

**Invitation for Expressions of Interest (EOI)
for preparing an Impact Evaluation and Cost-Benefit Analysis
of the GEF Hungary Nutrient Reduction Project**

Beneficiary Country: Hungary

Partner (Responsible Body): Ministry of Rural
Development

OVERVIEW

The Global Environment Facility (GEF) established jointly by the International Bank for Reconstruction and Development (World Bank) and the UN bodies specialised in environment protection provides Hungary with a support for a project of nutrient reduction in the Danube (Project). During the implementation of investments the beneficiary of the support is the Republic of Hungary.

Two of the three key development objectives of the Project are (i) to reduce Budapest's discharge of nutrients (nitrogen and phosphorus) into the Danube River, and consequently into the Black Sea; and (ii) to enhance the nutrient trapping capacity of Gemene and Beda-Karapanca wetlands situated in the lower Hungarian part of the Danube River.

These objectives are to be met through: **Component A:** Development of tertiary treatment at the North Budapest Waste Water Treatment Plant (NBWWTP); and **Component B:** Wetland Restoration in the Gemenc and Béda-Karapanca areas of the Duna-Dráva National Park (DDNP) and establishment of a comprehensive Monitoring and Evaluation system for the evaluation of Project impacts in terms of reductions of N and P.

As part of project closure for the Hungary Nutrient Reduction Project, the project will produce an Implementation Completion Report (ICR) detailing to what extent the two components were able to meet the development objective. To assist in completing project closure and to better understand if the project interventions have had the impact they were intended to have at the project design stage, the Ministry of Rural Development seeks an Economic Consultant.

Project Management

Responsible Body: Ministry for Rural Development (Client), which is the signatory party of the agreement.

Bodies participating in project implementation:

1. Ministry for Rural Development;
2. Municipality of Budapest;
3. Duna-Dráva National Park Directorate;
4. South-Transdanubian Environmental Protection and Water Management Directorate.

All the above-listed participants are all involved in project implementation, and will in turn supply documents, data, information or support for the Consultant.

Invitation for Expression of Interest:

The *Ministry of Rural Development of the Republic of Hungary* now invites eligible consultants to indicate their interest in providing the services. Interested consultants must provide information indicating that they are qualified to perform the services. Consultants may associate to enhance their qualifications. The consultant will be selected in accordance with the procedures set out in the *World Bank's Guidelines: Selection and Employment of Consultants by World Bank Borrowers, May 2004*.

Proposals:

Expressions of Interest (EOI) are invited from interested consulting firms with proposals for preparing an Impact Evaluation and Cost-Benefit Analysis. Out of the Applicants whose EOIs are short listed, the most qualified will receive a Request for Proposal.

DETAILED TASK DESCRIPTION

The Ministry of Rural Development seeks an Economic Consultant to deliver the following four economic elements:

- (i) an Impact Evaluation (IE) for Component A;
- (ii) an impact evaluation (IE) methodology for Component B;
- (iii) a cost-benefit analysis (CBA) for the project, including cost-effectiveness (CE) of conventional treatment in NBWWTP versus nutrient trapping in open wetland systems in DDNP; and
- (iv) a recalculation of incremental cost analysis (ICA) conducted during project preparation.

General Information to Guide Work

The project set the following five indicators as **key development indicators**:

1. Average reduction of nutrient discharges from the NBWWTP (N and P kg/year);
2. Average operational cost of the nutrient reduction process in the NBWWTP (US\$/kg of nutrient reduced);
3. Number of hectares of wetlands rehabilitated in the DDNP;
4. Average amount of nutrients retained by the DDNP wetlands (N and P kg/year); and

5. Average operation cost of the wetlands management procedures in the DDNP, in terms of its nutrient reduction capacity (US\$/kg of nutrient reduced).

Indicators #1 and #3 are physical indicators that will be provided by the Project. The other Indicators are economic and financial Indicators which will prove fundamental to the Consultancy work below.

Background for Impact Evaluation Work

In the PAD, the NBWWTP was expected to reduce 14% of N and 6% of P Hungarian discharges from point sources and the DDNP Component was expected to reduce 6% of N and 2% of P from diffuse sources.

