Strengthening the environment administration through information technology systems

Transition Facility

1. Basic Information
   1.1. CRIS Number: 2005/017-488.03.05
   1.2. Title: Strengthening the environment administration through information technology systems
   1.3. Sector: Environment
   1.4. Location: Poland

2. Objectives
2.1. Overall Objective

Strengthening the administration responsible for implementation of the *acquis communautaire* in the field of environmental protection and water management.

2.2. Project purpose

The purpose of the project is to provide Polish environmental administration with IT facilities that will allow to comply better with obligations resulting from the *acquis communautaire*, in particular in the scope of collecting and processing environmental data for reporting and decision-making purposes and in the field of making environmental information available to the public.

2.3. Justification

The project addresses to priorities of the Comprehensive Monitoring Report on Poland’s preparations for membership, chapter 22 (5.XI.2003) in the field of the environment:
- continue implementation of the *acquis*,
- continue strengthening the administrative, monitoring and enforcement capacity at national, regional and local level,
- continue strengthening the administrative capacity at national, regional and local level in the scope of information and data exchange and reporting at all levels of the administration.

3. Description
3.1 Background and justification

The survey carried out in the fourth quarter of 2003 in the Ministry of the Environment and in the units supervised or subordinate to the Minister of Environment has revealed that a great deal of registers, databases and directories were created, are under construction or are planned. The surveyed registers present a great variety as far as technical solutions, formats of data storage and their capacity are concerned, and only in few cases there is a possibility of communication and data exchange between the systems.

Establishment or improvement of data flow between particular databases and registers would streamline collecting and processing of data for decision-making and EU-reporting purposes.
Therefore, the project will be oriented to integration of environmental databases and registers that exist, are created or are to be created in the nearest future in the Ministry of the Environment and units subordinated or supervised by the Minister of the Environment into one environmental information management system, operating within the modern computer environment.

The data-base system should enable the registered users as well as the public to access flexibly and in a hierarchical manner and the access will depend on the type of available information and on the user type. As far as information contents of the system is concerned, the conception should take into account the information flows and accessibility of Geographic Information Systems (GIS) data and electronic maps being in accordance with the proposal for a Directive of the European Parliament and of the Council establishing an infrastructure for spatial information in the Community (INSPIRE), (COM (2004) 516 final).

While creating the environmental information system, particular attention should be paid to the standardisation and homogeneity of data of the planned system which should give the possibility of extracting data for reporting purposes, in particular to comply with reporting obligations resulting from the membership in the European Union.

The scope of data sources will be defined by the duties and responsibilities of the Ministry of the Environment. The access to the information platform will be managed by a comprehensive user concept (user’s rights, data safety).

As a result of the project, a significant increase of the effectiveness of administration is expected. The benefit will be a more comprehensive data management in the areas covered, among others, by the following EU Directives and Decisions:

- Commission Decision of 18 December 1996 concerning a site information format for proposed Natura 2000 sites (97/266/EC);
- Commission Decision of 31 May 1999 concerning the questionnaire relating to Council Directive 96/61/EC concerning integrated pollution prevention and control (IPPC);
Strengthening the environment administration through information technology systems


It is assumed that the project will comprise two phases:
1) Twinning Light – elaboration of conception of the integrated environmental information system.
2) Technical Assistance – ensuring data flow and communication between Natura 2000 database and several other important environmental databases in particular:
   - 4 GMO registers maintained by the MoE;
   - INFOOS (Polish Environmental Impact Assessment Information and Communication System);
   - IPPC database;
   - geological information databases;
   - data from the Internet portal to be created within the project Phare 2002/000-580.05.03 ‘Strengthen environmental protection’.

Moreover, within the project it is intended to purchase hardware (servers) and software which will be used to build data exchange system (including GIS data).

The proposed activities will be also in line with the objectives of the following EU legal acts and programs:
- eEurope;

3.2. Linked activities

The project will be build on findings and results of the following projects:
- PHARE PL01.05.02 ‘European Natura 2000 Network’;
- PHARE 2000 Project PL00/IB/EN/01: ‘Strengthen Environmental Impact Assessment’;
- PHARE 2001 Project PL/IB/2001/EN/03 ‘Biological Safety System’;
- PHARE 2001 Twinning Light Project PL 2001/IB/EN/06/TL: ‘Strengthening the Polish local administration responsible for environmental protection’;
- PHARE 2002 Project PL 2002/000-580.05.01 ‘Implementation of the Framework Water Directive 2000/60/WE’;
- PHARE 2002 Project 2002/000-580.05.03 ‘Strengthen Environmental Protection’;
- PHARE 2002 Project PL2002/605.05.01 ‘Implementation of EMAS in Poland’

