



**THE EUROPEAN UNION'S REGIONAL ENVIRONMENTAL
PROGRAMME FOR CENTRAL ASIA "EURECA"
TARGETED AWARENESS RAISING FOR ENHANCED EUROPEAN UNION –
CENTRAL ASIA PARTNERSHIP PROJECT**

ANALYTICAL REVIEW

TOWARDS IMPLEMENTATION OF SHARED ENVIRONMENTAL INFORMATION SYSTEM (SEIS) IN CENTRAL ASIA



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LIST OF ABBREVIATION

AoA	Assessment of Assessments
AWU	Association of Water Users
ALM RK.....	Agency on Land Management of the Republic of Kazakhstan
AS RT	Agency of Statistics of the Republic of Tajikistan
ASRK.....	Agency of Statistics of the of Republic Kazakhstan
BDWM	Basin department of water management
CAREC	The Regional Environmental Center for Central Asia
CA-AoA	Europe’s Environment: An Assessment of Assessments for Central Asia
CC	Climate Change
CDM.....	Clean Development Mechanism
CEP RT	Committee on Environmental Protection under the Government of the Republic of Tajikistan
CF&H MEP RK.....	Committee for Forestry and Hunting under the MEP RK
CG&SU RK	Committee of Geology and Subsoil Use under MIT RK
CIS	Commonwealth of Independent States
COP	Conference of the Parties
CWR MEP RK	Committee for Water Resources under MEP RK
DWM LR	Department of Water Management and Land Reclamation
DDSS.....	Districts Department of State Statistics
DDWM	Districts Departments of Water Management
EEA	European Environment Agency
EE-AoA.....	Europe’s Environment: An Assessment of Assessments
EU	European Union
EIDB	Environmental Indicators Database
EURECA	The EU regional environmental programmer for Central Asia
ENPI-SEIS.....	European Neighborhood Partnership Instrument of the EU on SEIS
FNC.....	First National Communication within UNFCCC
GEF.....	Global Environment Fund
GHG	Green House Gases
IAWG	Inter-agency Working Group
IFAS.....	International Fund for saving the Aral Sea
KR	Kyrgyz Republic
MA&WR RT	Ministry of Amelioration and Water Resources of the Republic of Tajikistan
MDG RT	Main Division of Geology of the Republic of Tajikistan
MEAs	Multilateral Environmental Agreements
MEP RK	Ministry of Environment Protection of the Republic of Kazakhstan
MIT RK	Ministry of Industry and Trade of the Republic of Kazakhstan
MNP TM	Ministry of Nature Protection of Turkmenistan
MOA RK	Ministry of Agriculture of the Republic of Kazakhstan
MOA T	Ministry of Agriculture of Turkmenistan
MOA&LR KR	Ministry of Agriculture and Land Reclamation of the Kyrgyz Republic
MOH	Ministry of Healthcare

MOA&WM RU Ministry of Agriculture and Water Management of the Republic of Uzbekistan

MWM KR Ministry of Water Management of Kyrgyz Republic

NCH TM National committee of Turkmenistan on hydrometeorology under the Cabinet of Ministries

NAP CC National Action Plan to Combat Desertification

NGOs..... Non-governmental organizations

NCS KR National Committee on Statistics of the Kyrgyz Republic

NSoER..... National State of Environment Report

OECD..... Organization for Economic Cooperation and Development

OEC TM..... Office of Ecological Control of Ministry of Nature Protection in Turkmenistan

PA Protected Areas

RFNP RU Republic Fund of Nature Protection of the Republic of Uzbekistan

R&D..... Research and Development

RES..... Renewable Energy Sources

RK Republic of Kazakhstan

RSE..... Republican State Enterprise

RT Republic of Tajikistan

RU..... Republic of Uzbekistan

SAG&MR KR State Agency for Geology and Mineral Resources of the Kyrgyz Republic

SAEP&F KR State Agency on Environment Protection and Forestry under the Government of the Kyrgyz Republic

SCG RU State Committee on Geology and Mineral Resources of the Republic of Uzbekistan

SCLR RU..... State Committee on Land Resources, Geodesy, Cartography and state Cadastre of the Republic of Uzbekistan

SCS RU State Committee on Statistics of the Republic of Uzbekistan

SCS TM State Committee on Statistics of Turkmenistan

SEF State Environmental Fund

SEPF RU..... State Environmental Protection Fund of the Republic of Uzbekistan

SEIS Shared Environmental Information System

SCNP RU State Committee of the Republic of Uzbekistan for Nature Protection

SIC State Information Center

SIAC State Information Analytical Center

SNC Second National Communication within UNFCCC

SoE..... State of the Environment

TM..... Republic of Turkmenistan

TNC Third National Communication within UNFCCC

UN..... United Nations

UNCCC..... UN Framework Convention on Climate Change

UNDP UN Development Programme

UNCBD UN Convention on Biological Diversity

UNCCD..... UN Convention to Combat Desertification

UNEP UN Environment Programme

UNECE..... UN Economic Commission for Europe

INTRODUCTION

Shared Environmental Information System (SEIS) is an initiative proposed by the European Commission in February 2008¹ aiming to modernize and simplify the collection, exchange and use of the data and information required for the development and implementation of environmental policies. The main purpose of SEIS is to ensure that environmental information is accessible, relevant and comparable across regions, countries and cities and collected according to joint standards, geographic references and managed in a generally accepted way. Data entry, clearance, analysis and management are based on open source software. SEIS introduction and development will improve quality and accessibility of information, reduce administrative costs and improve existing data collection systems. Successful introduction of SEIS will facilitate development of effective environmental policies.

At the first stage in the year 2008, the European Environment Agency (EEA), EEA member states and partner countries participated in the formation of SEIS. In 2010, the EU initiated the expansion of SEIS within the framework of the European Neighborhood and Partnership Initiative to the neighboring countries covered by the EuzBelarus, Georgia, Moldova, Ukraine), the states of the ENP Southern region (Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Palestinian Autonomy, Syria and Tunisia) and the Russian Federation. The expected results of the project are to enhance the capacities of the participating countries in monitoring, collection, storage, evaluation and reporting of environmental data and to create a platform for the introduction of SEIS.

Central Asia was not covered by the first SEIS activities, including Europe's Environment – An Assessment of Assessment (EE-AoA), as the region falls under the other instruments of cooperation for development (ICD)² regulated by the EU Strategy for a New Partnership with Central Asia³.

The EEA and CAREC initiated, as part of the UNECE Steering Group on Environmental Assessments (CEWG) and with the financial support from the governments of Switzerland and Italy, an initiative allowing the Central Asian countries to join the EE-AoA process; adding a Central Asian regional component to the EE-AoA. This is a great step towards cooperation between the Central Asian countries themselves and with the European region on environmental data management and further SEIS specific aspects.

Europe's Environment: An Assessment of Assessments for Central Asia (CA-AoA) and joint work of EEA and CAREC promoted strengthening substantive cooperation between two organizations and made significant contribution to expanding CAREC's expertise in the field of SEIS.

The relevance of implementing SEIS in CA was announced at the 7th Conference of Environment Ministers, which was held in Astana in the Republic of Kazakhstan. According to the Ministerial Declaration of the 7th Ministerial Conference Environment for Europe

(EfE) it was decided to establish a regular process of environmental assessment and develop SEIS throughout the region.

SEIS implementation in CA will enable to create a unified data platform that will facilitate development of effective environmental policies both for the regional and national levels as well as to facilitate the process of searching, collecting and analyzing information by interested users. In addition, it will help to reduce gaps in the databases, identify priority areas while developing pertinent environmental indicators, especially those indicators that are essential for the development of green economy and efficient use of natural resources.

First of all, the shared environmental information system will be useful for the government agencies, different organizations and other stakeholders, as it will enable implementation of necessary environmental policies addressing critical environmental issues based on easily accessible and reliable environmental information. Introducing SEIS will be useful in addressing both regional and transboundary environmental issues that arise among Central Asia countries.

Currently the CA countries face problems with collecting, organizing, storing and exchange of environmental information. Lack of data on some of the environmental indicators, dearth of well developed methodologies for data collection and assessment of certain indicators, incomparability of national units of measurement with the units recommended and recognized internationally, absence of permanent monitoring system for Multilateral Environmental Agreements implementation (MEAs), weak coordination of the process of collection, storage and exchange of environmental information among different data producers and data users adds to the problem.

Results of the assessments undertaken in Central Asia with the objective of identifying gaps and weaknesses in regard to overall process of data exchange revealed poor coordination of the whole process - environmental information is collected by different data producers for different purposes; very often collection of data is duplicated and data are not shared among concerned stakeholders, thus users of data including decision-making bodies do not have easy access to reliable source of information. Moreover, due to the lack of digitized data most of the information is not produced and shared systematically and periodically. It is a usual practice in the Region that exchange of information is possible only through the officially written requests and data mainly is provided in hard copy. Today web sites is one of the few ways of having access to digitized data, while hard copies of data in the form of periodic and special publications as statistical books, national environmental reports, newsletters and reports of international conventions and programs are still the most frequently used ways of information exchange. The following chapters contain

¹ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0046:FIN:EN:HTML>

² http://ec.europa.eu/europeaid/how/finance/dci_en.htm

³ http://www.consilium.europa.eu/uedocs/cms_data/librairie/PDF/EU_CtrlAsia_EN-RU.pdf

results of the assessments of current situation in the region on environmental data exchange and reporting on environmental indicators to the MEAs Secretariats. The studies were carried out within the project “Targeted Awareness Raising for Enhanced European Union – Central Asia Partnership”. Additionally to these studies in some of the countries based on the example of preparing “National environmental reports” a number of assessments on the status of data collection and data generation were conducted. Interaction among all concerned stakeholders including both producers and users of environmental data as well as data flow were analysed and results along with recommendations for further promotion and application of SEIS are compiled in the current report.

The second part of the report reflects the results of activities carried out as part of the project “Bilateral support to Central Asian countries in SEIS oriented improvement of the environmental governance”. Basically, activities were carried out in order to identify existing problems in collecting environmental data in Kyrgyzstan and based on the analysis the capacities to improve the situation in this areas were identified. In particular, outcomes of the aquatic statistics assessments and recommendations can be seen as the basis for implementation and development of further pilot projects on improving environmental data management for water resources.

1. 1. PROMOTION OF SHARED ENVIRONMENTAL INFORMATION SYSTEM (SEIS) WITHIN THE “TARGETED AWARENESS RAISING FOR ENHANCED EUROPEAN UNION –CENTRAL ASIA PARTNERSHIP” AWARE-SEIS PROJECT

1.1 KAZAKHSTAN

1.1.1 PRESENT CONDITIONS OF ENVIRONMENTAL INFORMATION COLLECTION AND ANALYSIS IN THE COUNTRY

The environmental information in the Republic of Kazakhstan is produced in the form of compendia, bulletins, reports on the state of the environment (SoE). The processes of collecting, producing and exchange of environmental information are well developed and implemented by various governmental agencies and their subordinate units / organizations. The list of governmental producers of environmental information and their thematic focus are shown in Table 1 (as below).

The country is a party to the 15 global multilateral environmental agreements (MEAs) and 5 regional agreements and is actively involved in producing of information and reports to MEAs at the global and the regional levels. Kazakhstan is also committed to the CIS Interstate Statistical Committee through the submission of annual reports.

The country fulfils most of its MEAs commitments by producing National Communications (NC) and the necessary environmental information on a regular basis. For example, in 2009 the Second National Communication (SNC) to the UN Framework Convention on Climate Change (UNFCCC) was prepared, and in 2012 the National Report to the UN Convention to Combat Desertification (UNCCD) was presented. However, some of the reports are still unavailable on the respective web sites and some contacts of the national focal points posted on the web site of some conventions are not updated.

The review of recent reports related to 11 international and regional conventions showed that the majority of them were released in 2009 and 2010. Unavailability of data provides no opportunity to undertake comparative analysis after 2009 (i.e. for 2010

Table 1 Producers of environmental information in the Republic of Kazakhstan

Producers	Related information
Ministry of Environment Protection of the Republic of Kazakhstan (MEP RK) - http://eco.gov.kz/ RSE Information-Analytical Center of Environmental Protection of Kazakhstan - http://www.iacoos.kz/ of MEP RK	- quality of air and water resources; - waste (hazardous); - registration of permits for emissions; - inventory of green house gas (GHG) emissions;
RSE “Kazhydromet” - http://www.kazhydromet.kz/ of MEP RK	- hydro-meteorological data, the level of radiation, etc.;
Water Resources Committee MEP (CWR MEP RK) - http://www.eco.gov.kz/new2012/ministry/komitet/kvr/	- water resources (use, loss and disposal);
Committee for Forestry and Hunting of the Ministry of Environment Protection- http://www.eco.gov.kz/new2012/ministry/komitet/kloh/	- biodiversity, protected areas, forest resources;
Kazakhstan Agency for Land Management - http://www.auzr.kz/	- land and soil resources;
Committee of Geology and Subsoil Use, Ministry of Industry and New Technologies - http://www.geology.kz/	- data on reserves and use of mineral resources;
Ministry of Health of the Republic of Kazakhstan (MOH RK) - http://www.mz.gov.kz/ru	- quality of drinking water; - morbidity;
Agency of Statistics of the Republic of Kazakhstan (ASRK RK) - http://www.stat.kz/	- environmental statistics: air pollution, municipal waste, costs of environmental protection and other data;
Ministry of Agriculture of the Republic of Kazakhstan (MOA RK)- http://minagri.gov.kz/	- application of mineral fertilizers; - conditions of agricultural land and soils;

-2012), as the issued reports covered the period ending by 2008 and 2009 respectively. This situation is common for many countries of Central Asia. The long-drawn preparation of the national reports is caused by time consuming processes of searching and compiling the data.

The late submission of the reports with regard to MEAs in Kazakhstan is caused by the lack of systematic approach in collection of appropriate data, frequency in change of national MEAs coordinators, and low inter-agency coordinating capacity.

In this report there are examples of preparation of reports with respect to two Conventions: the UN Framework Convention on Climate Change and the UN Convention on Biological Diversity.

The climate change data for the UNFCCC is produced on the cost of the government budget. The Ministry of Environment Protection is assigned to conduct inventory of greenhouse gas emissions at the national level and prepare the National Communications. Annual estimates of greenhouse gas emissions and provision of data per specified form to the Secretariat of the Kyoto Protocol is also within the responsibility of the Ministry. The First and the Second National Communications of the Republic of Kazakhstan were paid by the government and the GEF/UNDP. The access to the reports is publicly available on the web site of the Convention. The preparation of the Third National Communication is currently underway.

It shall be noted that the First National Communication (FNC) was prepared in 1998 whilst the Second⁴ - in 2008. The SNC contains detailed assessment of climate change (CC) under the present and future conditions in Kazakhstan and its impact on climate-sensitive sectors of the economy. The country demonstrates its performance in the area of climate change: climate change monitoring, research works on the economic consequences caused by climate change and projection of human impacts on climate are in place. Since 2001 the country has been conducting inventory of greenhouse gas emissions (GHG) on annual basis. The issue of CC impact on human health and forest has been addressed in the NC for the first time. The report has also provided analysis of CC impact on floods and glaciers melting. The report gives an overall picture of trends in climate change and enables to estimate the results of GHG inventory, thus being useful in the formulation of policies to reduce greenhouse gas emissions across the country.

With regard to the UN Convention on Biodiversity the Ministry of Environment Protection plays the role of a responsible body for preparation of appropriate

reporting to the Secretariat of the Convention. The MEP prepares and submits reports on the regular basis.

