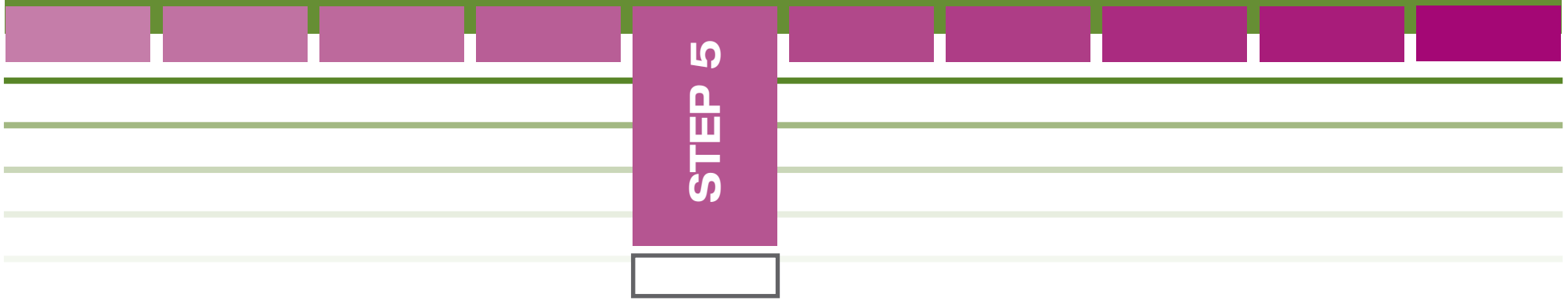
Objective: summarise the data and information provided, based on a defined request.

Output: a collection of data and information needed to draw up an SOER.

It is necessary to review the data and information supplied in terms of their completeness, relevance, reliability and quality. If the data are not completely delivered in accordance with the request, communication with the designated contact person is necessary to complete them or to discuss, for example, in the case ofa missing figure,why there is no reason for its absence, or why the data differ significantly from the previous period.

The database used to prepare the SOER is extensive. To simplify the processing of collected data, we recommend using/creating a database system, for example an environmental database, which is a programme that aims to concentrate data in one place in a structured form, archive entire time series and simplify access to data for the entire team, which greatly streamlines the entire process of data processing. Creating an environmental database will enable the development of client applications not only for the collection, editing and presentation of relevant data,
indicators and reports but also for the unification of its outputs.

PREPARATION OF THE FIRST PROPOSAL FOR THE SOER



Objective: **textual and graphical processing of SOER according to the agreed structure and structuring by the research team in accordance with the agreed methodology.**

Output: **first SOER proposal.**

Before processing the data and informationreceived, it is advisable to agree on the form of their processing and the presentation of the results. It is necessary to decide whether, for example, the SOER will include specific numerical tables or only processed outputs in the form of graphs and maps, which

the public find more readable. From the point of view of graphical presentation, it is also useful to define how the graphs should look at the beginning of the work. Consideration should also be given to the inclusion and form of a summary assessment of the main findings so that readers can quickly orientate themselves to the results presented in the SOER.

It is very important to set up the teamcorrectly. It should consist of experienced experts, who are knowledgeable in the sub-themes addressed in the SOER and who may be expert partners with bodies and organisations that work together to prepare the SOER. The role of the coordinator is important — they are responsible for coordinating the team, the final SOER proposal, its balance and interconnection of chapters.

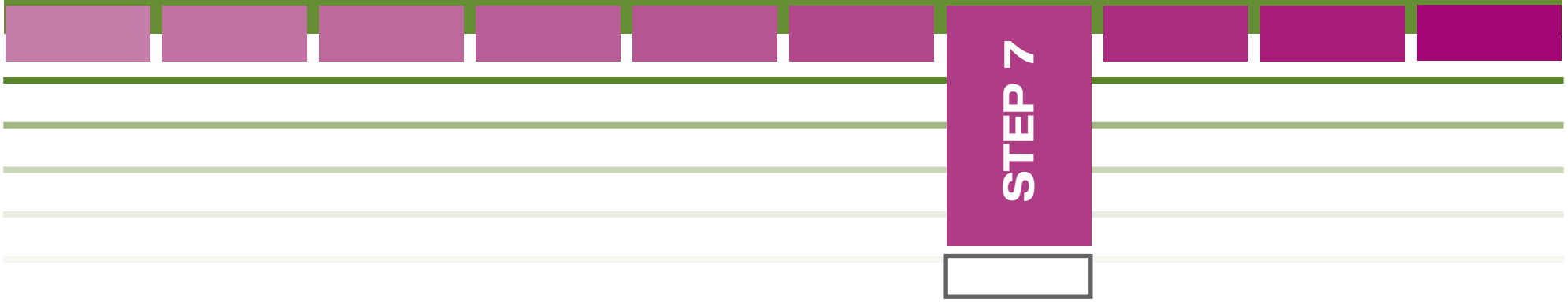
QUALITY CONTROL OF THE FIRST PROPOSAL OF THE SOER AND THE PROCESS OF COMMENTING

Objective: **ensure that the proposal is sent for a comment procedure after its quality control (internal comment process) and that the process of commenting is carried out not only within the environmental sector but also among other relevant stakeholders.**

Output: **first SOER proposal after internal quality control and a set of comments from external stakeholders.**

Internal quality control (the level of the organisation preparing the SOER proposal) must be ensured. The subsequent process of commenting on the SOER proposal by the relevant parties must also be ensured.