During project preparation, a thorough environmental monitoring system has been modelled and introduced through a team of technical experts for the DDNP Component. There is now in effect a very detailed baseline for the DDNP Component upon which the impact evaluation methodology can be constructed.

The Project enables comparison of two different forms of intervention to reduce discharges of nutrient from point and non-point sources, and evaluation of their impacts in terms of global benefits in relation to their respective investment and operation costs.

This project is thus expected to have an important demonstration role in Hungary and within the region to help develop technically and financially sound solutions, allowing for the best use of scarce resources.

Most traditional water supply and sanitation impact evaluation (IE) work ranges from greater efficiency in the utilities sector, improved access to higher quality services, health improvements, social and gender inclusion, etc. The IE study for this project is different for any of the above, in that it will compare the changes in Nitrogen, Phosphorous, BOD, and other water quality indicators that can be attributed to particular intervention, BNWWTP and the DDNP wetlands rehabilitation, both the intended ones, as well as ideally the unintended ones. In contrast to outcome monitoring, which examines whether targets have been achieved, **Impact evaluation** is structured to answer the question: how would these outcomes have changed if the intervention had not been undertaken? This involves counterfactual analysis, that is, “a comparison between what actually happened and what would have happened in the absence of the intervention.”

There are five key principles relating to internal validity (study design) and external validity (generalizability) which rigorous Impact Evaluations should address: confounding factors, selection bias, spillover effects, contamination, and impact heterogeneity.

Providing **Counterfactuals** for the tertiary treatment and the wetlands rehabilitation analyses the first step in this IE study: the proposal will be asked to provide an appropriate counterfactual evaluation design. For the wetlands rehabilitation analysis, it could be several

of the sites not selected, for which there is a good baseline dataset, although the IE study needs to keep in mind that there is a bias in that these sites were not in the final selected pool, and thus there is a selection bias. Once the counterfactual evaluation design is selected, the consultant will be provided and/or will seek of the physical/technical information about the BNWWTP and DDNP counterfactuals in order to proceed with the IE.

Confounding occurs where certain factors, typically relating to socio-economic status, are correlated with both exposure to the intervention and, independent of exposure, are causally related to the outcome of interest. Confounding factors are therefore alternate explanations for an observed (possibly spurious) relationship between intervention and outcome.

Selection bias, a special case of confounding, occurs where intervention participants are non-randomly drawn from the beneficiary population, and the criteria determining selection are correlated with outcomes. Unobserved factors, which are associated with access to or participation in the intervention, and are causally related to the outcome of interest, may lead to a spurious relationship between intervention and outcome if unaccounted for. Self-selection occurs where, for example, more able or organized individuals or communities, who are more likely to have better outcomes of interest, are also more likely to participate in the intervention. Endogenous program selection occurs where individuals or communities are chosen to participate because they are seen to be more likely to benefit from the intervention. Ignoring confounding factors can lead to a problem of omitted variable bias. In the special case of selection bias, the endogeneity of the selection variables can cause simultaneity bias.

Spillover (referred to as contagion in the case of experimental evaluations) occurs when members of the comparison (control) group are affected by the intervention. **Contamination** occurs when members of treatment and/or comparison groups have access to another intervention which also affects the outcome of interest.

Impact heterogeneity refers to differences in impact due by beneficiary type and context. High quality Impact Evaluations will assess both the extent to which different groups (e.g. the disadvantaged) benefit from an intervention as well as the potential effect of context on impact. The degree that results are generalizable will determine the applicability of lessons learned for interventions in other contexts.

Useful Documents Publicly Available

- “A Guide to Water and Sanitation Sector Impact Evaluations”, December 2006 (should be available on www.worldbank.org external web site);
- “Outline of Principles of Impact Evaluation,” OECD, (www.oecd.org external website).

Guidance for Economic Analyses

At the project preparation phase, various analyses were conducted in order to estimate project feasibility. At the end of the project, these estimates need to be revisited, and recalculated

with actual values. The results of all of these analyses are contained in Annexes 9 and 15 of the Project Appraisal Document, which is publically availability.