Other government projects related to the present Project include:
- the programme “e-Poland” – aiming at development of the Information Society in Poland” (a contribution to the e-Europe programme),
- ‘e-Europe +’

3.3 Results

The project is expected to bring the following results:
1. data and databases in possession of particular units of the Ministry of the Environment and other units submitted or supervised by the Minister identified,
2. necessary information from environmental units possessing important databases gathered,
3. content, formal status, logical structure and technological parameters of the existing databases described and analysed,
4. way of data transfer from the existing systems to the system encompassing the most important Polish environmental databases proposed,
5. outline of possible structure(s) of the novel database system(s) compatible with similar European systems elaborated,
6. meta-information system proposed,
7. proposal for organisation of information delivery into integrated data model elaborated,
8. graphic design for external and internal parts of the system elaborated,
9. outline of possible structure(s) of the novel database system(s) with architecture(s) to be integrated with similar European systems elaborated,
10. integrated set of environmental data standards elaborated,
11. integrated model for information storage, supply, processing and disseminating data/information elaborated proposed,
12. report describing the current status of the databases (Report 1) prepared,
13. report proposing outlines of possible database systems (Report 2) prepared,
14. communication and data flow between Natura 2000 Database and respectively: 4 GMO registers, INFOOS, IPPC database, geological information databases; data from the Internet portal to be created within the project Phare 2002/000-580.05.03 ‘Strengthen environmental protection’.

3.4. Activities

Planned activities:

**Twinning Light (Contract 1)**
The following activities are planned:
1. identification of resources - data in possession of which are particular units of the Ministry of the Environment and other units submitted or supervised by the Minister,
2. gathering necessary information from environmental units possessing important databases,
3. description and analysis of the content, formal status, logical structure and technological parameters of the databases, including conception of spatial and descriptive strata for placement in the common system of data exchange,
4. proposal for preparation of the existing systems for a simple data transfer to the system encompassing the most important Polish environmental databases,
5. elaboration of outline of possible structure(s) of the novel database system(s) compatible with similar European systems,
6. elaboration of proposal for selection of a meta-information system,
7. elaboration of integrated model for information storage, supply, processing and disseminating of data/information, with information use and dissemination of information for relevant user groups,
8. elaboration of graphic design for both parts of the system: an external one aimed at the society and an internal one: restricted access through login,
9. elaboration of an outline of possible structure(s) of the novel database system(s) with architecture(s) to be integrated with similar European systems, available to governments agencies, including emergency agencies, and in large part available to the whole society,
10. elaboration of an integrated set of environmental data standards,
11. elaboration of integrated model for information storage, supply, processing and disseminating data/information, taking into consideration quality assessment and quality control aspects,
12. preparation of the report describing the current status of the databases (Report 1)
13. preparation of the report proposing outlines of possible database systems (Report 2).

Technical Assistance (Contract 2) (result 14)
Making use of documents elaborated during the TL phase and on the basis of available technical documentation the TA experts will have to achieve communication and data flow between the Natura 2000 database which is being created within ‘European Natura 2000 Network’ and the following databases and registers:
- 4 GMO registers maintained by the MoE;
- INFOOS (Polish Environmental Impact Assessment Information and Communication System);
- IPPC database;
- geological information databases;
- data from the Internet portal to be created within the project Phare 2002/000-580.05.03 ‘Strengthen environmental protection’.

Supply (Contract 3):
Purchase of hardware (servers), on which the system constructed by the Technical Assistance will be based + necessary software: two multiprocessors servers for database storage and business logic layer, UPS and cooling/air conditioning system network hardware infrastructure (1Gb switches, routers, firewalls), backup storage (streamers, tapes, disaster recovery software) for safely Data Storage (drives, arrays).
The Ministry of the Environment will be beneficiary of the equipment and software purchased within the project.
More detailed information is given in the Annex 1 to the project fiche ‘Needs assessment’.

3.5. Lessons learned
There is no information about any similar projects potentially implemented within other programmes (e.g. Phare programmes) or in other countries.

While designing the project fiche, the results of other Phare 2000, 2001 and 2002 projects in the form of databases and registers were taken as well as the need for their mutual dataflow and communication.