PREPARATION OF THE FINAL PROPOSAL OF THE SOER



Objective: develop a final SOER proposal after considering and incorporating relevant comments.

Output: the final SOER proposal.

Received comments need to be analysed, evaluated for relevance and incorporated into the final draft proposal. If necessary, it may be appropriate to hold partial meetings with those who submittedthe comments to discuss them. An evaluation of the comments and conclusions on how they were handled should be given in a separate document, preferably in a tabular form. The evaluation should be sent to the processor for any further comments.

APPROVAL OF THE SOER

STEP 8

Objective: approval of the final SOER proposal by the responsible authority.

Output: an approved SOER.

The final SOER proposal drawn up by the designated institution must be subject to final approval, and the relevant document must be drawn up. The SOER thus becomes an official source of data, information and interpretation at national level. An approval mechanism needs to be established,and the institution responsible for the approval of the SOER should be designated. It may be a competent ministry with environmental management competence or governed by a resolution.

PUBLICATION OF THE SOER

STEP 9

Objective: **publish the SOER in a pre-agreed form and make it available.**

Output: **the published SOER — in printed form or a suitable medium (USB); digital version published on the website.**

The final SOER is issued in the chosen form and made available to individual target groups, including the public. This form may be a printed version, a version in a suitable medium, a digital versionor a combination thereof. It is also possible to print a shortened version, supplemented by the full text in a digital form. Each form has its advantages, depending on the user who chooses it. A combination of the above forms is recommended. To make the SOER available internationally, it is advisable to issue the SOER in English, either in full or in a shortened form, at certain intervals (not exceeding one every 4 years).

PUBLICATION OF INFORMATION ON THE ISSUE OF THE SOER AND DISTRIBUTION

STEP 10

Objective: publish information on the issue of the SOER and distribute the SOER.

Output: published information and distribution of a printed version of the report.

An essential part of the SOER creation process is the process of disseminating the SOER among individual target groups, including the public. It is advisable to prepare a communication plan, as individual target groupswill be addressed. When designing how to address them, it is necessary to take into account their specificities and to choose appropriate forms of address. It is also very useful to create a space for feedback from SOER users onthe assessment results. It is important for users to be aware of this option, and it is therefore advisable to include information about it in the SOER release information.

Annex no. 1A

The structure of the 1-year Report on the State of the Environment in the Slovak Republic

FOREWORD

BASIC INFORMATION OF THE SLOVAK REPUBLIC
Settlement and demographic trends

SUMMARY EVALUATION OF THE ENVIRONMEN IN THE SLOVAK REPUBLIC

COMPONENTS OF THE ENVIRONMENT AND THEIR PROTECTION

AIR
Key questions and key findings
Emission situation
Air pollution situation
Ozone layer depletion

WATER
Key questions and key findings
Surface water
Groundwater
Public water supplies
Waste water discharge and treatment
Bathing water quality

ROCKS
Key questions and key findings
Geological environmental factors
Geothermal energy

Annex no. 1B

The structure of the 4-year Report on the State of the Environmentin the Slovak Republic

FOREWORD

BASIC INFORMATION OF THE SLOVAK REPUBLIC

Settlement and demographic trend (number of citizens, increases, decreases, life expectancy, size of areas, environmental regionalisation, GDP)

SUMMARY EVALUATION OF THE ENVIRONMEN IN THE SLOVAK REPUBLIC

COMPONENTS OF THE ENVIRONMENT AND THEIR PROTECTION

AIR
Key questions and key findings
Emission situation
Air pollution situation
Ozone layer depletion

WATER
Key questions and key findings
Surface water
Groundwater
Public water supplies
Waste water discharge and treatment
Bathing water quality

ROCKS
Key questions and key findings
Geological environmental factors

Geothermal energy
Abandoned mining works
Minerals deposit balance

SOIL
Key questions and key findings
Land use
Soil quality

FLORA, FAUNA AND PROTECTED PARTS OF NATURE
Key questions and key findings
Flora
Fauna
Habitats
Care of protected parts of nature

LANDSCAPE PROTECTION, DEVELOPMENT AND MANAGEMENT

Key questions and key findings
Care of the rural and urban environments
European landscape convention
Framework Convention on the Protection and Sustainable Development of the Carpathians
Monument fund
World heritage
Geoparks
Environmental burdens

ECONOMIC SECTORS AND THEIR IMPACT ON THE ENVIRONMENT

Key questions and key findings
Industry
Extraction of minerals
Energy

Transport
Agriculture
Forestry
Recreation and tourism

MATERIAL FLOWS

Material intensity of the economy

WASTE

Key questions and key findings
Waste generation and waste management
Transboundary movement — waste import, export and transit

CLIMATE CHANGE

Key questions and key findings
Climate protection/climate change mitigation
Impacts of the climate change and adaptation on unfavourable consequences of the climate change

ENVIRONMENTAL RISK FACTORS

PHYSICAL RISK FACTORS

Key questions and key findings
Non-ionizing radiation
Ionizing radiation
Nuclear facilities activities

CHEMICAL RISK FACTORS

Key questions and key findings
Xenobiotics in the food chain and feedstock

NATURAL AND TECHNOLOGICAL HAZARDS

NOTES

NOTES

NOTES

NOTES