



# Global Environment Facility

GEF/C.27/10  
October 19, 2005

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GEF Council  
November 8-10, 2005

Agenda Item 12 (b)

## MANAGEMENT INFORMATION SYSTEM

**Recommended Council Decision**

The Council, having reviewed GEF/C.27/10, *Management Information System*, recognizes the need to establish a reliable management information system to enable the GEF and its partners to improve effectiveness across all areas of GEF business. The Council endorses the proposal outlined in the document for developing a management information system and approves US\$700,000 as a supplementary special initiative to be included in the FY06 Corporate Budget.

The Council requests the Secretariat to report on progress in establishing the Management Information System at the Council Meeting in December 2006.

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## **Introduction**

1. This document is a proposal to the GEF Council to fund the establishment of a web-enabled management information system in the GEF. The new system, centered in the Secretariat, will enable the GEF and its key partners to record project information, analyze project data and generate analytical reports in different formats. The system will enable easy access to all GEF related project information to authorized users at GEF and its key partners. Access to public domain information will also be facilitated.

## **Background**

2. The GEF Secretariat is the coordinating node of the GEF partnership, and supports the Council in: (i) developing and implementing GEF policies and procedures; (ii) reviewing and approving projects; and (iii) assessing and improving performance. GEF is active in more than 150 countries and its activities are carried out through the three Implementing Agencies and the seven Executing Agencies. On an annual basis, nearly \$750 million worth of projects are processed through the system.

3. Over the last few years, in response to Council decisions and guidance, the Secretariat's scope of work has increased across several dimensions: (i) additional focal areas such as land degradation and POPs; (ii) introduction of Executing Agencies under the policy of expanded opportunities; (iii) increased efforts to manage demand for and supply of GEF resources across the different focal areas; (iv) intensified pipeline management to remove non-performing concepts, proposals, and projects; and (v) accommodate variations in project cycles.

4. As GEF-4 approaches, in addition to the above functions, the GEF has to (i) operationalize the Resource Allocation Framework; and (ii) develop a performance monitoring and knowledge management function. In addition, several stakeholders have expressed the need for the GEF to have a transparent project tracking system.

5. Furthermore, to meet the current and anticipated management and tracking needs in the GEF, a reliable Project Information and Tracking System, needs to be established. One of the key recommendations of Third Overall Performance Study (OPS3) was for the Secretariat to undertake a major overhaul of its management information system.

## **Present Situation and Business Case**

6. The GEF does not currently have an adequate management information system befitting the fundamental characteristics of a partnership organization, and to respond to the needs outlined above. In 2001, for the first time, a project database was created at the Secretariat. Over time a database was also established to facilitate Council relations, NGO relations, and to handle GEF sponsored meetings.

7. As the GEF business grows and develops, there are several problems with the existing system of databases:

- (a) it is inflexible – cannot reflect accurately the programming commitments under the different GEF instruments (phases, tranches, strategic partnerships, country partnerships, etc);
- (b) it lacks the ability to provide real-time data links to the website;
- (c) it lacks workflow management ability;
- (d) it is not transaction-based and hence is unable to maintain audit trails of all transactions;
- (e) it cannot interact with the databases of our partner implementing agencies;
- (f) it has very limited data analysis and presentation capabilities;
- (g) it cannot accommodate changes brought on by introduction of the Resource Allocation Framework; and
- (h) it does not adequately address performance monitoring needs of the GEF.

8. Along with the solution of the above mentioned issues, it is essential for GEF to collect comprehensive project information from the Implementing and Executing Agencies to track status of their projects, evaluate performance, conduct portfolio analysis, identify trends and extract lessons learnt. In addition, a robust system needs to be in place for the Trustee, Implementing Agencies and Executing Agencies to be able to exchange project information between their information systems and the Secretariat system. Consequently, it has become imperative for GEF to replace the existing database system with a robust, flexible and user-friendly technical solution that would address its current business needs and also accommodate future growth in a modular manner.

