

TERMS OF REFERENCES

National consultant to develop the software for inputting and processing statistical data on air protection in regional perspective

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| Contract type: | Individual Contract modality |
| Duty station: | Home based |
| Estimated Duration: | March – May 2014, estimated volume of work 25 working days |
| Contracting Authority: | United Nations Development Programme (UNDP) |
| Main stakeholder: | National Bureau of Statistics |
| Main beneficiary: | Ministry Environment, Ministry of Economy, State Chancellery, Academy of Science, other CPAs and LPAs |
| Reference to Project: | UN Joint Project on Strengthening the National Statistical System, donor Government of Romania |
| Activity 7: | "Improvement of availability and reliability of regional statistics for decision-makers of the Republic of Moldova", component 1 – Support the evidence-based monitoring of regional development policy. |

BACKGROUND

Joint UN Project on Strengthening the National Statistical System of RM (Statistics Project) is currently implemented by the National Bureau of Statistics in partnership with the UNDP, UN Women, UNICEF, UNFPA, ILO and the Government of Romania, and aims at improving data production, dissemination and use of statistical information with particular attention to national needs and overall conformity of official statistics with international standards.

One of the Statistics Project's intended results is the improved capacity of the National Bureau of Statistics and other line ministries to produce, in a timely manner, data of appropriate quality being multi-dimensionally disaggregated. The second expected result would be the improved use of available disaggregated statistics by different categories of data users, in particular for evidence-based monitoring of policies, development strategies, programmes, necessary to analyze and monitor such phenomena as poverty, social exclusion, gender equality, etc.

The Project aims to respond to the urgent need to improve the availability and quality of regional statistics to ensure that the disadvantaged areas of the country are clearly identified and the exact nature of their problem is clearly understood. It identifies and gradually resolves these statistical issues by exploring various approaches and learning from advanced experience of other countries, and building capacities of Regional Development Agencies (RDA) to monitor the implementation of their regional development strategies.

CONTEXT

Sustainable regional development is an imperative assumed by the Government of Moldova, which has also confirmed its commitment to equally distribute the opportunities/chances for regional development throughout the country. To achieve this objective, it is necessary to know in detail the intensity and depth of the problem, which cannot be obtained without complex and systematic investigation, following the evidence and data-based approach. Good, reliable regional statistics have to be available in order to provide an adequate basis for analyzing regional disparities, for identification of potential growth areas.

Improvement of regional statistics aimed to establish some concrete indicators of scope and of tasks, is one of the elements necessary to ensure strategic governance.

Continuous need to harmonize the statistical infrastructure and methodologies of the National Bureau of Statistics, and other data producers, with international and EU standards remains one of the priority areas of the Program on Strategic Development of NBS 2012-2014¹. Respectively, adjustment of the statistical processes to the actual national context and in conformity with European requirements includes statistical toolkits and methodologies used for ensuring reliability, availability and timely statistics.

Thus, the Project aims to improve the quality of regional data and make it available to decision-makers and planners within the Moldovan central, regional and local government system so that government policy and planning on regional development at all levels is properly informed.

Current data processing on air protection

The software application currently used for the processing of the primary data reported by the economic enterprises within the statistical report *no.1-aer „Atmospheric Air Protection”* (consisting of 4 chapters) was designed as MS-DOS based application in 1997 by a programmer working with the former Department of Statistical and Sociological Analysis.

¹ http://www.statistica.md/public/files/despre/legi_hotariri/Strategy_NBS_2008_2011_en.pdf

Chapter II of the mentioned report *no. 1-aer* was amended in 2007. Consequently, a separate program has been created in MS Excel to process the primary data from Chapter II. Since then, the raw data collected under chapter I, III and IV are inputted and processed in MS-DOS application, while the data from chapter II are processed in MS Excel application. Because the data from different chapters of the statistical report are logically and arithmetically connected, the control & validation functions are performed with certain difficulties because it envisages fusion and verification of data in two different software applications. It, respectively, requires supplementary/extra effort and time to ensure the pertinent quality of data.

At the stage of cross-tabulation the same issue occurs when output tables with data from 3 chapters (I, III, IV) are generated in MS-Dos and from the forth chapter (II) – in MS Excel.

Moreover, at the request of data users, in particular the specialists of the Ministry of Environment, to exclude unusable indicators and to introduce new indicators in the *report no.1 on Atmospheric Air Protection*, the NBS specialists have no possibility to respond to any request of modifications to be applied in the outdated MS-DOS program, which causes the air protection data “obsolescence”.

Thus, the available software application applied at present for air protection data inputting and processing is outdated and does not allow to:

- Introduce modifications and additions into the 1-aer statistical questionnaire per se (introduction of additional chapters, indicators or variables);
- Obtain aggregated data in a revised format;
- Uniform validation of logical and arithmetic correlations throughout all chapters of the questionnaire.