4. Institutional framework
The Ministry of the Environment will ensure scientific and professional support as well as reports necessary for the proper implementation of the project and provide organisational support and technical facilities for the Experts.
Strengthening the environment administration through information technology systems

The main project’s beneficiary will be the Ministry of the Environment which will be also in possession of the equipment and software purchased within the project.

5. Detailed Budget

<table>
<thead>
<tr>
<th>€M</th>
<th>Transition Facility support</th>
<th>Co-financing</th>
<th>Total cost (TF plus cofinancing)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Investment Support</td>
<td>Institution Building</td>
<td>Total Transition Facility (=I+IB)</td>
</tr>
<tr>
<td>Contract 1</td>
<td>0,15</td>
<td>0,15</td>
<td>0,05</td>
</tr>
<tr>
<td>Contract 2</td>
<td>2,25</td>
<td>2,25</td>
<td>0,75</td>
</tr>
<tr>
<td>Contract 3</td>
<td>0,30</td>
<td>0,30</td>
<td>0,10</td>
</tr>
<tr>
<td>Total</td>
<td>0,30</td>
<td>2,40</td>
<td>2,70</td>
</tr>
</tbody>
</table>

(*) contributions form National, Regional, Local, Municipal authorities, FIs loans to public entities, funds from public enterprises

(**) private funds, FIs loans to private entities

The national co-financing for the Project implementation will be available.

The joint co-financing will be provided for Contracts 2 and 3.

*In the case of Joint Co-financing, where the final overall cost is lower than foreseen in the project fiche, the National Public and Transition Facility Co-financing are reduced proportionally so as to maintain the agreed rate of co-financing. In the case of Parallel Co-financing, where the final cost is lower than foreseen in the project fiche, it must be shown that the overall objectives of the project have been fully achieved.*

6. Implementation Arrangements

6.1. Implementing Agency

Project Authorising Officer (PAO): Mr. Tadeusz Kozek, Undersecretary of State in the Office of the Committee of the European Integration, Al. Ujazdowskie 9, 00-918 Warsaw, tel.: (+48 22) 455 52 41, fax: (+48 22) 4555243.

Director of CFCU “Co-operation Fund” – Mr Andrzej J. Janicki, Górniośląska 4 A St., 00-444 Warsaw, tel.: (+48 22) 622 84 64, fax (+48 22) 622 71 11, e-mail: cfcu@cofund.org.pl

Contact person:
Ms. Grażyna Hadjiraftis – Counsellor of the Minister, Department of European Integration, Address: Ministry of the Environment, 00-922 Warsaw, Poland, 52/54 Wawelska St., tel: (+48 22) 5792670, fax: (+4822) 5792670; e-mail: graziyna.hadjiraftis@mos.gov.pl

The project will be implemented by: a committee dealing with technical matters, a body dealing with organisational matters and a group dealing with current substantive issues. The above mentioned bodies will be composed of the staff of the Ministry of the Environment. Moreover it is assumed that working groups would be formed, if needed, in order to solve specific technical problems incurred during the project implementation. Involvement of national experts form outside State administration units is also foreseen.
6.2. Twinning
Twinning activities are described in 3.1 and 3.4.

6.3. Non-standard aspects
N/A.

6.4. Contracts
Contract 1 – Twinning Light – conception 0,20 MEUR gross value (0,15 MEUR - TF Support; 0,05 MEUR national co-financing – parallel co-financing).
Contract 2 – Technical Assistance – implementation 3,00 MEUR gross value (2,25 MEUR - TF Support; 0,75 MEUR national co-financing – joint co-financing).
Contract 3 - purchase of hardware and software 0,40 MEUR gross value (0,30 MEUR - TF Support; 0,10 MEUR national co-financing – joint co-financing).

7. Implementation Schedule
7.1. Start of tendering/call for proposals
Contract I – 1/2 Q. 2006
Contract II – 3/4 Q.2006

7.2. Start of project activity
It is assumed that the project activity would start in 3/4 Q. 2006.

7.3. Project Completion
The project should be completed in 1Q. 2008.

8. Sustainability
After the project completion, the activities started within the project will be continued by the Ministry of the Environment which will update and maintain the software after project’s completion, taking into account current needs.