### **Proposed Solution**

9. The Secretariat contracted an external consultant to undertake a detailed needs assessment for a robust management information system at the GEF. (Terms of Reference, attached as Annex A)

10. The assessment included discussions and interviews with Secretariat, Implementing Agencies and Trustee. The consultant provided the Secretariat with the business case (extract in Annex B), and a proposed technical system solution (Annex C). In addition, a detailed User Requirements Document has been prepared by the consultant.

11. The consultant recommends the establishment of a management information system, based on SAP R3 Enterprise Backend (with Oracle Database Server), with web enabled front-end. This technology solution would help GEF leverage the existing development platforms being used at some of its key partner agencies.

12. A web based front end solution provides access to GEF data anywhere in the world, regardless of the hardware platform. It can also provide read access to other stakeholders.

13. Choice of SAP R3 Enterprise Backend will utilize the infrastructure that is already available at the World Bank, and thus would require limited additional capital investments from GEF. In addition, since the World Bank and Trustee both have their management information systems based on SAP R3 Enterprise, this simplifies the issue of information exchange among Secretariat, World Bank and the Trustee.

14. The proposed system, besides providing a reliable framework to exchange project information between the information systems of the Secretariat, the Trustee, Implementing and Executing Agencies and the Office of Monitoring and Evaluation, will:

- (a) enhance transparency, information sharing and better integrate project data with key partners by enabling smooth data exchange and dissemination of important information;
- (b) improve operational efficiency through use of electronic work flow to manage project cycles and track project status in real time;
- (c) provide better real time status reporting and information sharing to facilitate better portfolio management, decision making and performance monitoring;
- (d) provide improved basis for analyzing data, tracking performance indicators, generation of analytical reports and support knowledge management activities;
- (e) be flexible enough to handle different types of projects, changes in project cycles as well as evolving monitoring needs; and
- (f) improve timeliness and cost effectiveness of data collection through automated electronic submissions of project documents such as project proposals, project implementation reviews and terminal evaluation reports.

15. The project information and tracking system will consist of the following key components, which will interface with the Trustee and, as necessary and as feasible, with the Implementing Agencies and Executing Agencies:

- (a) A Project Portfolio Management module supporting project data management for full, medium sized projects and enabling activities, support PDF-A, PDF-B and PDF-C, manage concept/proposals, project reviews and work program inclusions, project appraisals and endorsements, with the following facilities:
  - (i) A facility to track types of projects supporting follow on and tranche projects;
  - (ii) A facility to track project status, track status for each evaluation done, monitor projects and evaluate project performances and record lessons learnt;

- (iii) A facility to record and manage project approvals and endorsements supporting parent and child projects, phased and umbrella projects; and
  - (iv) A facility to track project indicators;
- (b) A Focal Area Management module to record and manage focal areas information and manage tracking tools;
- (c) A Project Cycle Management module to record and manage supply of and demand for GEF resources through the project cycle;
- (d) A Resource Allocation Framework module to provide information regarding funds allocated to projects, focal areas, and countries;
- (e) A Communications Management module to record and manage information about country, focal area, agencies, council etc;
- (f) A search functionality feature to search by key words, Specific areas selection like document references/names, headline, page no, date range, etc;
- (g) A report engine to generate analytical reports in bar chart, pie chart, graphical and tabular representations;
- (h) A Knowledge Management function to store and manage projects' domain knowledge; and
- (i) A document management solution to support the electronic storage of documents.

## Effort & Cost Estimates

16. The total development effort is estimated to cost \$ **700,000**, as follows :

<b>SAP Back end</b> (36 person months):	\$ 430,000
<b>J2EE / Web Enabled Front End</b> (13 p/m):	\$ 130,000
<b>Capital Expenditure and Licenses:</b>	\$ 80,000
<b>Contingency (10%):</b>	\$ 60,000

17. The annual costs of maintaining and operating the system, including any costs of future upgrades, will be requested as part of the GEF Corporate Budget.