Currently the Fourth National Report of the Republic of Kazakhstan on Biological Diversity⁵ prepared in 2010 is available on the web site of the Convention. The report highlights the status of biodiversity as well as the action plans of currently taken and future measures aiming at conservation of flora and fauna in the country. In general, the environmental information summarized in the report is informative and useful for various stakeholders. However, it identifies a lack of statistical data on flora and fauna due to the fact, that the inventory of plant and animal resources has been conducted impartially in the country. The data and information on the Red Book and some of particular project surveys conducted in various regions provides no comprehensive picture on the state of flora and fauna within the country. The next report on the Convention can be concentrated on comprehensive assessment and inventory survey of flora and fauna species, with specific attention to be paid to the Red Book listed and endangered species. The set out database on vulnerable species shall obviously help to identify the present status of biodiversity across the country. In future the database can be updated and incorporated into the SEIS (Shared Environmental Information System).

In addition to the national reports on implementation of the MEAs, available in Kazakhstan are also the statistical compendia "Environmental protection and sustainable development of Kazakhstan"⁶, and bulletins on Environment and Hydrometeorology. The national report on the state of the environment (SoE)⁷ is also produced annually on the cost of the state budget.

The national SoE report contains results of the assessments and analysis of the impact of natural resources use and economic activities on the environment. It describes the action plan implemented to reduce anthropogenic negative impact on the environment. The report employs data from various agencies and state bodies, enabling to conduct assessment of the state of environment in terms of such indicators as air, water, land, forests and biodiversity. While this work can be considered as essential in changing the reporting approach in terms of environmental indicators, there is still room for introducing new environmental indicators and carrying out assessment of the state of environment with due incorporating of newly introduced indicators.

1.1.2 SCHEME OF INTERACTION AMONG PRODUCERS AND USERS OF ENVIRONMENTAL INFORMATION

In Kazakhstan the process of collecting, producing and communicating of environmental data and information with the end-users (population, experts and representatives of national and international

organizations and companies) involves the following governmental agencies: the Ministry of Environment Protection (MEP), RSE "Kazhydromet" under the MEP RK, Committee on Water Resources under the MEP RK,

⁴ <http://unfccc.int/resource/docs/natc/kaznc2r.pdf>

⁵ <http://www.cbd.int/doc/world/kz/kz-nr-04-ru.pdf>

⁶ <http://www.stat.kz/publishing/20121/%D0%98%D0%BD%D0%B5%D1%80%D0%B0%D0%BA%D1%82%D0%B8%D0%B2%20%D0%9E%D0%9E%D0%A1%2011.pdf>

⁷ <http://www.eco.gov.kz/ekolog/doklad.php>

the Committee for Forestry and Hunting (CF&H) under the MEP RK, the Committee of Geology and Subsoil Use (CG&SU) under the Ministry of Industry and Trade (MIT) of the RK, the Agency of the Republic of Kazakhstan on Statistics (ASRK) as shown in the Figure 1.

According to the adopted forms of reporting, the process of collecting and producing data is conducted by each department or agency operating at the respective territorial level (regional, provincial and district). Then data are summarized (aggregated) at districts, provinces and the national level are submitted to the governmental agencies in charge. Exchange of information between the state bodies is carried out formally based on written request. Meanwhile some of the environmental information is available online at the homepages of the agencies, such as the Ministry of Environment Protection, the Agency of Statistics of the Republic of Kazakhstan, and the Ministry of Agriculture.

Recently, the inter-agency practice has been introduced in some agencies enabling integration of their existing information systems. However, this practice received no extension as it requires matured e-database or advanced information systems, which are available at a limited number of government agencies.

Most part of the collected data is transmitted to the State Fund of Environmental Information, established in 2005 under the Aarhus Centre. The Fund is designed to conduct collection, registration, storage and communication of environmental information to users. Serving as repository it stores information, such as National SoE reports for 2004 - 2008, research and development reports on environmental protection for 2004 - 2008, various legal documents⁸. In future the Fund

intends to establish a repository, ensuring storage of systematically arranged information on various thematic areas in the field of environmental protection and natural resources use. The information managed by the Fund shall be updated on a regular basis.

At present, users of environmental information, including representatives of international organizations may find the necessary information on the websites of the governmental agencies. In case if data is unavailable a written formal request to producers of information can be sent. State authorities after receiving a request prepare concerned information and data and send them within the scheduled time. If the requested information refers to several data producers (state authorities) or needs collection of some additional data that are generated by the other organizations then the deadline set for compiling information shall be extended. As it sees in the Figure 1 there is a complicated interaction among users and producers of environmental information which requires a constant written communication among users and producers of data.

Such complicated practice of sharing the environmental information has been widely employed in Kazakhstan. However with the introducing of new software products and IT, the opportunity to integrate existing databases of some departments has become obvious and realistic. Such inter-agency interaction mainly involving two state bodies with their compatible to each other operated databases can be signed by them and easily integrated. The information shared between these agencies is carried out on the basis of signed agreements. Presently there are two signed agreements for sharing of environmental information: one is between

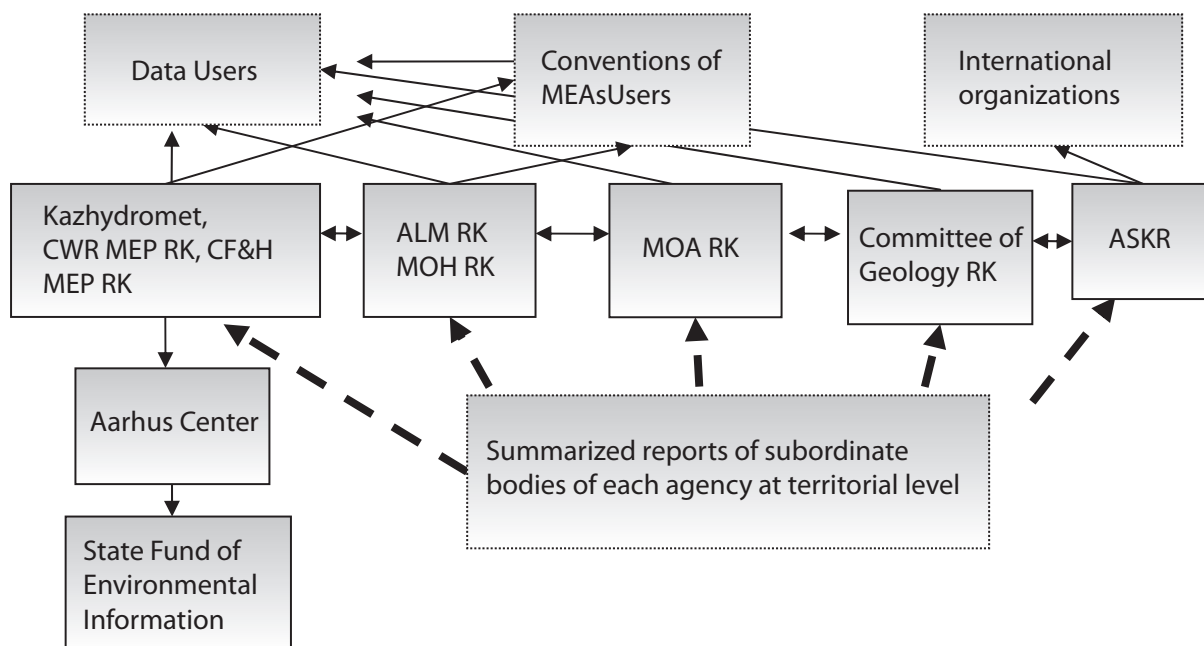


Figure 1 Scheme of interaction among producers and users of environmental information in the Republic of Kazakhstan

⁸http://aarhus.kz/index.php?option=com_content&task=view&id=531&Itemid=531

the Agency on Statistics and the Ministry of Agriculture and the other one between the Agency on Statistics and the MEP RK.

The agreement between the Agency on Statistics and the MEP RK has been signed on August 15, 2012 in the form of joint decree "On the information interaction between the Agency on Statistics of the Republic of Kazakhstan and the Ministry of Environment Protection of the Republic of Kazakhstan". It entitles the Ministry of Environment Protection to provide the Agency on Statistics with data as per specified list of indicators on annual basis. The Agency on Statistics employing the data provided by the MEP RK, is responsible for issuing statistical compendium "Environmental protection and sustainable development in Kazakhstan". It also entitled to provide data to various organizations on their written request. This joint order may be supplemented in terms of indicators. It provides an opportunity for further integration of the databases existing in these agencies thus ensuring advanced process of information sharing.

The existing system of interaction among producers and users of environmental information is

still underdeveloped in Kazakhstan and needs further improvement. The Fund of environmental information can play a role of a hub where all information flows shall be concentrated and after appropriate processing communicated to the concerned data users. The existing data bases of the state producers of environmental information need to be decentralized, streamlined and integrated with that operated by the Fund. Thus, each data provider shall produce information independently and integrate information, mostly by demand, into the database of the Fund. The access to the information handled by the Fund shall be opened to all state agencies. There is the possibility that Fund gradually opens up to become a source of information accessible by the public. The proposed information system should reduce the workload of the existing application-based practice in exchange of information among the public authorities and users of information to a minimum. The process of data collection on various thematic areas should also become more simplified and fast.

1.1.3 PROSPECTS FOR INTRODUCING ENVIRONMENTAL INFORMATION SYSTEM

The idea of introducing SEIS in Kazakhstan has been promoted by CAREC via its projects and expert working groups represented by various government agencies involved in environmental protection issues.

The present conditions of the environmental information system across the country were outlined and appropriate conclusions were made in the National Seminar held on October 25, 2012 under the framework of the CAREC project.

The hydro-meteorological monitoring network is relatively well-developed and the system of environmental statistics is well arranged throughout the country. The country makes serious efforts in delivering to the MEAs commitments through the preparation of respective reports and national communications. For example, preparation of the national SoE report is conducted on the regular basis.

Participants of the seminar were proposed to explore the experience of Kazakhstan in preparation of the national SoE report, and acquire skills in collecting, processing and producing the data on environmental statistics. The seminar initiated a proposal on Kazakhstan joining "Eye on Earth" global public information service⁹ as well as the possibility to carry out the AoA covering thematic areas as biodiversity, climate change, waste and air. It was recommended to prepare a guidebook providing all stakeholders with easy for understanding explanations on the objectives, tasks and methodology of SEIS application.

Currently, some of the recommendations have been developed as, for example, the AoA project in terms of air, climate change, biodiversity and waste covering Kazakhstan and Kyrgyzstan. The brochure on the objectives, tasks and methodology for implementing the

SEIS has been issued. The brochure outlines the activities carried out in Central Asia in promoting the SEIS projects.

For further developing SEIS in Kazakhstan it is recommended to focus on the improvement of interaction among users and producers of environmental information, following the basic principles of SEIS. In particular, the principle of decentralized approach should be applied for collection and production of data by the state agencies, which need to establish e-databases in compliance with the generally adopted rules. There is a possibility to create the Shared Environmental Information System on the basis of the State Fund of Environmental Information. However the issue of compatibility of existing databases in the agencies – producers of information shall be worked out in detail. The integrated environmental information system of the Fund will act similarly to the Shared Environmental Information System with free access to the database for producers themselves and other users as well.

Since the Fund currently focuses mainly on collecting and storing of information and constant access to the data is rather limited, the creation of publicly open environmental database with free access for obtaining and exchanging data shall simplify the interaction between parties involved. The constant inquiry on certain data between the state agencies themselves should not longer be required. Access of other users to the system should also result in reducing inquiries addressed to state agencies. Finally, it will significantly reduce the time for preparation of national communications and reports to implement the MEAs commitments and for other governmental purposes, including forecasting, planning and taking actions to improve the environment conditions across the country.

⁹ <http://www.eyeonearth.org/en-us/Pages/Home.aspx>

1.2 KYRGYZSTAN

1.2.1 PRESENT CONDITIONS OF ENVIRONMENTAL INFORMATION COLLECTION AND ANALYSIS IN THE COUNTRY

The environmental information in Kyrgyzstan is presented mainly in the reports prepared by the ratified MEAs, statistical and hydro-meteorological data, data produced by the governmental agencies and organizations, as well as data generated in projects of international and local non-governmental organizations. The list of departments and agencies providing the relevant environmental information is shown in the Table 2.

The Kyrgyz Republic is a party to the 13 international and the 3 regional MEAs. The country also provides information to the Interstate Statistical Committee of the CIS.

The country provides necessary environmental information in the form of national communications and reports to the secretariats of 11 conventions except of the Convention on Persistent Organic Pollutants. The search of the national reports posted on the web-sites of the respective conventions is either time-consuming or difficult due to extensive thematic areas covered by the site and permanent updating of the content. The latest versions of the reports are yet unavailable on the websites of some conventions. The contact details of national focal points for certain conventions are not available or old.

Regarding the relevance of the information provided by the country to the Conventions' Secretariats, the availability of statistical data varies depending on the thematic area, but most of the reports covered the period from 1995 to 2008.

In this paper the reporting of the country was reviewed in respect to two conventions: the United Nations Framework Convention on Climate Change and the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters.

In response to the commitments made to the UN Framework Convention on Climate Change Kyrgyzstan has prepared two national communications: The First and the Second National Communications in 2003 and 2008, respectively and the work on the Third National Communication¹⁰ has been launched recently. The National Communications of the Kyrgyz Republic have been prepared with the financial support of the Global Environment Facility, UNDP and UNEP. The executor and the focal point of the UNFCCC in Kyrgyzstan is the State Agency on Environmental Protection and Forestry under the Government of the Kyrgyz Republic.

In general, the environmental information provided in the national communications enabling to identify trends in climate change and perspective climate change scenario for the country, to assess the results of the inventory of greenhouse gas emissions, to analyze the vulnerability of the country in respect to ecological and

economic conditions and to summarize the measures to adapt to climate change and reduce greenhouse gas emissions.

In response to the commitments under the Aarhus Convention "On Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Protection" Kyrgyzstan has prepared and published the National Profile on assessment of the country's ability to implement the Aarhus¹¹ Convention in 2004 and the Aarhus Convention Second and the Third National Implementation Reports in 2007¹² and 2010¹³, accordingly. These activities were carried out with the support of international organizations, as well as with participation of governmental agencies and NGOs of Kyrgyzstan.

The Aarhus Convention Third National Implementation Report highlighted the existing constraints in the field of collection and dissemination of environmental information. Basically they related to (i) lack or absence of some data on the state of the environment, (ii) untimely provision of information, (iii) immature system of information exchange between the producers (state bodies) and users, (iv) absence of a unified national system of environmental monitoring, (v) lack of skills in maintaining the environmental information databases. The analyzed in the report issues demonstrated that Kyrgyzstan has already analyzed the present conditions in the field of collection and dissemination of environmental information, identified strengths and weaknesses, thus ensuring the basis for making recommendations on introducing of environmental information system complying with the SEIS principles.

The national SoE reports have been producing in Kyrgyzstan since 1997. The recent report issued by the National Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic with the support of UNDP / UNEP and other governmental agencies covered the period 2006-2011¹⁴. In this report, for the first time Kyrgyzstan applied 36 environmental indicators recommended by the UNECE. The users can analyze the state of the environment in the country on the following thematic areas: air pollution and depletion of the ozone layer, climate change, water resources, biodiversity, land resources, agriculture, energy, transport and waste management. Most importantly is that the report describes the current conditions in the field of collection and communication of environmental information in the above mentioned thematic areas, reveals gaps and identifies opportunities for further development of environmental indicators in the country.

Thus, the performance review of Kyrgyzstan in the preparation of the national reports in implementing

¹⁰ <http://infoik.net/kg/index.php/peregovory-oon/kyrgyzstan-i-rkik-oon>

¹¹ http://aarhus.nature.kg/images/files/national_profile.doc

¹² http://aarhus.nature.kg/images/files/natopnal_report.doc

¹³ <http://aarhus.nature.kg/images/files/reportAarhusKR.pdf>

¹⁴ http://www.nature.kg/images/files/nd_2012.pdf

the joined conventions showed that the country fulfils its commitments through submission of the relevant report to the Conventions' Secretariats. Although the information in the reports is valuable and of high quality, it is some difficulty to make comparative analysis with other countries in terms of recent years, or just to make analysis on the state of environment based on the data for the last few years, as the data provided in the majority of the reports covering mainly the period up to 2008.