9. Conditionality and sequencing
The sequencing of activities within Contracts 1, 2 and 3 will be as shown in 3.4.
The most important milestones are as follows:
3/4 Q. 2006 - start of project activities
4Q. 2007/1 Q. 2008 - completion of the project
# Strengthening the environment administration through information technology systems

**Annex 1: LOGFRAME PLANNING MATRIX**

<table>
<thead>
<tr>
<th>Programme name and number</th>
<th>Contracting period expires: IV quarter 2007</th>
<th>Disbursement period expires: IV quarter 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strengthening the environmental administration through information technology systems</strong></td>
<td><strong>Total budget: 3.60 MEUR</strong></td>
<td><strong>TF EUR: 2.70 MEUR</strong></td>
</tr>
</tbody>
</table>

### Overall objective

Strengthening the administration responsible for environmental protection, by means of integration/development of information technology systems.

- Information flow strengthened in the MoE and other environmental administration units;
- Documentation of the Ministry of Environment

### Project purpose

The purpose of the project is to provide Polish environmental administration with IT facilities that will allow to comply better with obligations resulting from the *acquis communautaire*, in particular in the scope of collecting and processing environmental data for reporting and decision-making purposes and in the field of making environmental information available to the public.

- *conception concerning the integration of information and IT systems elaborated and described by 1/2 Q 2007*;
- *communication and data flow between Natura 2000 Database and other important environmental databases and registers ensured by 4 Q 2007/1 Q 2008*;
- *Document on the integration of information and IT systems*;
- *Documentation of the Ministry of Environment*;
- *Criteria established in the Ministry of Environment*;

### Results

1. data and databases in possession of particular units of the Ministry of the Environment and other units submitted or supervised by the Minister identified;
2. necessary information from environmental units possessing important databases gathered;
3. content, formal status, logical structure and technological parameters of the existing databases described and analysed;
4. way of data transfer from the existing systems to the system encompassing the most important Polish environmental databases proposed;
5. *outline of possible structure(s) of the novel database system(s) compatible with similar European systems elaborated*;
6. *meta-information system proposed*;
7. *proposal for organisation of information delivery into integrated data model elaborated*;
- *integrated system for information storage, supply, processing and disseminating of data/information proposed and described by 1 Q 2007/4 Q 2008*;
- *report describing the current status of the databases prepared by 1/2 Q 2007*;
- *report proposing*;
- *Document on integrated system*;
- *Report sent to the European Commission*;
- *Competent TL and TA experts*;
- *Report sent to the European Commission*
Strengthening the environment administration through information technology systems

8. graphic design for external and internal parts of the system elaborated,
9. outline of possible structure(s) of the novel database system(s) with architecture(s) to be integrated with similar European systems elaborated,
10. integrated set of environmental data standards elaborated,
11. integrated model for information storage, supply, processing and disseminating data/information elaborated proposed,
12. report describing the current status of the databases (Report 1) prepared,
13. report proposing outlines of possible database systems (Report 2) prepared,
14. communication and data flow between Natura 2000 Database and respectively: 4 GMO registers, INFOOS, IPPC database, geological information databases; data from the Internet portal to be created within the project Phare 2002/000-580.05.03 ‘Strengthen environmental protection’.

<table>
<thead>
<tr>
<th>Activities</th>
<th>Means</th>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TA 1 (Contract 1)</strong></td>
<td>Twinning Light</td>
<td>Competent TL and TA experts</td>
</tr>
<tr>
<td>Twinning Light (Contract 1)</td>
<td>Technical Assistance</td>
<td></td>
</tr>
<tr>
<td>1. identification of resources - data in possession of which are particular units of the Ministry of the Environment and other units submitted or supervised by the Minister,</td>
<td>Equipment</td>
<td></td>
</tr>
<tr>
<td>2. gathering necessary information from environmental units possessing important databases,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. description and analysis of the content, formal status, logical structure and technological parameters of the databases, including conception of spatial and descriptive strata for placement in the common system of data exchange,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. proposal for preparation of the existing systems for a simple data transfer to the system encompassing the most important Polish environmental databases,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. elaboration of outline of possible structure(s) of the novel database system(s) compatible with similar European systems,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. elaboration of proposal for selection of a meta-information system,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. elaboration of integrated model for information storage, supply, processing and disseminating of data/information, with information use and dissemination of information for relevant user groups,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. elaboration of graphic design for both parts of the system: an external one aimed at the society and an internal one: restricted access through login,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. elaboration of an outline of possible structure(s) of the novel database system(s) with architecture(s) to be integrated with similar European systems, available to</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Outlines of possible database systems prepared by 1/2 Q. 2007;
• communication and data flow between Natura 2000 Database and respectively: 4 GMO registers, INFOOS, IPPC database, geological information databases; data from the Internet portal to be created within the project Phare 2002/000-580.05.03 ‘Strengthen environmental protection’ by 4 Q. 2007/1 Q. 2008