18. The process of identifying and contracting a firm to undertake the detailed design and development of the MIS will follow the procurement policies of the World Bank Group, which provides administrative support to the Secretariat.



## **ANNEX A - TERMS OF REFERENCE**

### **NEEDS ASSESSMENT FOR UPGRADING THE MANAGEMENT INFORMATION SYSTEM AT THE GEF SECRETARIAT**

#### **Background**

1. The Global Environment Facility (GEF) is a multilateral financial mechanism created in 1991 to forge international cooperation and to provide grant and concessional funds to recipient countries for projects and activities that address biodiversity loss, climate change, degradation of international waters, land degradation, ozone depletion and persistent organic pollutants within the framework of sustainable development. GEF is open to universal membership, and currently 176 countries are members.
2. The GEF is governed by a Council comprising 32 Members appointed by the constituencies of the GEF member countries. An Assembly of all member countries meets every four years at the ministerial level.
3. Ten agencies are principally responsible for the execution of GEF projects: the U.N. Development Programme (UNDP), U.N. Environment Programme (UNEP); the World Bank Group (IBRD/IFC), the African Development Bank (AfDB), the Asian Development Bank (ADB), the European Bank for Reconstruction and Development (EBRD), the Food and Agriculture Organization of the United Nations (FAO), the Inter-American Development Bank (IDB), the International Fund for Agricultural Development (IFAD), and the U.N. Industrial Development Organization (UNIDO).
4. The GEF Secretariat, located in Washington D.C, services and reports to the GEF Council. It is administratively supported by, but is functionally independent of, the World Bank. It has an annual administrative budget of about \$ 8.3 million a staff complement of professional and ACS staff of approximately 50.
5. The GEF Secretariat is headed by a CEO who is also the Chairman of the GEF Council. The Secretariat comprises the CEO, Deputy CEO, a front office, and six teams, each headed by a Team Leader.

#### **The Assignment**

6. The GEF Secretariat is the lynchpin of the GEF, and is responsible for supporting the GEF Council to (i) develop and implement GEF policies and procedures; (ii) review and approve projects; and (iii) measure performance. GEF activities are carried out through three Implementing Agencies and seven Executing Agencies. On the average, projects amounting to \$750 million are processed through the system every year.
7. The first attempt to create a comprehensive project database for the GEF Secretariat was undertaken in summer of 2001. This database was developed completely in MS Access.

However, as the demands on the database increased, it had to be migrated to SQL Server, where it now currently resides. In terms of current MIS, the GEF Secretariat has a MS SQL Server-based database, with a front end in Microsoft Access.

8. The Secretariat also has one other database which is primarily used for council relations, NGO relations and to handle GEF sponsored meetings.

9. As the GEF business grows and develops, there are several problems with the current databases:

- (a) inflexibility – cannot reflect accurately the programming commitments under the different GEF instruments (phases, tranches, strategic partnerships, country partnerships, etc).
- (b) due to the existence of two separate databases, interaction between the databases uses up too much resources;
- (c) no direct read access to the data on our website
- (d) no workflow management ability
- (e) very rudimentary data security
- (f) not transaction-based and hence is unable to maintain audit trails of all transactions;
- (g) cannot interact with the databases of our partner implementing agencies;
- (h) next-to-nothing analytics to develop data analysis and reporting to support decision making at various levels of the Secretariat.

10. The GEF Secretariat needs to have a robust Management Information System that at the least supports its core business functions:

- (a) project cycle management with work flow elements;
- (b) document processing, with links to IRIS;
- (c) decentralized, but with strong data security;
- (d) flexibility to handle different types of projects and changes in project cycle;
- (e) ability for data analysis, data reporting and archiving;
- (f) incorporate the needs of the GEF Monitoring and Evaluation unit;
- (g) needs of Council relations, country relations, and NGO relations;
- (h) provide real time information for the GEF website; and