The first of these analyses to be recalculated is the **economic benefits analysis** (Annex 9, Table 1), as well as the **sensitivity analysis for economic benefits estimation** (Annex 9, Table 2). This work is dependent on receiving the original calculations from the project preparation consultant.

Guidance for Recalculation of Benefits-Global Environmental Effects, Cost-Effectiveness and Incremental Cost-Benefit

This consultancy is asked to recalculate Tables 6, 7, and 8 in Annex 15: “Incremental Cost Analysis” in the Project Appraisal Document. Although these documents do not have accompanying explanatory text in the PAD, they should be accompanied by ample explanatory text in the consultant report so that the PIU is able to understand all calculations and assumptions.

With regards to recalculation of Table 7, Annex 15, the cost-effectiveness comparing the development of tertiary treatment at the NBWWTP to the wetlands rehabilitation in the DDNP, this comparison is a major element of this project. The expectation is that this treatment will be in detail, analyzing in specific cost (USD) per each nutrient (BOD, TSS, N, P) and also specific cost per volume of water treated (m3). Depreciation rates need to be accounted for according to each technical method.

As this project was funded for its demonstration aspect to directly compare the traditional tertiary treatment WWTP to the wetlands rehabilitation approach, the cost-effectiveness comparison is considered to be the core product of this Consultancy.

Useful Documents Publicly Available

- The Project Appraisal Document (PAD) for the Hungary Nutrient Reduction Project, specifically, Annex 9 (Economic and Financial Analysis) and Annex 15 (Incremental Cost Analysis) of the PAD (available on www.worldbank.org external web site).

Documents and Data to be provided by the Client

- Nutrient Removal Extension of North Budapest Wastewater Treatment Plan – Financial and Economical Analysis (Oko Inc) February 2005;
- “Reduction of Nutrient Discharges Project – (DDNP) Pre-Feasibility Study, Financial and Economic Analysis (DHV Hungary Ltd.) March 2005;
- “Technical Background and Data Used for Nutrient Retention Estimates of the Gemenc-Bedc-Karapanca System (GEF Project)”, Koncsos and Somlyódy.
- Actual costs to complete both the NBWWTP and the wetlands rehabilitated in the DDNP;

- Actual reductions in N and in P in NBWWTP in t/y;
- Actual reduction in N and P in current hectareage of wetlands under rehabilitation in the DDNP, broken down by plot;
- Number of wetlands under rehabilitation in the DDNP, broken down by plot;
- Current amounts of wastewater (m³/day), BOD (kg/day), N (kg/day) and P (kg/day) discharged at South Pest WWTP and NBWWTP, respectively;
- Baseline data related to the ‘technical specialist’ modeling of the DDNP nutrient reduction database and data gathering;
- Similarly, baseline, target, and intermediate indicators, as monitored and reported through Implementation Status Reports (ISRs) of the World Bank, as needed, to supplement the PMRs;
- Excel tables for PAD, Annex 9, Tables 1 and 2,;
- Completed values for Annex 15, Table 2, Table 3, Table 4, and Table 5, to be provided by the Project PIU.

Data and data estimates to be sourced by the Consultant

- Current estimates (in \$), and sensitivity bounds, of the value of nutrient reduction for nitrogen and phosphorous;
- Current water and wastewater tariffs for South Pest WWTP and NBWWTP areas, respectively.

REPORT STRUCTURE

The Consultant is expected to carry out the tasks described above and formulate a report on the finding. The Consultant shall first send draft reports to the Client in e-mail for review. The Client might request the Expert Panel engaged under Part B of the GEF Project to review the report, and will provide feedback for revision before accepting it. Once all parts of the draft report is accepted, the Consultant is to finalise the report and submit **five (5) hard copies of the Hungarian version, and two (2) hard copies of the English version and one soft copy of each report (document) in both English and Hungarian**. Both the draft and finalized reports must be submitted in **English and Hungarian**, and the Consultant shall follow up on the receipt of the reports.

