

EVALUATION REPORT

OF THE

PROGRAMME ON

**“ENVIRONMENTAL
MANAGEMENT IN HOSPITALS
AND SCHOOLS”**

JULY 2007

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PROGRAMME OF ENVIRONMENTAL MANAGEMENT IN HOSPITALS AND SCHOOLS

We, the undersigned members of the evaluation panel, are pleased to present to the UNDP our final Evaluation Report of the Programme on “Environmental Management in Hospitals and Schools”:

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31 July 2007

ABBREVIATIONS AND ACRONYMS

EMHS- Environmental Management in Hospitals and Schools

EMS - Environmental Management Systems

GOJ - Government of Jamaica

MOH -Ministry of Health

MCST -Ministry of Science Commerce and Technology

PCJ -Petroleum Corporation of Jamaica

PIOJ -Planning Institute of Jamaica

UNDP -United Nations Development Programme

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Table 1	Training and Workshop for Hospitals Maintenance Staff
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1.0 EXECUTIVE SUMMARY AND RECOMMENDATIONS

This document comprises the final evaluation report for the Programme of Environmental Management in Hospitals and Schools (EMHS).

The purpose of this formative evaluation was to stimulate discussion and inform decisions with regard to the future of the EMHS. Should it be recommended that the programme continue the results of the evaluation and lessons learned would contribute to the updating of the National Energy Plan, which will provide inputs into the formulation of an updated National Energy Policy.

The aim of the programme of Environmental Management in Hospitals and Schools is to increase energy efficiency and improve water management in public schools and hospitals in Jamaica. This evaluation sought to ensure that lessons learned from the project would be recorded and recommendations made can be used to institute improvements to future project design and planning, future courses of action and any follow-up activities for sustainability.

Under this project, walk-through energy audits have been conducted in seventeen (17) Hospitals and eight (8) Schools, full-scale energy audits in five (5) Hospitals including four (4) workshops for capacity building and maintenance training for hospital staff in Jamaica. Additionally training in Environmental Management Systems (EMS) should take place to ensure that a culture of continual improvement in efficiency of energy and water use would be implemented within the institutions.

Some audit recommendations have been implemented in four of those Hospitals, which include procurement and installation of Solar Water Heaters. Savings accrued by better management of the energy and water bill could best be used to improve maternal and child care in the relevant institutions.

The Government of Jamaica has agreed on the need for a new paradigm for the efficient environmental operations and management of Jamaica's Hospitals and Schools, especially in rural areas in order to inform policy and practice in implementation of Environmental Management Systems through technological development and institutional change as well as the design of appropriate institutional frameworks to support such processes and practices.

The evaluation panel reached the following conclusions in assessing the concept and design of the project and in evaluating the implementation of strategies and action plans:

- The EMHS programme was a well thought out project in what it set out to achieve. However, some of the activities scheduled were incomplete as some reports on walk-through energy audits at some schools were not available for review.
- Of the four hospitals selected for installing Solar Water Heaters only one was completed and in use. The proper piping systems at the other three (3) were not in place through lack of funds.
- Feedback from stakeholders and beneficiaries indicate that some were aware of the project while some not. The recommendations need to be fully implemented especially in hospitals and schools, island wide.

Conclusions and Recommendations:

There is widespread agreement on the need for conservation of energy and water use in hospitals and schools across the island in order to achieve cost savings that could be put to realising new and other important projects such as improvement in maternal and child care in the relevant institutions.

2.0

PURPOSE OF THE EVALUATION

The purpose of this evaluation was to stimulate discussion and inform decisions with regard to the future of the EMHS programme. In general the overall purpose of the evaluation was to learn from the project implementation so that lessons can be drawn that can be the basis for instituting improvements to future project planning, design and management.

This would also contribute to the updating of the National Energy Plan, which will provide inputs into the formulation of an updated National Energy Policy.

3.0

METHODOLOGY AND APPROACH

The evaluation process was conducted over a period of twenty-five days. The process entailed a review of project documentation provided by the UNDP coordinator and the PCJ project manager. Openly transparent interviews were held with key stakeholders of hospital and school executives and maintenance staff, focus groups and project beneficiaries as well as selected field visits to fourteen participating hospitals and six schools, and the writing of the report.