- (i) ability to interact with the databases of partner agencies, including Trustee
11. To achieve this goal, the GEF Secretariat is seeking consultant support to provide a report of the initial business and architectural analysis of the technology, information and core business needs of the Secretariat along with the costing for development of a new such system.
12. Specific activities. The consultant would undertake the following tasks on behalf of GEFSEC,
- (a) Interviews - GEF agencies plus Secretariat staff to be interviewed to understand the business processes. The overall requirements and issues need to be identified in this process together with a better picture of current systems being employed;
  - (b) Information Architecture - a high level information architecture including a possible entity-level data model, data flows, integration points and portal interfaces will have to be defined;
  - (c) Business Requirements - working with GEF and ISG staff. document the overall high level business requirements and gaps at a level needed to define the scope of work and cost for a systems implementation program;
  - (d) Business Case - the preparation of a business case for funding including the overall requirements; technical, financial and management feasibilities; and an action plan.
13. The assignment is expected to involve 20-30 consultant days. The consultant would report to Ramesh Ramankutty, Head, Operations and Business Strategy, and work closely with Deepak Kataria, Information Officer at the GEF Secretariat.

## **ANNEX B - BUSINESS CASE**

### **PROJECT MANAGEMENT INFORMATION AND TRACKING SYSTEM**

PREPARED BY: SATYAM COMPUTER SERVICES

#### **EXECUTIVE SUMMARY**

##### **OBJECTIVE**

To replace the current PMIS system with a web enabled Project Information and Tracking system that uses state of the art technology. The new system will enable the GEF and its key partners to record project information, analyze project data and generate analytical reports in different formats. The system will be enable easy access to all GEF related project information to authorized users at GEF and its key partners. Access to Public Domain information will also be facilitated.

##### **BACKGROUND**

The existing PMIS system is an MS Access based system which does not fully cater to the growing business needs of GEF and its key partners. The technical architecture of the current system does not address some critical needs like Security and Data Integrity. The system also lacks the functionality to electronically receive and store/read project and Trust Fund information from key GEF partners and this has an adverse impact on the efficiency of essential GEF operations.

##### **BUSINESS DRIVERS**

It is essential for GEF to collect, or read data as the case may be, comprehensive project information from the implementing and executing agencies to track the project status, evaluate the performance and record the lessons learnt for each project. A robust system needs to be in place for the Trustee, Implementing Agencies and Executing Agencies to be able to exchange project information between their systems and GEFSEC systems. It has become imperative for GEF to replace the existing PMIS system with a robust, flexible and configurable technical solution that would address its current business needs and also accommodate future growth in a modular manner.

##### **PROPOSED SOLUTION**

We recommend the implementation of a state-of-the-art PMIS to enable the stated business objectives. The system would be a J2EE based web enabled system with an SAP R3 Enterprise Backend (with Oracle Database Server). This technology solution would help GEF leverage the existing development platforms being used at some of its key partner agencies.

## **KEY BENEFITS**

New processes and systems will engender the following tangible benefits and help to:

- Enhance transparency, information sharing and better integrate project data with key partners by enabling smooth data exchange and dissemination of important information.
- Improve operational efficiency through use of electronic work flow to manage project cycles and track the aspects of the project status that are controlled by the GEF Secretariat in real time.
- Provide better real time status reporting and information to facilitate better portfolio management and enable the GEF team to better support core project cycles and make quicker decisions by Analyzing data, Generating analytical reports and Managing the Knowledge base more effectively.

## **IMPLEMENTATION TIMEFRAME**

- Prototyping and design: January 2006 – June 2006
- Configuration and Development: July 2006 – October 2006
- Integration and Testing: November 2006 – February 2007
- Deployment, including data migration and reconciliation: March 2007-June 2007

## **RISKS**

- IAs and Trustee are not able to provide periodic project related information on a pre determined schedule.
- GEF Sec is not able to provide information to the IAs and Trustee in a timely manner and in an appropriate format.
- Policy changes in GEF impact business processes causing system re-design issues.
- Scope creep with additional/change in functionality.
- Data Cleanup and Migration is necessary across Trustee, IAs and GEF Sec before a cut over to the new system.