The main executors of the national reports are the following state agencies: State Agency on Environmental Protection and Forestry under the Government of the Kyrgyz Republic, the Ministry of Agriculture and Land Reclamation, Ministry of Emergency Situations. They work in close collaboration with the UNDP, the UNEP, the Center for Combating Desertification of the Kyrgyz Republic,

Aarhus Centre of Kyrgyzstan, Ozone Center of Kyrgyzstan, the Global Environmental Fund and other international organizations.

Basically, the preparation of the reports is financed by the Conventions' Secretariats as well as other international organizations participating and providing technical assistance in this activity.

The main constraint factors in the late submission of the relevant reports to the Secretariats of the Conventions are as follows: lack of regular and well organized work; frequent change in assignment of the national focal points; lack or unavailability of financing; lack of qualified personnel; immature system of collecting the environmental information; poor inter-agency coordination in collecting and producing the data necessary for the reports.

Table 2 Producers of environmental information in Kyrgyzstan

Sources	Information
State Agency on Environment Protection and Forestry under the Government of the Kyrgyz Republic - (SAEPF KR) http://www.nature.kg/	<ul style="list-style-type: none"> - air and climate change; - water and land resources; - biodiversity and the state forest fund, preserved areas (PA); - waste;
State Inspectorate for Environmental and Technical Information under the Government of the Kyrgyz Republic - http://www.geti.kg/	<ul style="list-style-type: none"> - emissions of pollutants; - wastewater discharges;
Agency on Hydrometeorology under the Ministry of Emergency Situations of the Kyrgyz Republic (Kyrgyzhydromet) - http://www.meteo.ktnet.kg/	<ul style="list-style-type: none"> - air quality; - water quality; - waste (uranium, etc.); - hydrological data;
Ministry of Agriculture and Land Reclamation of the Kyrgyz Republic (MOA&LR KR) - http://www.agroprod.kg/	<ul style="list-style-type: none"> - land resources use; - use of water resources; - agricultural data;
State Agency for Geology and Mineral Resources of the Kyrgyz Republic (SAG&MR KR) http://www.geology.kg/	<ul style="list-style-type: none"> - data on reserves of mineral resources and their use;
Ministry of Health of the Kyrgyz Republic http://www.med.kg/ - (MOH KR)	<ul style="list-style-type: none"> - the quality of drinking water; - reserves of underground water resources; - morbidity of population;
Kyrgyz State Design Institute of Land Management - "Kyrgyzgiprozem"	<ul style="list-style-type: none"> - monitoring of land resources; - soil analysis; - landuse planning;
National Academy of Sciences - http://www.nas.aknet.kg	<ul style="list-style-type: none"> - flora, fauna and endemic species listed in the Red Book of Kyrgyzstan;
State Customs Service under the Government of the Kyrgyz Republic - http://www.customs.kg	<ul style="list-style-type: none"> - data on import and export of substances depleting the ozone layer;
Ozone Center of Kyrgyzstan - http://www.ozonecenter.kg/	<ul style="list-style-type: none"> - data on the use of substances that deplete the ozone layer;
National Statistical Committee of the Kyrgyz Republic (NSC KR) - http://www.stat.kg/	<ul style="list-style-type: none"> - statistics on the state of the environment.

1.2.2 SCHEME OF INTERACTION AMONG PRODUCERS AND USERS OF ENVIRONMENTAL INFORMATION

The analysis of the current interaction scheme between the producers and users of environmental information has identified the following challenges and gaps.

Using the material of the national reports on collection and communication of environmental information, the following scheme of interaction between producers and users of environmental information has been designed as shown below in the Figure 2.

The designed scheme revealed that the users of information engaged either in preparation of the reports to the MEAs, or in other projects, in order to obtain necessary data are forced to search the web sites of international and governmental organizations as well as convention secretariats and sort out the information.

Since most of the information is not available on the websites of the government agencies, the users often issue formal written request (application) to the relevant authority, which provides inquired information in due term set out by the authorities. However, sometimes the agency may not provide requested data due to their unavailability within the agency or if the inquiry needs to make some calculation thus requiring additional financial and human resources. Often the response takes time as most of the data, especially for the previous years, are stored by the producers in the hard copy. In case when information is produced by several state agencies, the user needs to issue inquiries to all of them and thus wait for the replies also from all of them.

As a result, data users experience difficulties in gathering and analyzing information due to the absence of a single database and the need of issuing official application to the appropriate agencies. The scheme shown above reveals that to obtain official environmental

information users have to interact with all producers of information, including the website of the Secretariats of the Convention and international organizations. It also demonstrates that information sharing between public authorities needs formal written requests. The responsible authorities for the provision of information on the ratified MEAs submit the national communications, reports and data to the Convention's Secretariat. The producers of information provide information to international organizations and other users upon issued request.

The process of information exchange between the state authorities can be simplified through issuing of joint orders between the relevant agencies, which should establish the procedure for sharing of information with setting the due date for delivery of information, as it is practiced in the Republic of Kazakhstan. In future, electronic databases of some governmental agencies can be integrated into each other. Further on based on these integrated system a Shared Environmental Information System could be introduced.

Implementing Shared Environmental Information System in Kyrgyzstan should result in improvement of the current scheme of interaction among producers and users of environmental information, provision of high quality data, development of mutually beneficial cooperation in collection and exchange of data among the state agencies, users and other parties concerned. The accessible of data and information (statistical data, derived data, etc.) system shall facilitate the preparation of the MEAs reports and the national reports to the secretariats of the conventions, and other works carried out within the short-term projects or research and development.

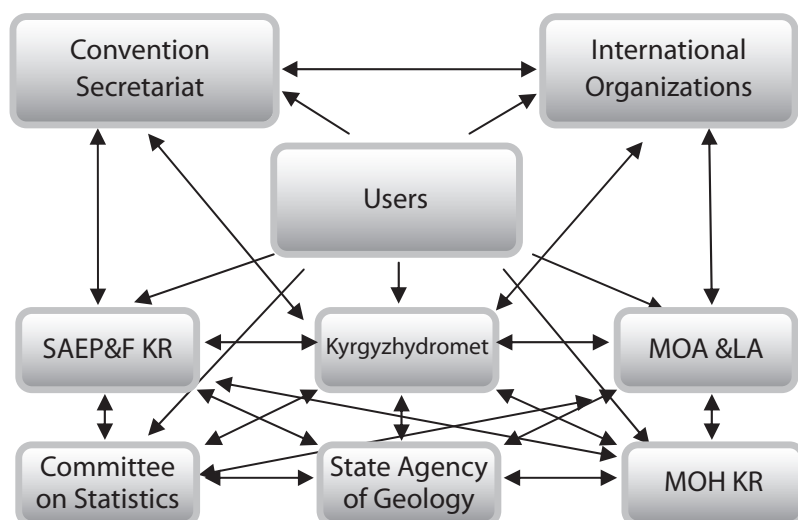


Figure 2 Scheme of interaction among producers and users of environmental information in the Kyrgyz Republic

1.2.3 PROSPECTS FOR INTRODUCING ENVIRONMENTAL INFORMATION SYSTEM

The CAREC jointly with the specialists and experts from the governmental organizations and representatives of international and non-governmental organizations conducted a set of activities under the framework of this project to study and analyze the current situation and identify the needs to implement the SEIS in the country. The findings and recommendations of those activities laid the foundation for the further improvement of the process of collecting and producing the environmental information as well as to plan the prospects for introducing shared environmental information system in the country.

The initiative of the SAEP&F on establishing an Inter-agency Working Group (IAWG) for the development/improvement of data and information, including statistics and various indexes characterizing the state of environment and natural resources was supported by the CAREC. Several workshops and seminars were conducted with the participation of the IAWG created in Kyrgyzstan.

At the first meeting of the IAWG on promotion of the SEIS organized in April, 2012 the participants discussed the needs and gaps in environmental statistics and identified the priority areas for improvement. The water resources, municipal waste / recycling and fuel accounting system were identified as the highest priority sectors that need urgent improvement. It was decided to improve the format of statistical reporting sheet through inclusion of indicators on the use of water. As for of waste management and fuel sectors, it was recommended to analyze and identify the gaps in newly designed statistical reporting sheet on waste, and collect data on the type and quantity of fuel used, accordingly.

At the first National Seminar: “Targeted Awareness Raising for Enhanced European Union – Central Asia Partnership”, held on May 21, 2012 with the participation of the officials appointed by the appropriate ministries and agencies of Kyrgyzstan as members of the IAWG, representatives of the OECD, UNDP, NGOs and other national and international experts, the decision was made to support the initiative on establishing a regional working group on promotion of the SEIS in Central Asia. The participants

were recommended to continue the work on development of ideas for the projects on further improvement of the environmental information system.

The second meeting of the IAWG held on May 24-25, 2012 was represented by the members of the working group nominated by the ministries and departments of the Kyrgyz Republic, members of the OECD, UNDP, NGOs, the business sector, and international and local experts. The meeting issued recommendations to improve statistics on waste and water resources and to analyze the possibilities of using indicators in the country as part of the pilot of the OECD / EAP Task Force “Using green growth indicators in Kyrgyzstan”.

Thus, the meetings of the working group, as well as the national seminar helped to create the basis for improving existing environmental information system in Kyrgyzstan, enabled to establish mutually beneficial cooperation and dialogue between the representatives of various agencies and organizations, and also ensured launching of the project “Bilateral support to Central Asian countries in SEIS oriented improvement of the environmental governance”. The study and analysis of the process of collecting and producing of statistical information on water resources has been mobilized. It included the issue on assessing of capacities and opportunities for improvement of the existing scheme in collection of statistical data through transferring the functions of statistical reporting to the local level departments of the National Statistical Committee of the Kyrgyz Republic. The main outcomes of this work are presented in the separate chapter.

In the light of the above mentioned situation it is proposed to concentrate key efforts on improving the indicators of environmental statistics, upgrading and simplifying the schemes for collecting and producing the data as well as on streamlining the interaction between producers and users of environmental information. The introducing of the Shared Environmental Information System shall greatly contribute to and facilitate the preparation of the national communications and reports to the MEAs in due terms as well as shall encourage the

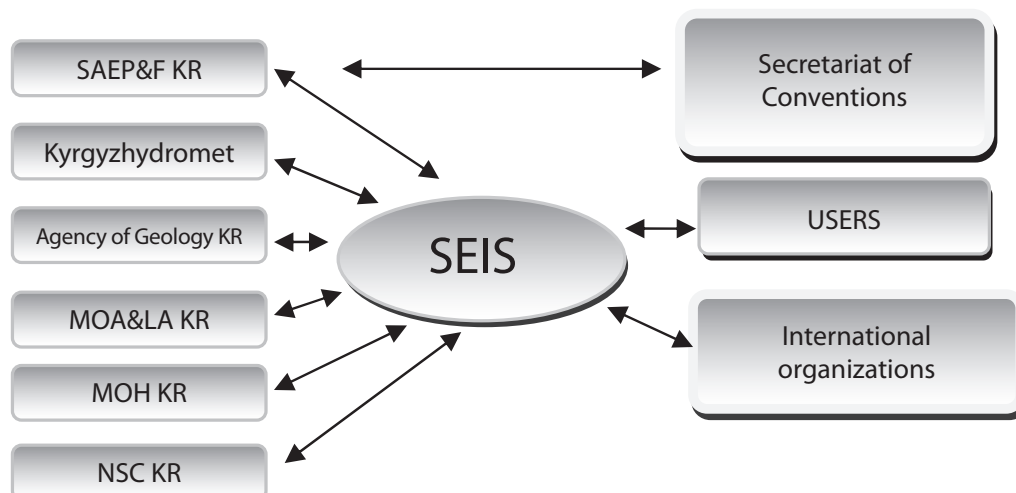


Figure 3 Scheme of interaction among producers and users of environmental information in the Kyrgyz Republic in SEIS implementing

implementation of various environmental projects in Kyrgyzstan through its accessibility and availability of updated environmental statistical information.

The introduction of the SEIS, as shown in the Figure 3, shall significantly save time for collecting the information, as well as abolish the system of sending official application to the producers of data for obtaining necessary environmental information. The system shall maintain the well organized process of uploading/downloading /storing of information enabling all parties concerned to obtain updated and reliable data. The provided by the system data shall be utilized in the formulation of the appropriate

environmental decisions and strategies. It shall be noted that nearly 60-70% of the total fund allocated for the preparation of the reports in implementing the MEAs in Kyrgyzstan is currently spent on search and collecting of environmental data while only 30-40% is consumed by the remaining scope of work. When implementing the SEIS the part of the fund allocated for search and data collection shall be used for other activities ensuring preparation of high quality reports supported by detailed analysis of the situation, and designing of scenario on the development of environmental situation across the country.

1.3 UZBEKISTAN

1.3.1 PRESENT CONDITIONS OF ENVIRONMENTAL INFORMATION COLLECTION AND ANALYSIS IN THE COUNTRY

In Uzbekistan environmental information is formulated based on the results of the state monitoring conducted by various governmental departments and organizations. Several state authorities are involved in the process of producing environmental information. The "Regulations on the State Environmental Monitoring in the Republic of Uzbekistan" approved by the Cabinet of Ministers of Uzbekistan on April 3, 2002¹⁵ appoints the State Committee of the Republic of Uzbekistan for Nature Protection (SCNP RU) in charge for coordinating activities of all other state

bodies involved in the area of the state environmental monitoring.

The sources and types of data produced by the appropriate bodies are shown in the Table 3. As it is seen from the table, seven governmental agencies are engaged in producing environmental information in different thematic areas (air, water, land and biodiversity).

Currently, Uzbekistan is a party to the 12 MEAs. It prepares reports and communications for the majority of the MEAs. Joining international conventions contributes to the country's integration into the global processes

Table 3 Producers of environmental information in the Republic of Uzbekistan

Sources	Information
State Committee of the Republic of Uzbekistan for Nature Protection (SCNP RU) - http://www.uznature.uz/	- biodiversity; - PA; - emission into the environment;
Hydrometeorological Service under the Cabinet of Ministers of the Republic of Uzbekistan (Uzhydromet)- http://www.meteo.uz/rus/index.php	- hydrometeorological data; - air quality; - water quality; - soil quality;
Ministry of Health of the Republic of Uzbekistan (MOH) - http://www.minzdrav.uz/	- the quality of drinking water; - air quality; - morbidity;
Ministry of Agriculture and Water Management of the Republic of Uzbekistan (MOA&WM) - http://www.agro.uz/	- use of water resources (water disposal, water use, etc., loss of water) - agricultural data; - quality of surface water;
State Committee of the Republic of Uzbekistan on Land Resources, Geodesy, Cartography and State Cadastre (Goskomzemkadastr) - http://ygk.uz/ru/	- land resources, land management; - data on pollution of land resources;
State Committee of the Republic of Uzbekistan on Geology and Mineral Resources (SCG RU) - http://www.uzgeolcom.uz/	- data on reserves of mineral resources and their use; - quality of underground water;
State Committee on Statistics of the Republic of Uzbekistan (SCS RU) - http://www.stat.uz/	- indicators on protection of nature and natural resources use.

¹⁵ http://www.lex.uz/Pages/GetAct.aspx?lact_id=261166

of environmental activities, as well as obtaining a comprehensive technical, financial and methodological assistance.

The current state of the process of collecting and compiling environmental data has been analysed in regard to two conventions: the UN Framework Convention on Climate Change and the UN Convention to Combat Desertification.