Commission
Strengthening the environment administration through information technology systems

| governments agencies, including emergency agencies, and in large part available to the whole society, |
| 10. elaboration of an integrated set of environmental data standards, |
| 11. elaboration of integrated model for information storage, supply, processing and disseminating data/information, taking into consideration quality assessment and quality control aspects, |
| 12. preparation of the report describing the current status of the databases (Report 1) |
| 13. preparation of the report proposing outlines of possible database systems (Report 2). |

Technical Assistance (Contract 2)
Making use of documents elaborated during the TL phase and on the basis of available technical documentation the TA experts will have to achieve communication and data flow between the Natura 2000 database which is being created within ‘European Natura 2000 Network’ and the following databases and registers:
- 4 GMO registers maintained by the MoE;
- INFOOS (Polish Environmental Impact Assessment Information and Communication System);
- IPPC database;
- geological information databases;
- data from the Internet portal to be created within the project Phare 2002/000-580.05.03 ‘Strengthen environmental protection’.

Supply (Contract 3):
Purchase of hardware (servers), on which the system constructed by the Technical Assistance will be based + necessary software: two multiprocessors servers for data base storage and business logic layer, UPS and cooling/air conditioning system network hardware infrastructure (1Gb switches, routers, firewalls), backup storage (streamers, tapes, disaster recovery software) for safely Data Storage (drives, arrays).

Preconditions
Sufficient national co-financing
Annex 2-4. Implementation, contracting and disbursement schedules

<table>
<thead>
<tr>
<th>Date of drafting</th>
<th>March 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning Period</td>
<td>2006-2007</td>
</tr>
<tr>
<td>Title: <strong>Strengthening the Polish administration in implementation of acquis communautaire through information technology systems</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Implementation schedule</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
<th>VIII</th>
<th>IX</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>III’05</td>
<td>D</td>
<td></td>
<td>D/C</td>
<td>D/C</td>
<td>C/I</td>
<td>C/I</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>IV’05</td>
<td></td>
<td>D</td>
<td></td>
<td>D/C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>I’06</td>
<td></td>
<td></td>
<td>D/C</td>
<td></td>
<td>C/I</td>
<td></td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>II’06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>D</td>
<td>C/I</td>
<td>I</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>III’06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>D</td>
<td>C/I</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>IV’06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>D/C</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>I’07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>D</td>
<td>C/I</td>
</tr>
<tr>
<td>II’07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>D/C</td>
</tr>
<tr>
<td>III’07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV’07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Contracting schedule    |   |    |    |    |    |    |    |    |    |    |
| Disbursement schedule   |   | 0,15| 2,70 |    |    |    |    | 2,70 MEUR |

| D = design of sub-project / C = tendering and contracting / I = contract implementation and payment |   |    |    |    |    |    |    |    | 2,70 MEUR |

<p>| | | | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>
Annex 4

Needs assessments:

Taking into account the planned integration of data flow between the environmental databases and registers which exist or are under construction (see Contract II) it became necessary to design a coherent system of exchange of data. A selective collection of data necessary for Nature 2000 system was also considered as an additional functional requirement for the prepared intermediary layer.

The optimal system should be composed of two modules:
- Data exchange module (intermediary layer, co-ordinating data flow between the register maintained by the Ministry of the Environment and by entities subject to or supervised by the Minister of the Environment, with a possibility of selective aggregation and reporting).
- Nature 2000 module – dedicated repository of information concerning Nature 2000 issues, equipped with facilities enabling visualisation of data in reference to the GIS (geographic information system) and using a module of data Exchange for completing and/or gathering data.

In order to carry out the above assumptions, the following is required:
- initial analysis of the existing resources (see activities in Contract 1)
- construction of a ‘intermediary layer’ (data exchange module) (see Contract 2)
- construction of a repository of data for Nature 2000 (see Contract 2)
- purchase of equipment necessary for the correct functioning of the whole system (see Contract 2).

The equipment purchased within the Project should have sufficient capacity (at least two two-processor production servers), ensure redundancy of all key elements of the system, security of data (backup storage, UPS), efficient telecommunication infrastructure (1Gb switches, routers, firewalls) and meet requirements resulting from the software in use.