## **RISK MITIGATION PLAN**

- To simplify business processes and to ensure conformance with best practice, policy changes will be identified as part of the “to be” process design
- Stakeholders will be closely associated with the project during its life cycle. A steering committee comprised of key stakeholders will be constituted and will participate in regular design and status meetings during the course of the project.

## TABULAR SUMMARY

Business Objective/ Driver	IT Enablers	Benefits	Key Implementation Steps
Need for more flexible project information and tracking system to record and track project status by the implementing and executing agencies.	Project Information and Tracking system may be used extensively to record and manage project data.	Potential ability to integrate project data with other key partners data for real time and comprehensive reporting.	Mapping the current “as is” business process followed by the “to be” process
Need for Secured data exchange between GEF and its key partners.	The Project Information and Tracking system design will ensure system data security and integrity.	Secured system will help in data security and integrity.	Preparing a high level prototype of project information and tracking system screens and functionality
An increasing need for an MIS system to store project information and generate analytical reports for the GEF management to track status and evaluate project performance.	The Project Information and Tracking system will include an end to end electronic workflow and integrated business processes.	Electronic workflow will enforce adherence to process, proper sequencing of the project cycle and will ensure that the appropriate data is entered and stored in the system.	Designing, developing and implementing the new system through an iterative process.
Potential internet portal to present integrated information in one place for GEF, its key partners and public domain.	An up-to-date technical platform using strategic hardware and software systems including internet-based technology will be implemented.	User friendly interfaces with defined workflow management enabling the users to spend minimal time to record project information and generating analytical reports for decision making.	Proper change management and process training to end users followed by Integration testing and cutover.

## **ANNEX C - TECHNICAL SOLUTION FOR GEF – PMIS**

The key goal of the application is to provide an optimal solution for the business requirements of GEF and address all the pain areas of the main business units with minimal ground up development.

### **Applications**

The system will broadly comprise of the following suite of applications

1. System Administration
2. Communications Management
3. Reviews
4. Monitoring & Evaluation
5. Project Cycle Management
6. Resource Allocation
7. Program Management
8. Portfolio Management
9. Document Management

The applications will be built on a three tier architecture. The technical Architecture has the following components:

#### **Presentation Layer [Tier I]:**

A Portal, which is the user interface, will be built for the selected users to log in and manage projects. The Portal would enable the GEF business users and its key partners to access the system and track project information. The Portal will be built and deployed using a robust J2EE (Java 2 Enterprise Edition) framework. The focus will be to build reusable components that exploit the services the J2EE platform provides via its component containers. "Struts", the Java/JSP-based framework will be used to build the system that adds a flexible control layer along with standard technologies like servlets and JavaBeans components. This will be done wherever the presentation is to be done through the web. In all other cases the screens would be developed in SAP for GEFSEC internal needs.

#### **Business Logic/workflow Management Layer [Tier II]:**

The underlying business components for the complete suite of applications will be built in World Bank's SAP R3 platform to provide an integrated system for GEFSEC and the GEF Trustee. The complete business rules, validations and the user input screens will be built in the proprietary ABAP workbench of SAP. The java web forms will call these business components remotely wherever the applications are to be web enabled.

#### **Oracle database: [Tier III]**

The data would be housed in SAP's backend Oracle database at the World Bank, and updated periodically with the GEF Agencies through interfaces.

**Application/Web Server:** SAP application server will be used for all business components and SAP presentation layer. WebSphere Application Server or SAP net weaver technology would be used as a web server and the complementary technologies of Web logic or Enterprise portal will be used for the portal.

**Operating System:** World Bank's AIX operating system for SAP will be used.

**Secured Data Transfer Protocols:** Keeping in mind the significance of data transfer between GEF and its key partners, the system will be facilitated with secured data transfer protocols to engender the following benefits:

- Enable secure file exchange and sharing,
- Ensure the security and integrity of the information,
- Easily integrate into business processes,
- Ensure secure delivery over Internet connections,

User authentication will be secure.