4.0

BACKGROUND

The Government of Jamaica is giving increased attention to energy efficiency improvement and water conservation in hospitals and schools. This is because public sector electricity bill increased from US\$52.2 million in 2002 to US\$64.2 million in 2003, of which hospitals accounted for approximately 9% of public sector energy usage. These institutions also consume significant amounts of water in their day-to-day activities. As a result, there is an impetus to enhance energy efficiency and water management in hospitals and schools. The government will benefit from the

implementation of this project by having reduced fuel bill and fewer requirements for foreign exchange to purchase fuel.

4.1 Programme Objective

The main objective of the Programme on Environmental Management in Hospitals and Schools is to increase energy efficiency and water management, in a manner that would promote sustainable use of these resources and provide a framework within which the public sector can achieve their goal of reducing energy consumption.

4.2 Implementation

The Programme was implemented in two phases:

- 1) **Phase I** – This phase entailed the implementation of several energy efficiency and water management measures at four (4) Hospitals, namely, Bustamante Hospital for Children, Cornwall Regional, the Princess Margaret and the St. Ann’s Bay Hospitals. These four (4) hospitals formed part of a demonstration effort.

- 2) **Phase II** – Energy audits were conducted for eight (8) schools and seventeen (17) hospitals and retrofitting in these institutions. This phase also included training and capacity building in preventative maintenance and development of key staff with the expertise to maintain the systems.

4.3 Programme Status

To date, the energy audit reports for the seventeen (17) hospitals have been completed and submitted to the Regional Health Authorities and to the participating hospitals. Of the seventeen (17) hospitals, three (3), namely Percy Junior, Black River and Lionel Town Hospitals, energy efficiency measures – solar water heating systems were installed. These systems will supply hot water to the laundries, kitchens, operating theatres, and various wards of these hospitals. However, only one (1) of the solar water heating system is currently operating, the Percy Junior Hospital. The remaining two (2) are experiencing

difficulties because of archaic piping systems at these institutions and lack of funds for the new piping system. The funds were underestimated for those projects.

Several solar water heaters and water conservation measures were also implemented at the Cornwall Regional Hospital (forms part of demonstration initiative from which other hospitals will be modelled). The installation of the solar water heaters is slated to be completed July 2007. The Hospital has seen a reduction in water consumption since the implementation of the recommended water management measures.

Training and capacity building in preventative maintenance for hospital staff, which forms part of the EMS in these institutions, have started. The participants received training on the use of CWorks Plus, Computerized Maintenance Management Systems (CMMS). This is software that is designed to improve management and maintenance. All four (4) scheduled training sessions have been completed as summarized in Table 1.

Table 1 Training and Workshop for Hospitals Maintenance Staff

Date	Regional Health Authority	Location of Training	Number of Participants
14-June-07	Western Health Authority	Cornwall Regional Hospital	Fifteen (15)
19-June-07	Southern Health Authority	Mandeville	Twenty (20)
21-June-07	North-East Health Authority	Ocho Rios	Sixteen (16)
29-June-07	South-East Health Authority	Bustamante Hospital for Children	Sixteen (16)

Energy audits for eight (8) Educational Institutions were conducted, however, only one of the report has been completed and submitted to the Petroleum Corporation of Jamaica (PCJ) for review. The completed energy audit report is for St. George’s College. In addition, three (3) audit executive summaries for Half Way Tree Primary, Mona Preparatory and Shortwood Teacher’s College, were also submitted to PCJ. The remaining four (4) audits are outstanding. However, the consultant is expected to submit the other reports the week of the July 1, 2007. No implementation of the recommended efficiency measures has taken place.

5.0

EVALUATION

In 1998 Jamaica imported 22.9 million barrels of oil valued at US\$314.4 million and by 2003 the country imported 27 million barrels valued at US\$813 million. Over the five-year period (1998 to 2003) the overall increase in the quantity of imported oil was 17.9%, while the overall increase in the value was approximately 158.6%. The average price of oil went up from US\$13.7 per barrel in 1998 to US\$30 per barrel in 2003, an overall price increase of approximately 119%. Furthermore, Table 2 summarizes Jamaica's energy bill, 2004 to 2005. From the table it can be seen that the value of oil has progressively increased over the three (3) year period.

Table 2 Value of imported Oil and Volume in Jamaica, 2004 to 2006

Year	Imported Petroleum Volume ('000,000 bls)	Value (US\$ million)	Avg price (\$/bls)
2004	26.1	943.4	36.15
2005	26.2	1.3 billion	49.62
2006	28.1(approx.)	1.7 billion (approx.)	59.72(approx.)