From the date of joining to the UNFCCC in 1993, the country has implemented a number of activities coordinated by the Centre of Hydrometeorological Service under the Cabinet of Ministers which was assigned as a focal point/executing agency in implementing the UNFCCC which involves the activity of over the 20 governmental and non-governmental organizations. The Ministry of Economy of Uzbekistan established the National Authority for the Clean Development Mechanism (CDM) of the Kyoto Protocol and the Inter-agency Council. The country prepared and published the First and the Second National Communications in 1999 and 2008, accordingly¹⁶. The FNC included data on greenhouse gas emission inventory for 1990 and 1994, as well as data for the calculation of emissions trends. It also proposed measures on mitigation and adaptation to climate change. It served a basis for preparation of the National Action Plan to reduce greenhouse gas emissions in Uzbekistan. The SNC provided information on greenhouse gas emission inventory covering the period of 1990-2005, undertaken actions, and the national policy pursued in reducing GHG emissions. The designed GHG emission forecast was also presented in the report. Currently, Uzbekistan has launched the work on developing the Third National Communication funded by the GEF. All national reports are available on the UNFCCC website in the English and Russian languages. The information provided in the reports can serve as a basis for pursuing the policy in reducing GHG emissions across the country in various sectors of the economy, introducing renewable energy as well as other projects involving promotion of green technologies.

It has to be noted that the process of reporting with regard to the UN Convention to Combat Desertification¹⁷ has not been regular. Although the country joined the convention in 1995, the first national report was issued only in 2001. As the response to the commitment made to the convention certain activities have been undertaken for improving capacity building in combating desertification, development of awareness system and knowledge transfer on reasons and consequences of desertification and drought. On the national level, the National Action Plan to Combat Desertification¹⁷ and several other strategies and action plans on desertification and land degradation have been prepared.

The national reports were submitted to the Secretariat of the Convention upon its request. Currently these reports are prepared using selected indicators and submitted online through the PRIS system. The system enables the national reports to be directly uploaded on the site of the Convention. The national report 2010 and the National Action Plan to Combat Desertification are available on the site. Presently the country is engaged in preparation of the latest report and updating the Action Plan.

The overview on implementing international commitments has shown that the country basically fulfills its obligations and the national reports to the conventions are available on the websites of the conventions but however finding some of the national reports on the website still faces difficulties.

The overview conducted to assess availability of the latest (actual) national reports on the websites of the Conventions showed that the most actual reports for the years 2010-2012 are referred to four conventions. Availability of statistical data in the issued reports varies depending on the subject of the report, though in general the reports cover the period 1995 - 2007.

The work of preparation of the reports is basically financed by the Convention' Secretariat and other international organizations encouraging and participating in the relevant activity.

The country is the only one among the five countries of Central Asia which is not committed to the Aarhus Convention. Despite this fact, the process of preparation of the national SoE report is well established and organized. The country has been issuing the SoE report once every three or four years since 2002. Preparation of the report is funded from the State Environmental Protection Fund (SEPF). The 2008 national SoE report of Uzbekistan¹⁸ contained retrospective analysis in terms of air, water and land resources, biodiversity and waste covering the period 1988-2007. The report outlined the conditions in research and development and educational sectors as well as the main foreign policy directives on international cooperation in the field of environmental protection. The issues of renewable energy, the radiation and public health associated with environmental pollution are outlined in a separate chapter of the report.

The next SoE report, which is under preparation, is scheduled for issuance in 2013.

Uzbekistan has the system for development and collection of environmental indicators and the data of the system are used for preparation of national SoE reports and the National Communications for implementing the MEAs.

1.3.2 SCHEME OF INTERACTION AMONG PRODUCERS AND USERS OF ENVIRONMENTAL INFORMATION

In Uzbekistan, the interaction between producers and users of information is partly governed by the "Regulations on the State Environmental Monitoring in the Republic

of Uzbekistan" approved by the Cabinet of Ministers of Uzbekistan on April 3, 2002. This document defines the goals, objectives and basic principles of the performance

¹⁶ http://unfccc.int/national_reports/non-annex_i_natcom/items/2979.php

¹⁷ <http://www.unccd.int/ActionProgrammes/uzbekistan-rus1999.pdf>

¹⁸ <http://www.uznature.uz/sites/default/files/imce/National%20doklad.pdf>

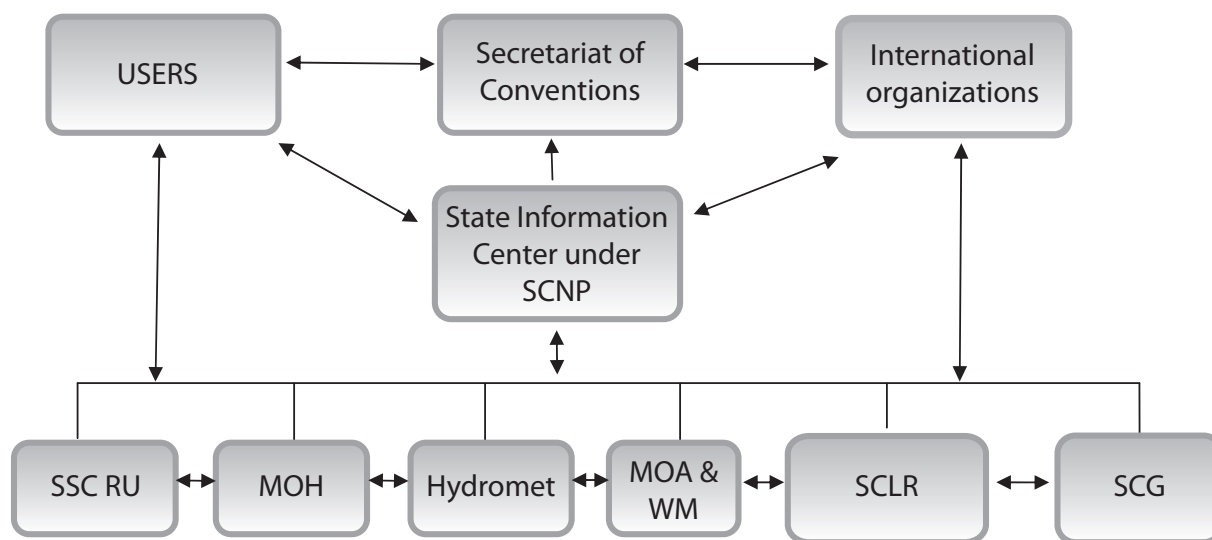


Figure 4 Scheme of interaction among producers and users of environmental information in the Republic of Uzbekistan

entitled on the agencies involved in the state environmental monitoring. The document assigns the specific functions to each ministry and agency engaged and outlines the basic performance principles to be employed in the system of state monitoring.

The environmental data produced by the state authorities are handed over to their respective information departments, which after appropriate processing transfer the information to the State Information Center (SIC) under the State Committee on Nature Protection. The SIC is a major center where all environmental information flows into. The center is also responsible for collection, compilation and storage of environmental information received from various agencies and departments.

The interaction among producers and users of environmental information in the Republic of Uzbekistan is outlined in the Figure 4.

According to this scheme, the state authorities produce the necessary environmental information at their level and send it to the State Information Center (SIC). The users and international organizations can obtain the necessary information through a formal application issued to the producers of information (governmental agencies) as well as directly to the SIC. The National Communications prepared in implementing the MEAs are sent to the appropriate Convention's Secretariat by the assigned national coordinators - though in most cases the State Committee for Nature Protection itself is acting as the national focal point. It prepares the reports jointly with the organizations involved. Some environmental information in the form of reports and other publications can be found on the internet-resources of the governmental agencies. All the national SoE and use of natural resources reports are available on the site of the State Committee for Nature Protection.

According to the above-mentioned governmental regulation, the information departments operating under each governmental agency, department or bodies of economic management are entitled to provide annual reports on the SoE per region to the SIC and the state authorities not later than March 1 of each year. The

identified information of high-risk processes is sent immediately as emergency note. The State Information Center shall prepare and issue the annual SoE and use of nature resources report based on the information received from the ministries and agencies no later than April 15 of the each year.

Currently in Uzbekistan over 300 environmental indicators are subject to monitoring as per the procedure described above. Despite the system of environmental monitoring and exchange of environmental information is well developed and operate smoothly, there are still some challenges which need to be addressed. A major constraint in the established system is related to the variety of details contained in information due to the specific thematic area of the agency or ministry and the methodology applied. Therefore it is difficult to assure the compatibility while integrating collected data into a single system. Some data are duplicated, inconsistent and contradictory. The limited access to environmental information and insufficient exchange of information between producers and users and lack of communication between databases of various government agencies (producers of information) are another factors constraining the development of one common information system in the country.

The main purpose of sharing environmental information in the existing scheme is the preparation and issuance of the national SoE and natural resources use report in the Republic of Uzbekistan. Thus, the SIC provides an access to information on the state of the environment to the users concerned directly through the publication of the above mentioned type of the report.

The existing scheme of interaction among the producers and users of environmental information requires some improvement following the principles of the SEIS. For example, the SIC can become not only an accumulator of environmental information, but also be able to integrate its own existing environmental database with databases of governmental agencies. The integration of databases shall ensure submitting, updating and uploading of the necessary information in interactive mode of communication.

1.3.3 PROSPECTS FOR INTRODUCING ENVIRONMENTAL INFORMATION SYSTEM

The national seminar devoted to the identification of the current state in the system of collecting and producing the environmental information, challenges and gaps in environmental monitoring, as well as opportunities and needs for improvement of the system and perspective in the SEIS introducing was conducted under the framework of the EU project “Targeted Awareness Raising for Enhanced European Union – Central Asia Partnership” (AWARE), with the support of the State Committee for Nature Protection of the Republic of Uzbekistan in Tashkent on September 17, 2012. Participants of the seminar represented governmental agencies and international organizations, NGOs and the media.

During the seminar, several recommendations were made, which may contribute to the processes of modernization of the system of environmental monitoring in the country, as well as the reporting process to the Secretariats of the MEAs.

It was recommended to analyze the problems of collecting and processing the information in the preparation of the national SoE and other environmental reports, as well as to analyze the environmental indicators used in the national statistics with those recommended by the international organizations in terms of compatibility and harmonization with the internationally employed practices in the field of statistics.

The State Committee for Nature Protection in cooperation with the UNDP and involvement of key ministries responsible for monitoring over the state of some nature systems implemented the project “Environmental indicators for the state environmental monitoring in Uzbekistan”¹⁹. A key outcome of the project was the establishing of the Environmental Indicator Database (EIDB) designed for the collection, storage, analysis and data exchange on the state of the environment and the use of natural resources.

The EIDB is constantly updated by the partner organizations on the basis of the Joint Order “On measures for further improvement of environmental monitoring”. The order instructs the relevant departments in the State Committee for Nature Protection, the Ministry of Health, the Ministry of Agriculture and Water Management, the State Committee on Land Resources, the State Geology Committee, Uzhydromet to freely transfer the environmental information to the EIDB. The order prescribes to create a single data bank based on the EIDB under the State Committee for Nature Protection.

The “Guidelines on the application of environmental indicators for environment monitoring”²⁰ were drawn out and published in Uzbekistan in addition to the above said measure on improvement of environmental monitoring system. The document containing a list of selected environmental indicators, their description, the process of their production and application was designed

for organizations responsible for environmental monitoring in the country.

It is obvious that it is necessary to focus not only on the development of environmental indicators sets, but also support the process of integrating the databases in the governmental departments with that of the SIC.

A new scheme of interaction between the producers and users of environmental information has been proposed aiming at the SEIS introducing on the basis of the existing information system – SIC under the State Committee of Nature Protection. The project shall integrate and adapt the databases existing in the state agencies and departments involved. The measure will result in abolishing of annual submission of information by the state authorities to the SIC. The environmental information (reports, statistics, calculated data, monitoring data), presented in the SIC - SEIS shall be available to the producers of the information themselves and other users.

Currently, some improvements are achieved in this area. The State Committee of Nature Protection has introduced and maintained since 2010 a VPN-channel enabling communication with the State Committee of Land Resources ensuring the provision of inventory information. The system of inter-agency interaction and sharing of sector-wised information in terms of environmental pollution monitoring has been worked out for the northern areas of Surkhandarya province (State Committee of Nature Protection, Hydrometeorology, Ministry of Health, State Committee for Geology and the State Committee of Land Resources).

Thus, the achieved improvements in producing of environmental information may serve a basis for further introducing of the Shared Environmental Information System, which will contribute in achieving the following:

- regular access to the data on the ecological conditions of natural objects across the country, including the data on extremely high levels of pollution in respect of nature objects for taking prompt actions/decision making aimed at reducing the impact on human health and damage to the national economy;
- access to systematically updated information on the level of pollution in respect of nature objects in the region on the basis of the created integrated monitoring network (multi-agency);
- development and monitoring of specific tasks in the field of environmental policy for the improvement of the state of environment in the Republic of Uzbekistan through ensuring decision - makers with regular access to environmental data.

¹⁹ <http://www.undp.uz/ru/projects//project.php?id=53>

²⁰ <http://eis.uznature.uz/reference/files/principles/rus.pdf>

1.4 TAJIKISTAN

1.4.1 PRESENT CONDITIONS OF ENVIRONMENTAL INFORMATION COLLECTION AND ANALYSIS IN THE COUNTRY

The Republic of Tajikistan prepares environmental information in the form of bulletins and reports about ongoing environmental projects. The system of collecting, producing and storing of environmental information in the country involves the system of hydro-meteorological monitoring, the system of statistical data on the environment and the specific data on water, forest and land resources, produced by various state authorities. The key agencies involved in collecting and producing environmental information are listed in the Table 4. As seen from the table, the functions on collecting and producing the data in terms of particular indicators are duplicated by some agencies (producers of environmental information).

The country is a party to the 9 international and one regional MEAs. Out of all MEAs, the Rotterdam Convention signed in 1998, has not been yet ratified.

The country complies with its international commitments in implementing the ratified MEAs. It prepares and submits the National Communications and appropriate reports to the Secretariat of the Conventions. The government set up a working group to implement the basic provisions and obligations arising from the Conventions and hosts a variety of forums, workshops involving senior officials from ministries and agencies, scientists, economists, representatives of international organizations. The role of the Executive Body for all conventions plays the CEP of the Government of the Republic of Tajikistan.

As part of the commitments under the UNFCCC, Tajikistan prepared the FNC and the SNC. The latest

NC²¹ was dated by 2008 and contains basic information on climate change in Tajikistan, the process of implementation of the UN Convention on Climate Change, and the priorities and measures taken by the country to adapt to climate change. The national authority responsible for the preparation of the report was the State Agency for Hydrometeorology with involvement and support of 15 state authorities of the country.

The report is informative by its content as provides data on the quantity of greenhouse gas emissions for the period 1990 – 2003. The data of the report enable to design a long-term scenario on GHG emissions across the country. The available historical data on GHG emissions can be employed in comparative analysis for future period during the preparation of the Third National Communication.

The national reports of the Republic of Tajikistan on the implementation of the United Nations Convention to Combat Desertification are available on the site of the Convention for the years 2000, 2002 and 2006. The latest national report²² prepared in 2006 contains the main directives, objectives and activities of the country in the field of combating desertification. In particular, the country has adopted appropriate legislative acts and the National Action Programme to Combat Desertification.

Thus, Tajikistan regularly fulfils its commitments in implementing the key ratified MEAs. The work on the most of the national reports was financed from the fund provided by the MEAs or international organizations involved in the implementation of ongoing projects

Table 4 Producers of environmental information in the Republic of Tajikistan

Sources	Information
Committee for Environmental Protection under the Government of the Republic of Tajikistan (CEP) - http://www.hifztabiat.tj/	- quality of air and water resources, data on biodiversity and protected areas;
State Administration for Hydrometeorology under the Committee for Environmental Protection of the Government of the Republic of Tajikistan (Tajikhydromet)- http://www.meteo.tj/	- meteorological data, the quality of water resources;
Statistical Agency under the President of the Republic of Tajikistan (SA) - http://www.stat.tj/	- air, environmental investments;
Ministry of Land Reclamation and Water Resources of the Republic of Tajikistan (MLR & WR) - http://www.mwr.tj/	- water resources (quantity and quality);
Ministry of Health of the Republic of Tajikistan(MOH) - http://www.health.tj/	- quality of drinking water; - morbidity;
Main Geology Department under the Government of the Republic of Tajikistan (MGD)- http://www.gst.tj/	- monitoring of underground water.