In this regard, there is a stringent need to develop a new software application that could ensure:

- introduction of adjustments and supplements directly within the 1-aer templates by the NBS specialists not being necessary to involve the IT personnel;
- obtaining of aggregated results/tables in different aspects, in particular territorial;
- inputting of the primary/raw data performed by the central statistical office and their automatic processing;
- easy and independent maintenance and upgrade of the software;
- compliance with the core concept on NBS information system.

SCOPE OF WORK AND EXPECTED OUTPUTS

The United Nations Development Programme (UNDP) Moldova, through its *Joint Project on Strengthening the National Statistical System*, is seeking to employ one national consultant to **develop the software application for inputting and processing of statistical data on Atmospheric Air Protection in regional perspective.**

Specific objectives

The specific objective of the assignment is to provide the National Bureau of Statistics with the professionally designed software application and the related documentation which is to be applied by the statisticians and economists of the NBS to process the primary data reported by economic enterprises within the *statistical report nr. 1-aer on Atmospheric Air Protection* and to obtain aggregated data by country, in territorial aspect, by types of economic activity and by forms of ownership concerning air protection.

The expected software application will be a separate program and will be developed in accordance with the technical requirements of the software development (*Annex 1*), containing a general description of the program structure and operating principles; statistical questionnaire (*Annex 2*); output tables (*Annex 3*) by chapters of questionnaire, cross-tabulation rules, logical and arithmetic operations. The list of specific pollutant substances (*Annex 4*) and groups of actions on reduction of air pollutant emission (*Annex 5*) are also enclosed.

The consultancy will be based on the knowledge and experience of the selected consultant. On behalf of NBS, the participation and necessary involvement of representatives of the Environment Statistic Unit will be ensured.

Activities envisaged under the present task will contribute to the achievement of mid-term priorities of NBS and will be carried out in accordance with the Law of Republic of Moldova on Official Statistics, Programme for NBS Strategic Development and Annual Plan of Statistical Works.

Expected benefits

In the short run, the successful accomplishment of the present assignment's targets will lead to:

- development of modern software applications, aimed at processing the *air protection* data and tabulation of aggregated indicators in regional perspective;
- the respective software, designed in a user-friendly format, will be easily operated (data processed and output tables delivered) by the environmental statistics specialists, participation of the IT specialists being minimized.

In the medium run, the successful accomplishment of the present assignment's targets will lead to:

- improvement of statistical processes related to data processing, in particular the system of statistical indicators in the field of atmospheric air protection;
- promotion of cost-efficient activities of data processing, which also makes them sustainable in the long perspective;
- improvement of availability of disaggregated data on atmospheric air protection to be used for evidence-based monitoring and analysis by policymakers and other data users from the perspective of development regions;

- contribute to the improvement of the Government's work on reporting to national and international documents and treaties by reducing the reporting time and efforts through application of a list of relevant indicators;
- identify gaps and areas of concern on the strengthening of the statistical system that should be addressed in the nearest future.

The consultant will provide a high level of analytical work, effective communication and cooperation with NBS and UNDP, and is expected to perform a team work with specialists from the mentioned institutions for the successful fulfillment of the formulated tasks.

Main Tasks and Responsibilities

The contracted consultant, under the overall supervision of the Project, in partnership with NBS, is expected to:

- Establish contact with the staff of NBS responsible for environment statistics as well as the IT specialists (who will afterwards assist the maintenance of the produced soft), and get familiar with the results of previous activities undertaken so far by the NBS in the named field;
- Analyse the available materials related to data collection in the field of atmospheric air protection (questionnaires, methodologies, tools, etc.), as well as the guidelines and operating principles of the software currently used by NBS for the statistical survey on air protection;
- Consider the proposed generic Technical Requirements/specifications for the expected software application aimed at inputting and processing of data, in regional perspective, on *Atmospheric Air Protection* collected in the framework of thematic statistical survey (report no.1-aer), as well as eventual adjustments to it agreed with NBS, and provide inputs for its completion;
- Propose own approach for the expected activities and results, as well as a detailed work plan that encompasses the above-mentioned objectives, and discuss them with the Project partner;
- Draft the structure of the future programme and discuss it with the NBS team (NBS statisticians, economists and IT staff);
- Design the draft version of the software application including inputting, processing and compiling of final aggregated results on regional air protection statistics according to the NBS requirements;
- Test the draft version of software on the basis of annually data collected for 2013 checking the logical correlations among variables;
- Improve the software application and adjust the logical correlations according to the testing results;
- Install the software on 6 working stations of NBS;
- Provide training of the NBS staff (environment statistics unit and IT specialists) as it regards the produced application, its future upgrade and maintenance;
- Hand-over of the software application and the related documentation, including the instructions/manual/guidelines on further exploitation of the product;
- Other support activities.