The report may be structured as follows, which structure is only a suggestion, and it may be amended as found suitable:

Part I:	Impact Evaluation of the Hungary Nutrient Reduction Project
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	Chapter 1:	An Impact Evaluation (IE) for the completed NBWWTP Component.
	Chapter 2:	An impact evaluation (IE) methodology for the DDNP wetlands rehabilitation Component in process.
	Chapter 3:	Some analytical treatment comparing the IE results from the completed NBWWTP Component to the methodological framework for the DDNP wetlands rehabilitation Component, with some guidelines to complete a comparison of the two IE results when Component B is completed.
Part II:	Economic Analyses for the end of the Hungary Nutrient Reduction Project	
	Chapter 4:	Economic Benefits Analysis and Sensitivity Analysis for NBWWTP and DDNP components.
	Chapter 5:	Benefits as Measured in Global Environmental Effects
	Chapter 6:	Cost-Effectiveness of NBWWTP and DDNP compared in terms of N and P
	Chapter 7:	Incremental Cost-Benefit Analysis
	Chapter 8:	Closing Remarks and Observations

Submission Deadline for the Reports

Within two (2) weeks of Contract Signature, consultants meet Client to ask (i) explanatory questions about TOR; (ii) data needed; (iii) contacts for obtaining more information.

The Consultant will be required to prepare Part I of the Report **within further four (4) weeks**, and submit it for review.

In the meantime, the Consultant is expected to continue with the tasks, elaborate Part II of the Report, and submit it for review **within further four (4) weeks**.

Within further four (4) weeks, the Consultant will be required to submit the Report (finalised versions of Part I and Part II based on the feedback of the Client, with comments incorporated) and return hard copies of any documents received from the Client.

Comments and feedback will be provided ***within two (2) weeks of submission by the Client***. The reporting deadlines and feedback provision are summarised as follows:

Time	Task
Week 2	Kick off Meeting
Week 6	Draft Part I.
<i>Week 8</i>	<i>Feedback from Client on Part I.</i>
Week 10	Draft Part II.
<i>Week 12</i>	<i>Feedback from Client on Part II.</i>
Week 14	Submission of Report

TERMS OF PAYMENT

The payments will be made based on the prices in the proposal, where it should be also be stated that the total amount payable for the assignment, i.e. amount payable to experts and the amount spent on the specific issue (fees and direct costs) taking also consideration the assignment-related expenses. Payments shall be made according to the following schedule:

- a) **Thirty-five (35) percent** of the lump-sum amount shall be paid upon the Client's receipt and approval of the Part I of the REPORT — monitoring design and completion of Task 1, 2, and 3 (Chapter 2, Sub-chapter 2.2).
- b) **Sixty-five (65) percent** of the lump-sum amount shall be paid upon the Client's receipt and approval of the final REPORT.
- c) Payment shall be made **within sixty (60) calendar days** of receipt of the invoice following the approval of the relevant documents.

REQUIREMENTS ON EXPERTISE

The Consultant will use experts for the TOR in accordance with the expectations of the Client and the financing bodies. The Consultant will retain experts to perform the tasks.

Conditions for eligibility (minimum requirements to be met regarding relevant professional experiences in order to be considered eligible for the work):

- At least three impact assessments or studies on great water currents or their floodplains with a consolidated sales volume of at least HUF 50 million in the past three years (2007–2010).

Required qualifications and experiences:

- At least 3 (three) experts authorised to perform impact assessments and analyses.
- The manager responsible for the preparation of reports must be fluent in English.
- Reference-supported scientific knowledge and experiences in the field of nutrient balance and hydro-ecological floodplain processes.
- Experiences obtained through active involvement in projects supported by international organisations (World Bank, EU, etc.).
- One engineer experienced in the technical implementation and control of investment projects.

The Consultant will request a written consent before performing any of the following:

- signing a sub-consultancy agreement for the performance of any part of the TOR,
- appointing any person not specified in the Proposal,
- taking any other step not specified in the agreement.