²¹ <http://unfccc.int/resource/docs/natc/tainc2r.pdf>

²² <http://archive.unccd.int/cop/reports/asia/national/2006/tajikistan-rus.pdf>

related to this area. The main reasons for the late submission of the reports to the Secretariat of the MEAs refer to irregular and unsystematic performance in collecting of the environmental data employed in the preparation of the reports; unavailability of data on some environmental indicators in terms of land, water and soil; and poor inter-agency coordination in sharing and producing of environmental data.

The currently unfavorable conditions in collecting of environmental data in Tajikistan due to economic and other reasons worsen the above mentioned constrains in the due preparation of the national reports. As for the statistical data, main gaps relate to the data on water, soil, waste and air. Another constraint factor in the system of collecting and producing the data refers to the multiple – agency involvement in such thematic areas as the quality of soil and land degradation; and quantity of waste generated by industrial and municipal sectors.

No SoE report or any other similar document has been prepared in Tajikistan for the period after 2007. The recently published reports are as follows:

- National SoE report of Tajikistan, 2002;
- National SoE report of Tajikistan, 2005;
- Environmental Information Bulletin, 2005-2007, 2011.

There is a lack in publicly opened information on the state of environment in the country. The public awareness activity on the state of environment is immature. One of the priorities in collecting, storing and producing of environmental information shall be renewal of the regular -based activity on preparation of appropriate reports on the state of the environment in Tajikistan. Accordingly, it will stimulate the development of other related and essential elements, thus benefitting in the improving of the environmental monitoring, introducing of new environmental indicators and setting of streamlined and well-organized coordination and cooperation between the governmental authorities - producers of the environmental information.

1.4.2 SCHEME OF INTERACTION AMONG PRODUCERS AND USERS OF ENVIRONMENTAL INFORMATION

The process of collecting, storing and producing of information as shown in the Figure 5 involves several governmental departments. The collection of data as per adopted reporting forms is conducted at the level of subordinate territorial offices of each respective agency. Summarized reports from the subordinate bodies at rayon/ regional level are transferred to the relevant governmental agencies supervising them. Some producers of information transmit data directly to the Agency on Statistics under the President of the Republic of Tajikistan on gratis basis. Almost all the state authorities, including the Agency on Statistics and the CEP provide the necessary environmental

information to local users and international organizations based on the received official application. The CEP is entitled as the focal point in submitting of the national reports to the Convention’s Secretariat. In addition to the vertical reporting approach, the state agencies (producers of information) interact between themselves in the process of collecting and sharing the data and information.

From the above shown scheme of interaction between the producers and users of information, it is obvious that the process of exchange of information between the state authorities (producers of environmental information) and users, including stakeholders and international

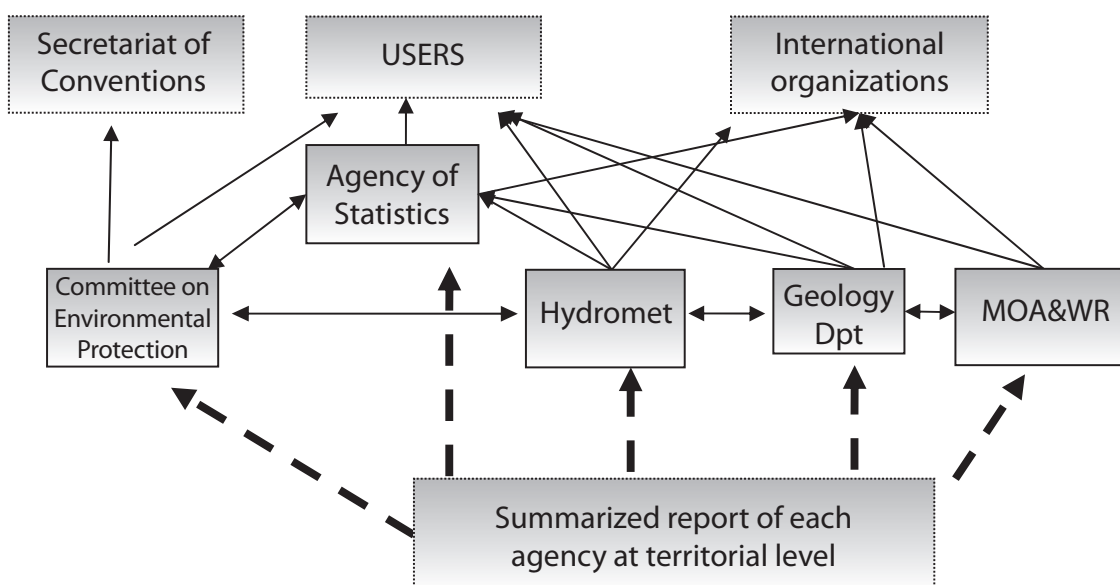


Figure 5 Scheme of interaction among producers and users of environmental information in the Republic of Tajikistan

organizations is rather complicated. The Agency on Statistics under the President of the Republic of Tajikistan serves as a hub where all collected and summarized at territorial levels information flows in from the relevant governmental agencies supervising them. It shall be noted that each agency fills up its own reporting form based on the results of the conducted surveys and observations. Users, stakeholders and international organizations may obtain the necessary information on the site of the state bodies or through issuing the official application in case of its unavailability on the publicly opened internet resources. As for collecting of data on particular indicators in respect of air, water, and land, the situation is complicated due to lack of well-organized and effective work, while in area of waste management the constraint factor is caused by the absence of entitled agencies responsible for the collection of information on some indicators pertaining to generation of municipal and industrial waste.

The performance review on the availability of statistical data on the state of environment in Tajikistan showed that the access to information is available in thematic areas as indicated below:

- ambient air: emissions of major pollutants (sulfur dioxide, nitrogen oxide, carbon monoxide, hydrocarbons) into the atmosphere (1990, 1995, 2000-2011); the data on total GHG emissions (in CO₂ equivalent) by sector and trend on removals (1990, 1995, 2000-2003); air quality (time series of key indicators for 2001 - 2009);
- water resources: water consumption for domestic needs and amount of water losses (1992, 1998, 2000-2011);
- land resources: the area affected by water erosion (2005);
- waste: amount of generated municipal solid waste (2009-2010);
- biodiversity: endangered species (2003-2010 with some gaps in between).

The review showed that the data collection in the country has been conducted in terms of main indicators in the above-mentioned thematic areas covering the period

from 1990 to 2012. However on some indicators the data collection was carried out only till 2005 or 2009. The list of available information on the main thematic areas in the country does not fully cover all aspects/indicators, which require conduction of careful monitoring and statistical survey.

The governmental authorities carried out no single statistical survey in support of currently performing reports in the field of nature protection and nature resources use.

Undoubtedly, the list of indicators need to be expanded to get full picture of the state of the environment across the country in terms of air, water and land resources, waste and biodiversity.

To achieve these goals it is necessary to set up a well organized performance process in the system of collection and exchange of environmental information. To do this, the existing scheme of interaction between the producers and users of environmental information shall be streamlined and improved.

In particular, the current practice of submitting the information from the producers of information to the Agency on Statistics under the President of Tajikistan shall be continued and the process of information flows shall be well established. The capacity of the Agency shall be enhanced through introducing of the modern information systems ensuring improvement in the process of collecting and producing of quality and timely information available on the website of the organization. Then the appropriate improvements shall be introduced in the existing information systems and databases of the other producers of information. The state authorities shall not only resume the collecting and producing of data on existed indicators but initiate the process of monitoring and collecting of data in terms of additional/missing indicators.

While establishing well-organized process of collecting and producing of data through improvement of the information systems, data flows, and databases the efforts shall be focused on integration of the existing databases in the state authorities (producers of information) with that of the Agency on Statistics.

1.4.3 PROSPECTS FOR INTRODUCING ENVIRONMENTAL INFORMATION SYSTEM

The above described analysis of the situation on the state of environmental information management in Tajikistan revealed some gaps associated mainly with: the absence of some environmental data for the last few years; insufficient list of environmental indicators; inefficient scheme of interaction between the producers and users of environmental information, and unavailability of publicly accessible online resource to environmental information.

However, the country carries out certain work to contribute to the improvement of the situation in the field of environmental information. Thus in addition to the work of the government on preparation of the national reports on ratified MEAs, the Tajik Branch office of the Scientific Information Center under the Interstate Commission on Sustainable Development, IFAS has designed and introduced e-database in the

field of environmental protection and sustainable development. Also two important laws pertaining to environment have been introduced in the country: the Law on Environmental Information and the Law on Environmental Monitoring, approved on March 25, 2011.

These ongoing efforts shall contribute to the process of modernization of the existing system of collecting, producing and communicating the environmental information, and can also serve as a basis for further activities aiming at the SEIS' introducing in the country.

The promotion of the SEIS in the country has been encouraged by the EU project "Targeted Awareness Raising for Enhanced European Union – Central Asia Partnership". As part of the SEIS promotion activity, the project arranged a national seminar "Raising awareness of the Shared Environmental Information System (SEIS)" which held in Dushanbe on October 11, 2012.

The workshop enabled to define the current status and identify the gaps in the system of collecting and producing the environmental information. Amongst the key constraints were noted the difficulties in collecting basic statistics, fragmented character of environmental data, as well as the need to develop new environmental indicators to comply with the requirements of the international environmental agreements.

The seminar has also recommended to undertake the following measures: to review the legal basis on preparing of the national SoE report; draw out the guidelines for Tajikistan on preparing the SoE report; and set up an interagency working group (IAWG-SEIS) under the Committee for Environmental Protection (WP-SEIS) for further promotion of the SEIS in Tajikistan.

The implementation of these recommendations would considerably increase the opportunities for setting well-organized performance in the system of environmental monitoring. The work on designing of the SoE guidelines could itself serve a basis for introducing of new environmental indicators while the established IAWG could coordinate the work on improvement of the existing databases and support the introducing of new environmental indicators in order to comply with requirements of the MEAs on preparation of the national SoE report and other according documents.

The database of the Agency on Statistics concentrating all information flows from the other relevant agencies/ departments shall be integrated with those of the state agencies which fulfil the function of collecting and producing of environmental information. Thus the existing databases of the producers of information shall be upgraded and integrated while the scheme of interaction between them will be streamlined and simplified. All the state agencies producing the information could easily communicate with each other and their databases shall be freely accessible for users.

The state agencies (producers of environmental information) as well as stakeholders (users - international organizations, NGOs, academic institutions, etc.) shall benefit from the improved system of collecting, producing and communicating the information. The information sharing process between the producers of information shall be streamlined and simplified. The users shall have an online access to certain data thus considerably reducing the number of inquiries addressed to the state bodies.

Finally, for the successful implementation of this system it is necessary to bring the national environmental legislation in compliance with the requirements of the Aarhus Convention to ensure their enforcement by the Government of Tajikistan.

1.5 TURKMENISTAN

1.5.1 PRESENT CONDITIONS OF ENVIRONMENTAL INFORMATION COLLECTION AND ANALYSIS IN THE COUNTRY

The system of collecting and producing environmental information in Turkmenistan is represented by the data derived from the results of environmental monitoring conducted in terms of air, water and soil. The work on environmental monitoring is coordinated by the Ministry of Nature Protection of Turkmenistan.

The state agencies are responsible for collecting and exchange of environmental information on such important thematic areas as air, water resources, land resources, biodiversity and waste are presented in the Table 5.

The Ministry of Nature Protection of Turkmenistan conducts activities on environmental protection, controls and enforcement of environmental strategies and policies, carries out public awareness activities and introduces new environmental indicators to be integrated with the national system of statistics.

The other governmental authorities responsible for the collecting, producing and communicating of environmental data are also play an important role in the environmental information system. They within their competences are

Table 5 Producers of environmental information in Turkmenistan

Sources	Information
Ministry of Nature Protection of Turkmenistan (MONP TM)- http://www.natureprotection.gov.tm/	air and climate change; water resources; soil; biodiversity and Protected Areas;
The Ministry of Agriculture of Turkmenistan (MOA TM) - http://minagri.gov.tm/	land resources;
Ministry of Water Resources of Turkmenistan (MWR TM) - http://minwater.gov.tm/ministry_ru.php	water consumption and wastewater; water losses;
The National Committee of Turkmenistan for Hydrometeorology under the Cabinet of Ministers of Turkmenistan	meteorological data;
The State Committee on Statistics of Turkmenistan - http://www.stat.gov.tm/	ambient air, waste.

obliged to be engaged in the designing of environmental indicators and their adaptation with the national system of statistics.

In accordance with the national legislation, each agency is required to provide environmental information as per applicable reporting forms to the Ministry of Nature Protection and the State Committee on Statistics.

The country is involved in the preparation of information and reports in implementing the ratified multilateral environmental global as well as regional agreements.

Currently, the country is a party of eleven multilateral environmental agreements. In order to comply with the international commitments arising from environmental conventions and programs the Government established the State Interagency Commission based on the Presidential Decree dated March 1, 1999.

Turkmenistan has carried out a set various activity for the period since 1995 when the United Nations Framework Convention on Climate Change was ratified.

The greenhouse gas emissions inventory survey was carried out by the working group of the Commission (1994) under the framework of the project implemented with the technical assistance and financial support of the United Nations Environment Programme (UNEP) and the Global Environmental Facility (GEF). The result of this project and other studies implemented in 1995-2001 were employed for preparation of the First National Communication to the UNFCCC²³.

In 2010 Turkmenistan produced and made available on the website of the Convention the Second National Communication²⁴ which highlighted the results of the inventory of greenhouse gas emissions in the country indicating the increasing trend in the quantity of GHG emissions over the period from 1994 to 2004. The areas of priority were identified in achieving reducing of GHG emissions. The report also identified sectors of economy

and regions the most vulnerable to climate change and proposed certain adaptation measures.

During the implementation of the National Communications a considerable scope of work was done in raising public awareness on climate change issues. The awareness campaign included a set of seminars and workshops as well as wide coverage of CC issues in the media.

Turkmenistan has joined the UN Convention to Combat Desertification in 1996, and in the next 1997 the National Action Plan to Combat Desertification (NAP)²⁵ has been drawn out with efforts of researches and experts. Three national reports are available on the site of the Convention. The Third National Report provides information on the progress achieved in implementing of the NAP in Turkmenistan for the period from 2002 to 2006. The information on performance review and assessment of implementation of commitments by Turkmenistan for 2010 and 2012 is also available on the site of the Convention. However, in both reviews the required indicators are given without sufficient disclosure and description.

The performance review showed that in general, the latest national communications and reports prepared in implementing the Conventions have covered the period 2009-2012, though the data used mainly refer to the period 1990 - 2007. This situation is probably driven by the fact that the system of collecting and producing of data necessary for the preparation of the national reports and communications is not fully functioning. Basically employees of the MEP are engaged in the preparation of the reports. Unavailability or insufficient coverage of required indicators in the national reports to the MEAs shows that the information employed in implementation of the commitments under the ratified conventions still needs some improvements.

1.5.2 SCHEME OF INTERACTION AMONG PRODUCERS AND USERS OF ENVIRONMENTAL INFORMATION

The main producers of information in Turkmenistan are the state authorities as shown in the Figure 6. The analysis of the availability of environmental monitoring data and environmental statistics showed that the flow and exchange of information is carried out as shown on the figure below. The state agencies (producers of information), collect and store the information in their offices. Due to immature process of information sharing between the producers themselves and the users, the obtaining of information is mainly based on the inquiry letters (application). The inquiry for obtaining of information is regulated by the Law of Turkmenistan on "Consideration of applications from the citizens", which sets the term for consideration of applications up to 30 days.

Based on surveys and observations the governmental organizations, such as the State Committee on Statistics and the Office of Environmental Control under the Ministry of Nature Protection of Turkmenistan, collect,

store and produce the information in electronic form. The state agencies may request some information from each other. Based on the collected information the Committee on Statistics issues a statistical compendium, which includes the section: "Environmental protection and the use of natural resources in Turkmenistan". The Office of Environmental Control prepares and produces a daily bulletin on the state of air pollution covering urban areas in Turkmenistan. However, these publications are not available on-line on the Internet resources of the respective state agencies and the information can only be provided upon written request.