DELIVERABLES and TIMEFRAME

Performing the mentioned above activities, the consultant will be responsible for delivering of the following outputs, comprising the main milestones:

| Nr. | Delivery | Timeframe |
|-----|--|---|
| 1. | <ul style="list-style-type: none"> Detailed Action Plan including timelines agreed with NBS and the Project Draft the structure of the future programme and discuss it with the NBS team | By the end of the 1 st week from contract date |
| 2. | Draft software application aiming at inputting and processing of statistical data from statistical survey no.1-aer on Atmospheric Air Protection, plus logical and arithmetical validation | By the end of the 4 th week from contract date |
| 3. | Tested computer software product (release to using=ready for mass distribution/use) and the related documentation | By the end of the 6 th week from contract date |
| 4. | Training of the NBS staff on the use, upgrade and maintenance of the produced software programme | By the end of the 8 th week from contract date |
| 5. | Final report on undertaken assignment (including stages passed, inventory of resources used, results obtained versus expected, impact of obtained results, risks overcome and problems faced, lessons learned, recommendations etc.) plus documentation related to the developed outputs | Before end May 2014 |

All the written deliverables should be agreed with the NBS and UNDP and be provided in Romanian, hard and electronic copy. The last delivery will be also provided in English.

Estimated Duration of the Contract

The activities under the present assignment are expected to be completed by **end of May 2014**. The volume of consultancy has been estimated at **25 working days overall per whole assignment** (full days of 8 hours) during which all the activities and outputs/results envisaged under the present assignment are expected to be performed.

Note: The mentioned number of working days has been estimated as being sufficient/ feasible for the envisaged volume of work to be completed successfully and is proposed as a guideline for the duration of assignment, and it can not be used as criteria for completion of work/assignment. The provision of envisaged deliverables approved by the Project partners and concerned

national stakeholders would be the only criteria for the Contractor's work being considered completed and eligible for payment/s.

The success of given activity can be ensured only by team work of all partners involved via active participation at all the stages of the assignment and the contracted consultant should play the role of guarantor of these joint effort.

QUALIFICATIONS AND SKILLS REQUIRED

The following qualification criteria are applied during the selection of the consultant:

Education:

- University **degree** in computer science, statistics and/or other areas relevant for the assignment;

Experience:

- Minimum of 4 years of proven **experience** in designing and maintaining of software applications, including those based on contemporary web technologies, or other relevant professional experience;
- Experience in implementation of similar projects for other **Government** institutions/subdivisions;
- Experience in working with **international organizations** and UN agencies in particular would be an asset;

Competencies and Skills:

- Familiarity of ICT **terminology and definitions**, e-Statistics, as well as best international/EU practice applied in national statistics activities aimed at efficient integration of data collection, imputation, processing and dissemination;
- Knowledge of the peculiarities of **statistical sector** (e.g. data collection process, methodologies used in enterprises statistics, etc.) would be an asset;
- Good communication and writing skills;
- Good knowledge of Romanian and Russian (knowledge of English will be an additional asset);

Personal Qualities and other requirements:

- Good interpersonal skills, solid judgment/decision making, initiative and creativity;
- Availability to work with UNDP and Project's national stakeholder during the indicated/approved period;
- Cultural and gender sensitivity.

Performance evaluation

Contractor's performance will be evaluated against such criteria as: timeliness, responsibility, initiative, communication, accuracy, and quality of the products delivered.

Reporting requirements

When the need is confirmed and at the request of Project Manager, the Consultant will report (informally) on ad-hoc basis on the progress achieved, difficulties encountered in the process of work and the supported needed from the Project or counterparts, results accomplished as well as eventual changes in the activity plan/schedule, etc.

Financial arrangements

Payments will be disbursed in instalments upon confirmation of Joint UN Project on Strengthening the National Statistical System on delivering of the contract obligations, services and products in a satisfactory manner.

Travel Requirements

During the contract period no travel is required.

SUBMISSION OF PROPOSAL

The submission package will consist of:

1. Technical Proposal:
 - explaining how applicant responds to each of the qualification requirements and why he/she is the most suitable for the work;
 - describing a short vision on achievement of tasks.
2. Personal information (as a detailed CV or as a Personal History Form /P11) including records on past experience in similar projects/assignments and concrete outputs obtained;
3. Financial proposal (in USD, specifying a total lump sum amount and the number of anticipated working days).

Attachments to ToRs:

1. Technical Specifications on expected software application (Annex 1);
2. Questionnaire used for inputting of primary data on air protection (Annex 2),
3. Output tables (Annex 3),
4. List of specific pollutant substances (Annex 4)
5. Groups of actions on reduction of air pollutant emission (Annex 5)