CLIENT'S AND BENEFICIARIES' DUTIES AND OBLIGATIONS

The Municipality of Budapest will provide the following assistance for the Consultant during the supply of services:

- i. Introduction of the investment site and the investor company in order to facilitate the supply of services;
- ii. Provision of all available data in order to perform the technical, financial and business analysis.

The South-Transdanubian Environmental Protection and Water Management Directorate will provide the following assistance for the Consultant during the supply of services:

- i. Introduction of local bodies and companies in order to facilitate the supply of services;
- ii. Provision of all available data in order to perform the technical, financial and business analysis;
- iii. English version (if available) of plans, studies and technical documents.

The Duna-Dráva National Park Directorate will provide the following assistance for the Consultant during the supply of services:

- i. Inspection of the intervention area upon request and prior arrangement for access to area.

Application Procedure:

The EOIs should be brief, focus on aspects relevant to the proposal, and presented in the following format:

The EOI should consist of no less than the followings:

- Name and address of firm
- Name, designation and telephone number of contact person
- Basic corporate information and history
- Financial information confirming that the company can deliver without risk of bankruptcy
- National and international experience;
- Demonstration of relevant technical capability / competencies of the company relevant to the current assignment, including management/ facilitation of similar events, langue proficiency, etc.
- References that can be checked to determine the company's suitability"

Short demonstration and description of the tasks drafted in this application.

The EOI must be submitted in the following language(s): English and Hungarian. The shortlisted firms/Consultants are not allowed to associate with other shortlisted firms/Consultants.

The reports must be submitted in the following language(s): English and Hungarian

The Consultants must submit 5 (five) printed copies and one electronic versions of each EOI.

General information and address for the submission of EOIs:

Client Name : Ministry of Rural Development

Definition of the task, objectives and description: Nutrient Reduction Project HU-55978, Organizing a conference

Method of selection: **CQ** (Selection based on consultant's qualification).

Clarifications may be requested in writing **at least 2 business days before the submission deadline** at the following address:

E-mail: Dr. Tátrai Tünde - tunde.tatrai@uni-corvinus.hu

E-mail: Kámánné Csán Zsuzsanna - zsuzsanna.csan.kamanne@vm.gov.hu

The EOI must be submitted to the following address:

Zoltán Bejczy

Ministry of Rural Development

H-1055 Budapest, Kossuth tér 11.

Deadline for Proposal submission:: 05th of September 2011., 16.00 hours local

Deadline for completion: **05.09.2011.**

Annex 1.

ENTITY'S REFERENCES

Relevant Services Carried Out

That Best Illustrate Qualifications

Using the format below, provide information on each assignment for which your entity, either individually as a corporate entity or within an association, was legally contracted.

Assignment Name:	Professional Staff Provided by Your Entity (profiles):
Location:	No of Staff-Months:
Name of Client:	Approx. Value of Services (in USD/or respective currency)
Address and telephone:	

Entity's Name:

Annex 2.

Sample Format of Curriculum Vitae (CV)

Proposed Position: _____

Name of Firm: _____

Name of Staff: _____

Profession: _____

Date of Birth: _____

Years with Firm/Entity: _____ Nationality: _____

Membership in Professional Societies: _____

Detailed Tasks Assigned: _____

Key Qualifications:

[Give an outline of staff member's experience and training most pertinent to tasks on assignment. Describe degree of responsibility held by staff member on relevant previous assignments and give dates and locations. Use about half a page.]

Education:

[Summarize college/university and other specialized education of staff member, giving names of schools, dates attended, and degrees obtained. Use about one quarter of a page.]

Employment Record:

[Starting with present position, list in reverse order every employment held. List all positions held by staff member since graduation, giving dates, names of employing organizations, titles of positions held, and locations of assignments. For experience in last ten years, also give types of activities performed and client references, where appropriate. Use about two pages.]

Languages:

[For each language indicate proficiency: excellent, good, fair, or poor in speaking, reading, and writing.]

Certification:

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe me, my qualifications, and my experience.

_____ Date: _____
[Signature of staff member and authorized representative of the firm] Day/Month/Year

Full name of staff member: _____

Full name of authorized representative: _____