No regular exchange of environmental information is available between the state agencies. The state agency cannot quickly prepare a response to received enquiry as most of the environmental information is maintained in the form of hard copy.

According to the national legislation and the scheme of interaction, the users of information (various governmental

²³ <http://unfccc.int/resource/docs/natc/tkmnc1.pdf>

²⁴ <http://unfccc.int/resource/docs/natc/tkmnc2.pdf>

²⁵ http://www.cawater-info.net/bk/water_land_resources_use/russian_ver/pdf/turkmenistan-ncp.pdf

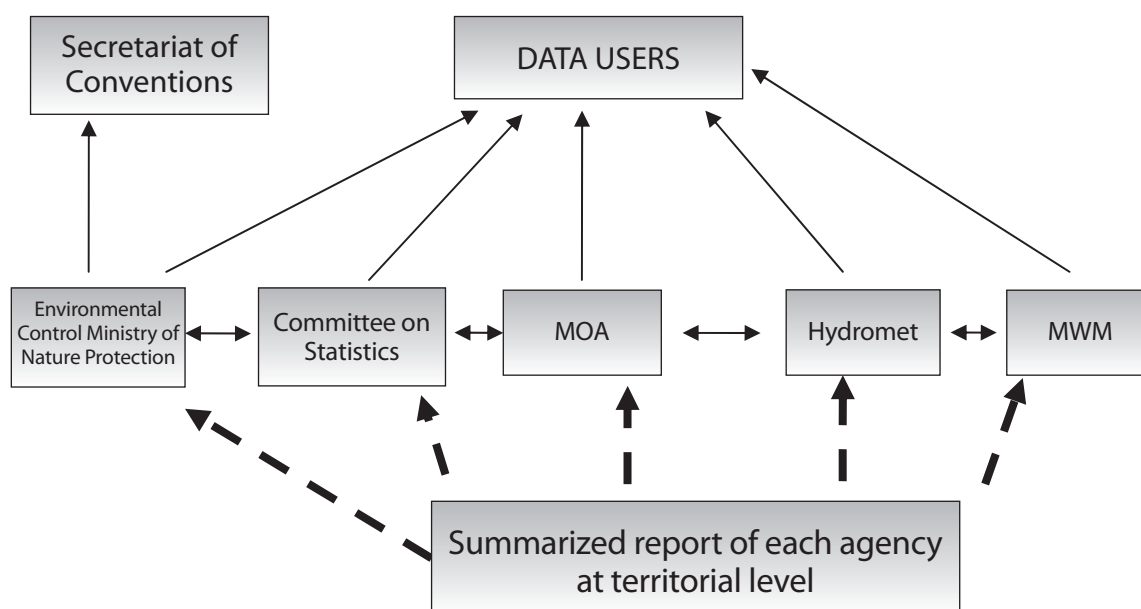


Figure 6 Scheme of interaction among producers and users of environmental information in Turkmenistan

agencies, NGOs, international organizations, ordinary people) may apply to the producers of information (government agencies) for necessary environmental information through written request.

The interaction with the Secretariat of Conventions, as shown in the scheme, is conducted by the Ministry of Environment Protection mainly through the submission of the national reports. The MEP fulfils the function of the National Coordinator/Focal Point in respect of many ratified conventions relating to the environmental protection.

The interaction between the state organizations and producers of environmental information is carried out based on the written application. This process can be simplified by signing joint agreements between the state agencies on sharing /exchanging of environmental information, according to the specified list of data and due terms.

The performance review showed that current environmental statistics mainly cover the following thematic areas: air (pollution and protection); water resources (use and protection); land resources (use and protection); and forest resources (use and protection).

To improve the situation with the provision of information in the field of environmental statistics and environmental monitoring in the country it shall be necessary to employ and adapt the environmental indicators recommended by the Committee on Environmental Policy in accordance with the Guidelines for the Application of Environmental Indicators in Eastern Europe, Caucasus and Central Asia. Implementing of these recommendations shall result in introducing of new indicators and since they relate to energy, climate

change and waste, their introducing will facilitate the comprehensive assessment of the current state of the environment in Turkmenistan.

The current periodicals in the form of environmental newsletters, statistical compendia and national report/communications in implementing the MEAs, ensure no overall assessment of the current situation. They also do not reveal any gaps which requiring improvement in the state of the environment. It is therefore necessary to establish a system of preparation of the national report on the state of the environment in Turkmenistan on a permanent basis.

Thus, to achieve the improvement in the collecting, producing and communicating of the environmental information the Shared Environmental Information System shall be implemented. This measure shall enable to introduce electronic databases in the governmental agencies. The decentralized approach in collecting the data shall be applied ensuring independent storing of information with its due updating.

This process will also affect some other issues, particularly it will improve statistical environmental indicators, employ advanced methodologies in producing of environmental indicators, ensure introducing and monitoring of the new indicators. In addition, it will enable introducing of electronic information systems for establishing electronic databases resulting in efficient interaction between the producers and users of information with a regular access to data and information thus facilitating the preparation of the national report to the international conventions and the national SoE report on regular basis.

1.5.3 PROSPECTS FOR INTRODUCING ENVIRONMENTAL INFORMATION SYSTEM

The performance review in the field of environmental information in Turkmenistan has identified the existing gaps which basically refer to the lack of a permanent

structure responsible for the preparation of the national reports on ratified environmental conventions, immature system of sharing information between producers

(government agencies) and users, unavailability of new environmental indicators and complicated methodology for collecting and producing of environmental statistics.

On the other hand it shall be noted on the efforts of the government aimed at improving the situation in various aspects, including raising public awareness in the field of environmental conditions in the country.

The National Program "Strategy of socio-economic reforms in Turkmenistan for the period till 2030" outlines the key principles and provisions of the long-term environmental policy of Turkmenistan, where a significant attention is paid to the establishing of information environmental management systems, strengthening the capacity building of the existing management in the field of nature resources and environmental statistics.

The Ministry of Nature Protection of Turkmenistan is engaged in environmental protection activity, enforcement of environmental policies, facilitating and encouraging public awareness and designing of environmental indicators applicable in the system of environmental statistics.

As for other related ministries and agencies, they also within their competence are engaged in the designing of environmental indicators compatible with the national system of statistics. In accordance with the national legal framework, each state agency is obliged to provide environmental information as per existing forms to the Ministry of Nature Protection and the State Committee on Statistics.

The country conducts regular work on the preparation of the national reports and communications in respect of many ratified MEAs.

The process of the SEIS introducing in the country shall be facilitated due to availability of the existing databases on environmental indicators derived from the results of the environmental monitoring and environmental statistics; existing plans on improvement of environmental management information systems and increasing the capacity of the existing structure.

The promotion of the SEIS in the country has been encouraged by the EU project "Targeted Awareness Raising for Enhanced European Union - Central Asia

Partnership". As part of the SEIS promotion activity, the CAREC conducted a national workshop "Raising awareness of the Shared Environmental Information System (SEIS)" in Ashgabat on March 5, 2013.

The main objective of the workshop was to define the current conditions, challenges and opportunities in the system of collecting and producing the environmental information.

The seminar recommended undertaking the performance review of the national environmental monitoring system to identify key challenges and inconsistencies, and based on the results of the review to draw out a strategy and an action plan for further modernization and improvement of the monitoring networks in compliance with the international standards. It was also recommended to develop a guideline for preparation of the national SoE report based on the indicators compatible with the internationally agreed guidelines.

The implementation of these recommendations would considerably increase the opportunities for setting well organized performance in preparation of the national SoE reports as well as a system of environmental monitoring across the country. Then it shall be possible to launch the process of producing and introducing of new environmental indicators in compliance with the international standards and regulations.

Following the existing scheme of interaction among producers and users of environmental information (Figure 6), it is possible to introduce the SEIS system at one state agency. Further this system shall be integrated with those of in the other state organizations.

Such an approach shall ensure timely and continuous access to environmental data to all stakeholders. The information sharing between the producers of information shall be considerably streamlined and thus simplified. The state authorities as well as international organizations, NGOs, academic institutions and other organizations concerned shall benefit from the introduced improvements in the system of environmental information in Turkmenistan.

2. MAIN RESULTS OF BILATERAL SUPPORT TO CENTRAL ASIAN COUNTRIES IN SEIS ORIENTED IMPROVEMENT OF THE ENVIRONMENTAL GOVERNANCE (BILATERAL SEIS) PROJECT

2.1 ABOUT THE PROJECT

The Shared Environmental Information System (SEIS) is the initiative of the European Union aimed to modernize and simplify collection, exchange and use of data and information required for the development and implementation of environmental policies.

Currently, the project of the European Neighborhood and Partnership Instrument on Shared Environmental Information System (hereinafter - the ENPI-SEIS) for countries - members of the European Neighborhood Policy (ENP) and the Russian Federation is implemented on behalf of the European Environment Agency (EEA) with the financial support from the European Commission.

The EEA and CAREC initiatives as part of the UNECE Steering Group on Environmental Assessments (CEWG) with the financial support from the governments of Switzerland and Italy enabled the Central Asian countries to develop a Central Asian regional component "Central Asia – An Assessment of Assessment Europe's environment", which was a significant step towards bringing Central Asian countries to the SEIS-oriented cooperation with the whole European region.

The UNECE CEWG members and designated national experts from Central Asia, mainly in charge of national state of environment reports (NSoERs), environmental performance, coordination of work with the national statistical agencies, have become active participants in consultations and made a significant contribution to the Europe's Environment: An Assessment of Assessment for Central Asia (CA-AoA), namely in the development of the country maps and Assessment of Assessment (AoA) recommendations.

As shown by the main findings and CA-AoA recommendations, there are still some gaps in preparing NSoERs, development of environmental indicators and statistics in Central Asia in general, as well as in regard to water resources and aspects relevant for greening the economies of Central Asia.

Due to the EU regional environmental and water program for Central Asia (EURECA) it became possible to support Central Asian countries in implementing the decisions of the VII Environment for Europe Ministerial Conference in the field of raising public awareness and improving environmental monitoring for SEIS.

As part of the EURECA, CAREC received the opportunity to implement one of the components of the AWARE project – "Targeted Awareness Raising for Enhanced European Union – Central Asia Partnership" aimed at information campaign to promote SEIS jointly with the EEA.

In addition, due to the above mentioned activities on the preparation of CA-AoA and the promotion of the project AWARE-SEIS, implementation of the project "Bilateral support to Central Asian countries in SEIS oriented improvement of the environmental governance" was possible.

Bilateral activities carried out as part of this project on improving NSoERs, environmental indicators and statistics through the development of nationally required collaboration and cooperation between all stakeholders will contribute to the effective development of the required SEIS related capacity in Central Asia.

The goal is to improve accessibility of the environmental information in Central Asia through the introduction of SEIS.

Project objectives:

- Identify gaps and needs for the development of environmental indicators and indicators of green economy, improve environmental statistical data;
- Ensure understanding by the competent authorities of the critical role of quality, timely and accessible environmental information for decision making;
- Ensure provision of the information under SEIS as a way of introducing regular reporting;
- Promote SEIS at the national level using a wide range of instruments;
- Raise awareness of the relevant competent authorities of the Central Asian countries in the field of cooperation, networking, monitoring, data management, evaluation and reporting based on environmental indicators at the regional level.

The project focuses on the role of environmental indicators and statistical data, especially in the field of water resources for certain sectors and the economy as a whole, in improving effectiveness of the SEIS oriented capacity in Central Asian countries.

Improving the environmental information system in each CA country includes the following activities:

- assessment of needs for the implementation of environmental reporting on the basis of indicators in accordance with the UNECE Guidelines;
- conducting a series of consultations with the officials and developers of NER on environmental assessment on the basis of indicators;
- analysis of the situation with collection, creation and publication of environmental indicators in each CA country.
- preparing the adapted Methodological guidance on the development of environmental indicators and implementation of environmental assessment on the basis of indicators;
- organization and conducting five national workshops-consultations for the government representatives and experts on gaps and opportunities for improving

environmental management in Central Asia, including introduction of SEIS and other available ways of gradual introduction of the ecological system in each CA country.

The workshops were designed to raise awareness of the relevant competent authorities of CA countries in the field of cooperation, networking, monitoring, data management, assessment and reporting on environmental indicators. The workshops explained options of the long-term and sustainable cooperation between the neighboring countries.

For the purpose of effective exchange of experiences and creating opportunities for CA countries for sharing ideas and knowledge on NSoERs process improvement and implementation of environmental assessment on the basis of certain indicators and a set of environmental indicators, experts and officials of the relevant ministries

and agencies of the Central Asian countries were involved in the consultation process.

The content and methodological support to workshops was ensured in cooperation with the European Environment Agency (EEA) that promotes the SEIS concept in countries supporting the European Neighborhood Policy.

The ultimate goal of this project is to create a unified system of environmental information through the Internet and obtain information from open sources of environmental data and information. The currently used systems and processes will be simplified, modernized, streamlined and posted in the Internet. The whole system will be decentralized, but at the same time integrated into a single system. As a result, the quality will be improved, reliability of the data will be ensured and accessibility of the information and its understanding will be improved as well²⁶.

2.2 SEIS ACTIVITIES WITHIN THE PROJECT

As part of implementation of the SEIS oriented projects (AWARE-SEIS, Bilateral-SEIS), a number of activities were planned:

- organization of five national consultation workshops for the government representatives and experts on gaps and opportunities for improving environmental management in CA countries, including on SEIS implementation and other available ways of gradual introduction of the environmental system in each CA country.
- creation of interdepartmental working groups on SEIS in each CA country;
- compiling a statistical compendium on the state of environment after the national consultations and implementation of the follow-up activities.
- conducting five national multilateral dialogues on access to environmental information, including national sets of indicators, statistical data and environmental reports.
- publication of promotional materials and case studies on best practices in environmental management, reporting and SEIS.
- on-line forums on the availability and quality of environmental information in CA countries.

Five national workshops were held in Central Asian countries as part of the EU project "Targeted Awareness Raising for Enhanced European Union – Central Asia Partnership".

The workshops aimed to familiarize the participants – representatives of the government agencies, international organizations and NGOs with the SEIS and its promotion practices in Europe, the Caucasus and Russia. In addition, the invited representatives of the government agencies involved in collecting and submission of environmental information shared their experience, discussed the current state and problems in the organizing of environmental information.

The workshops resulted in recommendations made by the workshop participants related to developing and improving the processes of the formation of environmental information in each country. These recommendations form the basis for further development of SEIS-oriented projects. In addition, the resulting recommendations have helped to define directions of development and improvement of environmental information in each country.

Working groups in each country to promote the SEIS involving representatives of various government agencies were set up during the national workshops.

Experts from each country were involved in the preparation of the country reports in accordance with the developed Terms of Reference. Country reports enabled to analyze in more details the current situation with the collection, formation and presentation of environmental information in each country. The results of these reports were the basis for the first part of this work.

In general, the processes of collecting and presentation of the environmental information in each country are developed to a varying extent. For example, in Kyrgyzstan and Kazakhstan there is an established network of environmental monitoring, and well-developed environmental statistical data. Countries are working to adapt 36 environmental indicators for atmospheric air, water and land resources, biodiversity and waste, which are recommended by the Committee on Environmental Policy of the United Nations Economic Commission for Eastern Europe, Caucasus and Central Asia (EECCA UNECE). Many of the collected and generated environmental indicators are presented in specialized publications that are available online.

Other countries are now experiencing difficulties with the adaptation and implementation of the recommended environmental indicators. Environmental statistics in these countries mainly covers areas such as atmospheric air pollution, status of water resources, some indicators on biodiversity and land resources.

²⁶ <http://www.eea.europa.eu/about-us/what/information-sharing-1/seis-briefing>

Given the above, one of the scheduled activities on creating a statistical compendium about state of the environment was postponed to later stages of SEIS development and implementation. This decision was also partly due to the fact that at the moment some countries do not have any opportunity to regularly publish national state of environment reports. As a result, the process of collection, analysis and preparation of environmental data required for the report shall become regular in such countries. In addition, all countries have problems with introducing new indicators, improving statistical reporting on the environment, introduction and use of new methods of collecting and formation of environmental indicators.

Given the need for improving environmental statistics identified in the course of the project “Bilateral support to Central Asian countries in SEIS oriented improvement of the environmental governance” it was decided to focus on identifying and addressing existing problems in this area.

Kyrgyzstan was among the first countries that have supported this initiative. In February-March 2012, an interdepartmental working group (hereinafter - IWG) on the development and improvement of information, statistics, indicators and data on the state of the environment and natural resources in Kyrgyzstan was set up by the initiative of the State Agency on Environmental Protection and Forestry (SAEPF) with CAREC’s support.

On 13 April 2012, the first meeting of the IWG was held, during which it was agreed to promote the work on water resource related statistics and analyze the possibility for transferring the obligation to provide statistical reports on water suppliers and consumers by the Department of Water Resources and Land Reclamation to local statistical departments. Another result of the work was adoption of the Agreement on improving statistical data.

On 21 May 2012, the first National workshop as part of the project “Targeted Awareness Raising for Enhanced European Union – Central Asia Partnership” was held involving the designated members of the IWG from the ministries and agencies of Kyrgyzstan, representatives of the OECD, UNDP, NGOs, as well as invited national and international experts. The information on accumulated

experiences and lessons learned in implementing SEIS in Eastern Europe and the Caucasus, green growth indicators and overview of statistical data on the environmental state in these countries were presented during the workshop. Preparation of the national reports was also discussed, each Central Asian country presented comparative comments on the situation in their country and Kyrgyzstan, i.e. Kyrgyzstan’s experience applicable to their own country and the experience suitable for replication in Kyrgyzstan.

The next meeting of the IWG was held on 24-25 May 2012 in the State Agency for Environmental Protection and Forestry involving designated members of the IWG from the ministries and agencies of Kyrgyzstan, representatives of the OECD, UNDP, NGOs, as well as invited national and international experts. The following issues were discussed during the meeting:

- Current situation with solid waste management in Kyrgyzstan, and the need for its improvement with the account of recommendations of the UNECE Joint Task Force on Environmental Indicators with regard to wastes classification based on lessons learned and experience gained in the process of collecting, processing and analyzing the statistical data for the last 2 -3 years.
- Possibility for introduction and adaptation of the Green Growth indicators of the OECD in Kyrgyzstan.
- Necessity to improve the statistics of water consumption in Kyrgyzstan.

The national statistical agency was encouraged to continue cooperation with the competent national authorities and international organizations in the field of improving waste and water related statistics in Kyrgyzstan with the account of recommendations of the international organizations, including the UNECE.

As part of this project, CAREC has undertaken certain measures to improve the environmental statistics, including water related statistics in the Kyrgyz Republic. National experts were involved in order to accomplish the intended scope of work; the results of this work are presented in the chapters below.

2.3 ASSESSMENT OF STATE OF WATER RELATED STATISTICS IN KYRGYZSTAN

In the Kyrgyz Republic, environmental statistical data is collected in the following areas: the state of the atmospheric air; the state and use of water resources; the state of land resources; nature protection related costs; production and consumption wastes, including toxic; exploration, conservation of forests, flora and fauna; environmental monitoring; statistics for the Millennium Development Goals.

Most of this information is presented in the compilation “Environmental protection in the Kyrgyz Republic for 2000-2006”, which is published by the National Statistical Committee of the Kyrgyz Republic (NSC). Environmental information in this collection is based on the official statistical data of the NSC, as well as

other ministries and agencies, whose activities are related to environmental management, environmental monitoring and protection.

As part of the project Bilateral – SEIS, analysis of the availability and formation of the environmental indicators recommended by the UNECE for EECCA was conducted in Kyrgyzstan.

The “National Report on the State of the Environment in the Kyrgyz Republic for 2007-2011 using the UNECE environmental indicators”²⁷, was prepared and published as result of this work and is available on the web-site of the State Agency for Environmental Protection of the Kyrgyz Republic.

²⁷ http://www.nature.kg/images/files/nd_2012.pdf

In general, as clear from this report, most of the 36 recommended environmental indicators in the country are formed in the following areas: atmospheric air pollution and ozone depletion; climate change; water resources; biodiversity; land resources; waste; agriculture; energy and transport. However, for each of the above areas there are such indicators, the information on which has not been collected in the country or the related information is presented only partially. In this regard, it was necessary to implement these indicators. This is especially relevant for the statistics on waste and water resources.

The importance of improving environmental statistics was also announced at the working meetings of the IWG in Kyrgyzstan:

Based on the results of the working meetings in Bishkek CAREC invited experts to work on this project in order to identify needs and opportunities of the country in improving water related statistics. Expert works have been carried out in the following two areas:

- 1) analysis of activity of the Department of Water Resources and Land Reclamation on statistical reporting in line with the 2TP - water management form;
- 2) evaluation of capacity and need for resources in order to transfer statistical reporting under the 2TP - water management form to the National Statistical Committee of the Kyrgyz Republic.

The main objective of this work was to show the current situation with the collection, formation and preparation of statistical data under the 2TP - water management form and feasibility of its transfer to NSC. These assessments and analysis demonstrates the need for measures to improve this situation. There is the need for both technological equipping and improving methods of collecting and analyzing water related statistical data.

Such changes can be accomplished through implementation of the pilot project on transferring statistical reporting under the 2TP - water management from the Department of Water Resources to NSC on the basis of two pilot district water management departments in Chui oblast – Alamedin and Panfilov using funds of the international organizations.

Currently, the system of water resource accounting in the Kyrgyz Republic is represented by statistical data generated on the basis of the state statistical form 2TP - water management, which was put in place in 1979. In addition, some data on water resources are formed by state bodies related to this sector (Ministry of Agriculture, State Agency on Environmental Protection and Forestry under the Government of the Kyrgyz Republic, and others).

Initially, collection, consolidation and analysis of the data under the 2TP - water management form were vested with the Ministry of Water Resources and Land Reclamation. The work was performed by the State Water Cadastre group under the Design Institute “Kirgizgiprovodhoz” on contractual basis with the Ministry of Water Resources of the Kyrgyz SSR (MWR). The results were submitted to the MWR and further forwarded to the Statistical Committee of the Kyrgyz Republic. This practice was abolished after 1997 due to the lack of funds.

From 1997 to 2003 the data under the 2TP - water management form was collected, consolidated and analyzed directly by the Department of Water Resources - the Water Resources Unit, and from 2004 to 2011 – by the State Water Inspectorate under the DWR, while since 2012 this work is performed directly by the Monitoring Unit of the Department of Water Resources and Land Reclamation (DWR and LR).

The scheme of collecting and generating data under the 2TP water management form is shown in Figure 7.

According to this scheme primary water users - about a thousand of various companies - water users, including

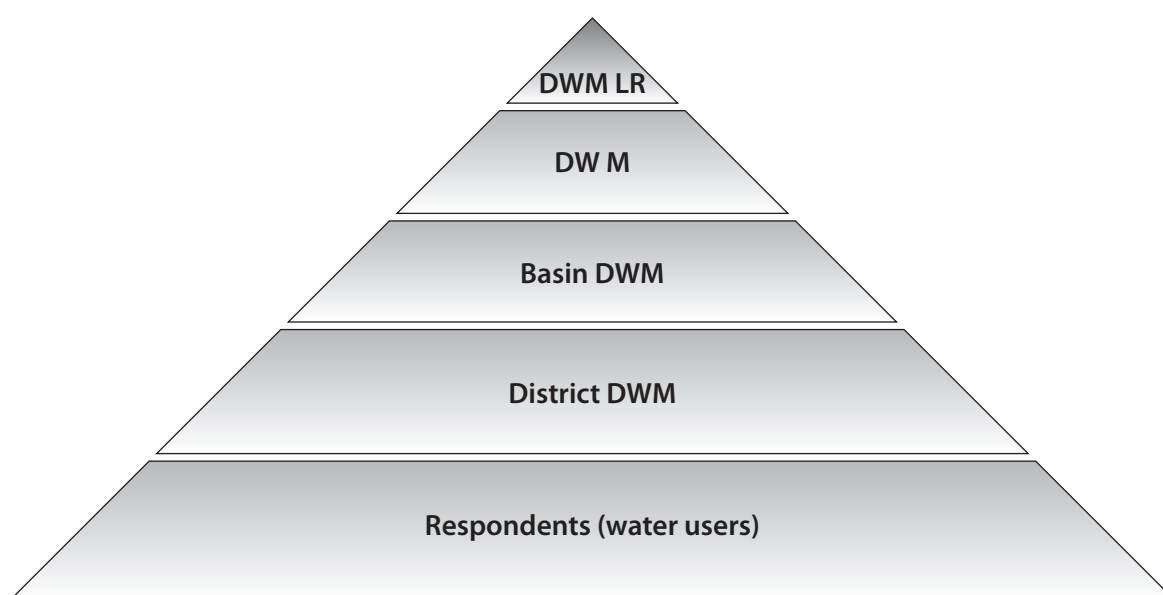


Figure 7 Scheme of collecting statistical data under the 2TP water management statistical form in the Kyrgyz Republic

farms and water users associations (WUAs), water utilities and other water users in accordance with the prescribed form annually submit data to the District Departments of Water Management (DDWM). DDWMs process the obtained information at their level and forward it to the Basin Departments of Water Management (BDWMs), the consolidated information is then further transferred to the Department of Water Resources, Monitoring and Interstate Water Resource Allocation (DWR M). The DWR M then transfers the data to the Department of Water Management and Land Reclamation (DWM LR).

The data obtained from the primary water users are processed using a program, which was developed by the Laboratory under the Design and Construction Institute "Vodavtomatika". Consolidated information on the on country level is transferred annually to the National Statistical Committee of the Kyrgyz Republic by the April 1.

Despite the well-established scheme for gathering, processing and transmission of data from the district departments of water resources to the DWR LR, there are still some problems and shortcomings. Some of them are listed below:

- There is no complete list of water users due to the fact that not all of them are registered;
- There is no possibility to implement control over the accuracy of the information provided by the water users and water data producers (respondents) on the on-farm level due to the lack of financial and human resources at the district departments of water management.
- The program for data processing within the 2TP - water management statistical form is not used at the first stage of initial data processing and validation of information. This complicates processing of the primary information and identification of errors or inaccuracies in the data.

The state of the water management system using Alamedin and Panfilov districts of the Kyrgyz Republic as an example was analyzed as part of this project.

In total in two districts 5 people work at the District Departments of Water Management: 3 people in Alamedin district's department and 2 people in the Panfilov district's department. In 2000-2004, these districts were equipped with the computers with the capacities enough to consolidate data for the initial reports in accordance with the 2TP - water management form. However, today computers are outdated and software for data consolidation does not work.

According to the 2TP - water management statistical form, approximately 95% of the total water intake in these districts was used for agricultural irrigation in 2010, 3% - for drinking, household and industrial needs and 2% - for other agricultural purposes. In this case, 26% of the water in the Alamedin district is taken from underground sources, while in Panfilov district it made only 0.8%.

The irrigation system of these two districts is represented by the dam type water intake facilities and the system of inter-farm canals, mainly earthen channels.

Comparative analysis of the state of water intake facilities in the two districts showed that the situation in

the Panfilov district is significantly poorer, where 64% of inter-farm canals require capital repairs.

The analysis of the availability of geodesic and hydrometric equipment has shown that there is a great need to equip both District Departments of Water Management with geodesic and hydrometric equipments for obtaining more accurate accounting of water resources.

In general, based on the analysis of the situation with collection and presentation of statistical data on water resources as part of the national report on the environmental state in the Kyrgyz Republic for 2006-2011, it can be concluded that the data collected in the republic are in line with the most indicators recommended by UNECE.

Also, assessments on of the indicators as renewable freshwater resources, fresh water intake and use, household consumption per capita, water loss, re-use and recycling of fresh water, drinking water quality, biochemical oxygen consumption and nitrogen ammonia concentration in the river water, biogenic substances in fresh water and contaminated sewage have been done.

Indicator on renewable sources of fresh water is not estimated once the Water Cadastre preparation has stopped. The main components used for estimating renewable sources of fresh water are: precipitation, actual gross evaporation and internal flow.

Many indicators are estimated by several government bodies: the National Statistical Committee of the Kyrgyz Republic, the Department of Water Resources and Land Reclamation of the Kyrgyz Republic, Kyrgyzhydromet, the Ministry of Health of KR, the Ministry of Agriculture and Land Reclamation of KR and are presented in NER in dynamics for 2006-2010.

Results of the assessments revealed that indicator on "Reuse and recycling of fresh water" is practically not used.

In general, most of the recommended indicators on water resources in the country are monitored. However, collection of data on important indicators as the volume of renewable freshwater resources and fresh water reuse and recycling, is complicated.

Today development and application of Water Cadastre is not taking place in the country, mainly due to organizational and institutional transformations of the management system and lack of financial and human resources.

The data analyzed under the 2TP - water management form also identified some errors and inaccuracies in data for certain years. Moreover, data are incomplete in particular with regard to the use of water for drinking purposes. In addition, the register of water users is not well maintained resulting in incomplete list of the water users and water data producers submitting information on the amount of water demanded and amount of water actually used.

There is a need to further develop and introduce new indicators in the 2TP - water management form, such as reuse and recycling of drinking water.

There is also the need for automated data collection and analysis under this form, which first of all will facilitate the collection of primary reports from the respondents, and will at the very first stage implement

control of the data in terms of reliability, as well as identify errors and inaccuracies.

Analysis of the situation with water related statistical data in the country also showed that along with the revision of the 2TP - water management form it is also important to make inventory of hydrometric equipment

and modernize the existing hydraulic facilities. Water users need to introduce modern measurement devices and equipments in order to implement accurate accounting of water during intake and supply for domestic, household and agricultural use.

2.4 THE NEEDS AND POSSIBILITIES FOR IMPROVING STATISTICS IN WATER RESOURCES IN KYRGYZSTAN

In order to identify possibilities to improve statistics in water resources management, assessments of needs and capacities to be required for shifting application of the statistical reporting form 2TP – water management from the DWM LR KR to the NSC KR were carried out.

Experts analyzed the current situation on environmental statistics management at the NSC, reviewed legal framework for monitoring NSC’s activities, interviewed employees of NSC and proposed a new scheme of data flow within application of 2TP - water management form between the DWMLR and NSC. Also, potentials difficulties for developing improved form of 2TP - air were identified.

The major legal framework regulating activities of NSC is the Law of KR “On State Statistics” from 26 March 2007, which provides basis for developing comprehensive, reliable, evidence-based and actual official statistical

information on social, economic, demographic and environmental situation in the Kyrgyz Republic.

Currently, in accordance with the National Program on improving and development of state statistics in the Kyrgyz Republic for 2010-2014, special activities on improving overall practices of statistical data compilation and development of environmental statistics methodology are underway.

Analysis of the current system of state statistics in the Kyrgyz Republic (Figure 8) demonstrated the following: the NSC has a number of subordinate organizations: the State Computation Centre (SCC), the Institute of Statistical Research, Resource-Methodical Center and the provincial and city state statistical bodies.

In accordance with the NSC’s Order from 18 March 2013, a new Department of Environmental Statistics and Information Technology as the sub-ordinate body of

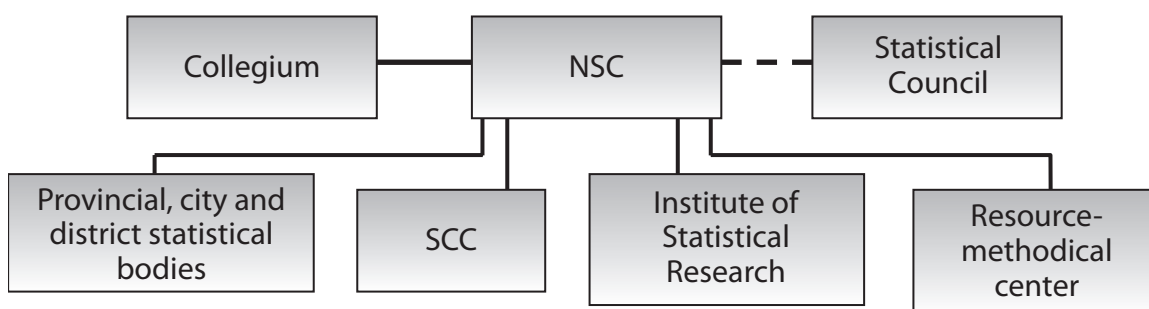


Figure 8 System of state statistical bodies of the Kyrgyz Republic

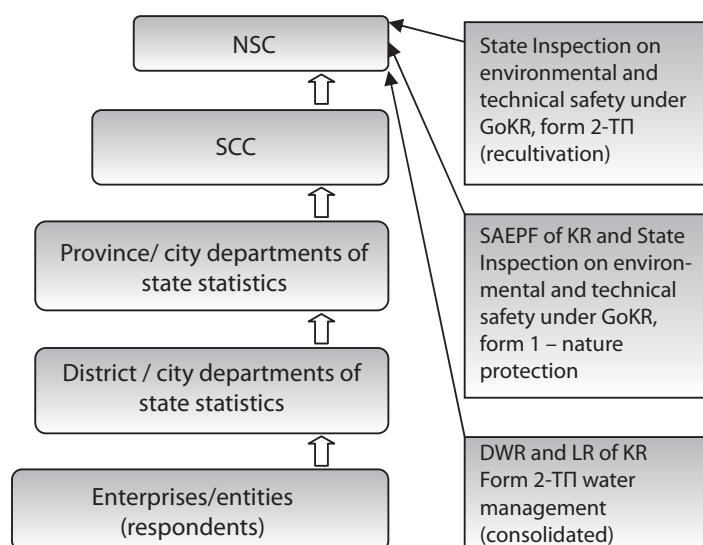


Figure 9 The scheme of collecting statistical information in the Kyrgyz Republic

NSC was created. The department organizes accounting, collection, processing, storage, analysis and consolidation of statistical information as well as methodological support in the field of environmental statistics. The department has five employees.

Today, the department collects data in the following areas: statistics on municipal services' activity (2 statistical forms), tourism related statistics (2 statistical forms), environmental statistics (12 statistical forms) and information and communication technologies (2 statistical forms).

The scheme of collecting statistical information under these forms is shown in Figure 9.

According to this scheme, water users and water data producers (respondents) directly send their reports with data and information to the district or city departments of state statistics. These departments then transfer processed information to the provincial / city departments of state statistics. After that statistical information is transferred to the State Computation Centre (SCC) and further submitted to the NSC.

Statistical data generated as part of the departmental reports from the DWR and LR of KR, State Inspectorate for Environmental Safety under the Government of the Kyrgyz Republic and State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic are directly transferred to the NSC. Responsibility for the quality and accuracy of the information submitted in the reports is controlled by the above government agencies.

Data are processed in an electronic format using the forms of the statistical authorities; however most programs in the statistical agencies were designed using older programming languages, the interface of which does not support the Kyrgyz language, and the output tables are generated in text files.

In addition, both statistical departments in the studied areas mainly experience problems with improving the completeness and quality of the information, as there is still no any real mechanism to influence water users and water data producers (respondents) for non-submission or provision of incorrect information in the reports. This way, as at beginning of 2013, 1,937 legal entities were registered in Alamedin district department of state statistics, out of which only 552 organizations submit statistical reports.

Analysis of the infrastructure, the number of employees and conducted interviews with employees of the statistical bodies in Panfilov and Alamedin districts showed that there are certain difficulties at the moment due to staff shortages and turnover, mainly due to low salaries. In addition, the district departments of state statistics are equipped with old computers, printers and copiers manufactured in 2001-2006. There are no appropriate conditions for storing hardcopies of the archival documents – they are currently simply kept on the office shelves.

Currently, in addition to technological problems (inappropriate software), there is a number of legal problems that may hinder the transfer of the statistical form 2TP - water management from the DWR and LR to the NSC.

A number of regulations, such as the Water Code, the Regulation on State Accounting and Control of Water

Use, The Regulation on the Procedure of Submission of the State Statistical reports, the Regulation on the Department of Water Management and Land Reclamation of the Ministry of Agriculture and Land Reclamation of the Kyrgyz Republic shall be revised.

It should also be taken into account that in the event of a transfer of the statistical form 2TP - water management to the NSC, certain structural changes should take place that will include the followings:

- modernization of the 2TP - water management form;
- development of a new software for processing statistical data 2TP – water management;
- preparation of the regulatory framework;
- creation of a register of water users;
- preparing catalogues, classifications and instructions in line with the 2TP - water management form;
- development of a unified software;
- increasing staff of the statistical bodies and the State Computation Centre;
- improving technical and material support to statistical bodies;
- providing trainings on using different methods of accounting and calculation of indicators.

Above listed activities are aimed to improve statistics in water resources management and can only be implemented under the conditions of well established process of the primary information flow among water users and data producers, data processing and consolidation at the relevant statistical bodies, as well as data storage and sharing.

Following the analysis of data collection and the information flow among relevant responsible state bodies, the scheme proposing changes of the forms from DWM and LR to the form of NSC is proposed (Figure 10).

As it is clear from the scheme, the primary reports from the water users and data producers will be directly sent to the district and city departments of state statistics. However, before submitting the report completed in accordance with the form they will have to get the reports approved by the district / city water management departments. Such control by the district water management departments will ensure control of the correctness and accuracy of the report in accordance with the form. The district and city departments of state statistics submit the processed and consolidated information to provincial / city statistical departments. Then the report is sent to the State Computation Centre, where it is validated for accuracy and then using the required format is submitted to NSC for publication and distribution. Furthermore, NSC upon request of the government agencies, including the request from DWR and LR submits necessary information to the concerned authorities.

This scheme of data flow in line with the 2TP – water management form is the most appropriate one given the fact that over the years these data were collected by the district / city water management departments of the DWM and LR of MOA KR. We consider it appropriate to implement control and have the reports of the

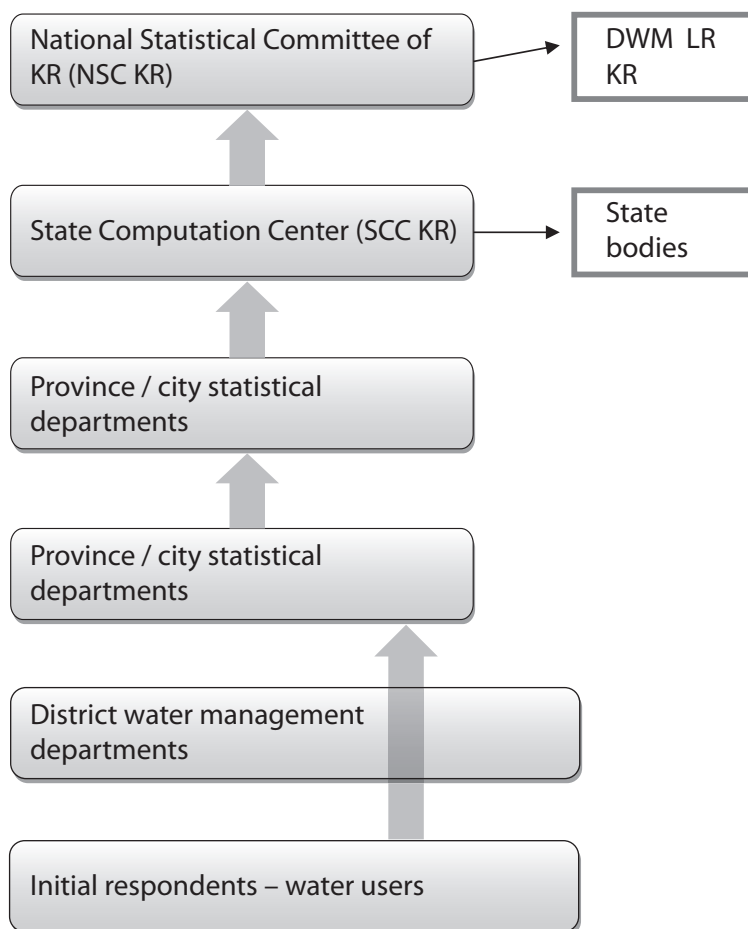


Figure 10 Scheme of statistical information flow in line with the 2TP – water management form

respondents approved by these district water management departments before sending them to the district and city departments of statistics. The functions of information collection, consolidation and dissemination shall also be transferred to the NSC.

As the interview with a representative of the Panfilov DDSS revealed, above discussed practice existed several years ago - approved reports stamped and signed by the district departments of water resources and sent to the district departments of state statistics for inclusion and consolidation of compiled information in database.

Based on the developed scheme of transferring the functions on data collection in line with the 2TP – water management form, a pilot project can be initiated with the financial support of international institutions.

The pilot project, which will use the proposed scheme of data flow will first of all allow for modernization of the 2TP – water management form at the level of the NSC of KR. In addition, a unified methodology for collecting and recording data in line with the form will be developed; the instruction to the form will be revised and improved; and the required catalogues and classifiers of the statistical bodies' activity applicable to this reporting form will be created. The pilot project on this scheme will also allow for training of staff involved in the collection and processing of information. This will require new equipment and infrastructure that would enable to collect and process information at a higher level and of better quality.

One of the main positive aspects of implementing the pilot project and creating conditions for data collection in line with the 2TP – water management form by the statistical bodies will be the possibility to revise this statistical form taking into account of recommended indicators and in accordance with the international methods and standards.

The statistical form shall be revised involving both the state statistical and water management bodies. Participation of representatives of water users and international experts may also be required.

However, modernization of the statistical 2TP – water management form will not resolve the current problems with the provision of reliable and high-quality data on water accounting. Comprehensive measures, which will also cover other issues related to water accounting and distribution shall also be in place. Namely, the need to install water meters for the majority of water users, replace obsolete software and hardware in the statistical agencies for better processing of the reports. In addition, it will be necessary to modernize the system of water intake, distribution and accounting at all points of water intake and distribution. Even though water meters will not be installed due to technical and other problems, water should be calculated based on the new methodology.

2.5 KEY OUTCOMES OF THE PROJECT

The project “Bilateral support to Central Asian countries in SEIS oriented improvement of the environmental governance (Bilateral-SEIS)” was launched thanks to the implementation of one of the components of the AWARE project “Targeted Awareness Raising for Enhanced European Union - Central Asia Partnership”.

The project was implemented based on bilateral activities in order to improve process of collection and development of environmental information in Central Asia. The strengths and weaknesses of the process of environmental data collection and data exchange were identified during the implementation of project activities.

All the activities of the project were implemented according to the plan. In particular, assessment of needs on adoption of environmental monitoring using indicators recommended by UNECE was done for Kyrgyzstan. In addition, in each country working groups represented by various government agencies and NGOs involved in environmental activities were created. A series of consultations and national workshops were held in each country with the help of these working groups. Participants of the workshops learnt about SEIS and the situation with the development of SEIS oriented projects in Europe, the Caucasus and Russia. The concerns and needs for the development of environmental information in the countries were discussed, and specific recommendations on improving the processes of environmental information collection and their assessment have been prepared.

The results of the dialogues, consultations and workshops reflected the current situation on collection and sharing of environmental information in each Central Asian countries. Due to the current difficulties in some countries with the adaptation of environmental indicators recommended by the UNECE for EECCA, as well as in connection with the existing gaps in environmental indicators, preparation of the Methodological guidance on the development of environmental indicators and collection of environmental statistical data in Central Asian countries has been postponed to a later date.

The main results of the project were identifying weaknesses in the environmental information system and recommendations for its improvement and SEIS implementation. Each country was asked – using the existing patterns of interaction among environmental data producers and data users – to implement the Shared Environmental Information System in one state body and to integrate the existing databases of other government agencies into this system. Results of these assessment are equally beneficial both for data producers – government agencies and different data users including decision making bodies.

Certainly, implementation of such Shared Environmental Information System will take time and will require expenditures both for software and development of human capacities in the countries.

Results of the assessments will provide good basis for planning further activities to promote the SEIS. Future SEIS-oriented projects will have to identify technical capacities and opportunities of the countries for SEIS implementation. In parallel, it will be necessary to create

conditions for improving the content of the environmental information in each country. In particular, it will be necessary to revise and introduce new environmental indicators that will be comparable with other countries and will have common characteristics and values (for example, measurement units). Development of the environmental information database will contribute to establishing a regular system of collection, processing and sharing of environmental data, thus good archive of data will be generated. .

Another result of the project was the assessments of the current situation on water related statistics and the possibilities to transfer statistical reports from the Department of Water Resources and Land Reclamation of the Ministry of Agriculture and Land Reclamation to the National Statistical Committee of the Kyrgyz Republic.

The situation with collection and formation of statistical data in line with the 2TP – water management form was analyzed using the Alamedin and Panfilov district water management departments in Kyrgyzstan as the example.

In addition, possibilities and needs for transferring this form under the jurisdiction of the National Statistical Committee of the Kyrgyz Republic were analyzed.

Scheme of statistical data flow from the respondents to the district / city statistical bodies was proposed. In this case, the primary reports from the respondents will have to be first approved by district / city water management authorities.

Based on this scheme of data transmission the pilot project on improving statistical 2TP – water management form and its transfer to the NSC can be implemented.

According to key experts of the National Statistical Committee of Kyrgyzstan transfer of the water resource related statistics from the DWR and LR to the statistical authorities is in line with the general direction of the NSC’s activity, which consolidates all statistical indicators at the national level.

However, we believe that this issue needs careful consideration and adoption of an integrated approach, which means creating conditions for technical equipping of the main points of water distribution and use with water meters, and development of staff capacity and training on water calculation, compiling the reports of the revised form and ability to analyze the quality and reliability of the data provided by the respondents.

The performed activities and potential projects based on their results will improve the situation with environmental reporting not only on water resource related statistics, but also in other areas of environmental statistics.

Improving the statistical data collection and consolidation will allow for creating a database of environmental indicators, on the basis of which SEIS can be implemented.

CONCLUSION

In the result of activities carried out within two projects aiming to introduce SEIS in Central Asia certain platform for enhancing partnership between the EU and the region of Central Asia have been established. Successful implementation and further promotion of activities in the field of reinforcing environmental data management based using SEIS principles can result in the following:

- The process of information exchange among different data producers will be simplified and synchronized, since they will have access to reliable information produced by other data producers. This will facilitate conducting environmental assessments and warning of possible environmental pollution and disasters. Improved efficiency of data/information management will positively impact on preparing different national reports for the secretariats of MEAs – time for information search and exchange will be reduced and quality of data will be assured duly. Thus, the process of preparing National Reports for different international conventions will be improved significantly.
- The process of information exchange will be cost and time effective both for data producers and data users since most of the data will be generated in a digitized format and online access to data will be

available. Also commitments of the countries made to Aarhus Convention in regard to respecting rights of the individuals by assuring open access to the data/information on environmental issues will be achieved. Access to environmental data/information can be regulated within legal frameworks and where needed certain restrictions can be applied depending on the type of data shared. data

- Application of SEIS system will significantly contribute to improving basis for effective implementation of environmental policies and development strategies.

Long-term positive impact from adoption of Shared Environmental Information System in Central Asia will allow national systems to integrate to similar systems applied in Europe and use their technological capacity. In the long-term, establishing integrated SEIS will facilitate efficient exchange of information, eliminate barriers among countries, as well as address critical transboundary environmental problems.

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