Source: Petroleum Corporation of Jamaica

These statistics give an indication of Jamaica's energy problem and its dependence on imported energy, which has reached crisis proportion for the economy and is impacting dramatically on the country's macroeconomics situation. The high import bill has adversely affected Jamaica's exchange rate and inflation levels.

5.1 Project Concept and Design

In addressing the problem identified above, there was an increased momentum by the Government of Jamaica to reduce public sector energy consumption. To address energy efficiency and conservation in the public sector, a programme of environmental

management in hospitals and schools was developed. This programme forms the core concept for this project. To be effective and achieve the aforementioned objectives, the programme was designed and implemented into two phases (see section 4.2). Additionally, work plans were designed from July 2005 to June 2007 to highlight expected outcomes of the programme and the time frame within which these outcomes would be achieved. The work plans designed for both Phase I and II were categorized into activities. A flaw of the work plan, however, is that there was lack of consistency in the currency used, that is, there was an interchange between Jamaican and United States of America currency. As such, the work plan does not give an accurate indication of the cost savings over time due to the fluctuation in the foreign exchange rate.

Phase I

This phase started April 2005 with four (4) activities, but is still on- going as it has been extended.

- **Activity 1-** The procurement and installation of solar water heaters at Cornwall Regional Hospital, which was earmarked for completion December 2005, will be completed July 2007. On the other hand, water conservation measures have been implemented and the institution has seen results in terms of cost savings.
- **Activity 2 –** The energy audits as of December 2005 were originally for five (5) Hospitals and two (2) Educational Institutions as well as one- day energy surveys for 19 Hospitals. However, this was changed October 2006 to full scale audits for 5 Hospitals and walk-through energy audits for 17 Hospitals. All the reports of the audits to date have been completed and submitted.
- **Activity 3-** The acquisition of Energy Model Software for training and capacity building of hospital staff was achieved. Nonetheless, actual training of hospital personnel was completed in Phase II.

- **Activity 4** – Impact evaluation on data collection, analysis and forecasting was completed and the final report was submitted to PCJ in February 2007. This activity was completed in Phase II. The findings are being used to guide development of the national energy policy for Jamaica.

Phase II

The main thrust of Phase II was the continuation of some of the projects that were initiated under Phase I. Phase II was slated for implementation January 2006 but started April 2006 due to funding. The end date for this phase was April 2007 but still on-going.

- **Activity 1** - The Energy Market End Use Survey, which began in Phase I continued into Phase II and is now complete. Additionally, there were two (2) stakeholder consultations with the Ministry of Health and Regional Health Authorities, November 2006. The findings of the energy audits and investment package were presented. The stakeholders also received copies of the audit reports. PCJ had consultations with Permanent Secretary Board and the Cabinet Secretary, January 2007; however, PCJ has not received any feedbacks.
- **Activity 2**- Energy audits for eight (8) Educational Institutions were conducted, however, only one of the reports has been completed and three (3) executive summaries were submitted to the PCJ. This has arrested the development of the energy efficiency investment plan for the educational institutions.
- **Activity 3**- Training and capacity building of key personnel has started. The progress of this activity is summarized in Table 1.
- **Activity 4**- The design and implementation of three (3) energy efficiency measures were achieved. Percy Junior, Black River and Lionel Town Hospitals benefited from this initiative. The documentation of lessons learned and best practices forms the basis of this report. However, there is little or no

documentation of lessons learned and best practices because the implementations are incomplete.

Budget

In an interview with Mr. Conroy Watson (June 14, 2007) of the Ministry of Information, Technology, Energy and Commerce, noted that a budget was presented for energy conservation measures. However, Mr. Watson alluded to the fact that the Ministry is experiencing difficulties as the funding were under-estimated for solar water heaters and air conditioning systems.

Ecological Technologies Limited indicated that the estimated figures for the efficiency measures were realistic at the time the audits for the hospitals were conducted. Nevertheless, due to inflation of foreign exchange rates, the current costs would be increased by 10%-15% (Interview Maikel Oerbekke 25 June, 2007). The percentage increase in cost can be attributed to increase in transportation costs. An exchange rate of *JA \$64: US\$1.00* was used for materials and labor but the exchange rate is now *JA \$67: US\$1.00*.

Appropriateness and Obtainability of Project Objectives

With the overall 336% increase in the price of oil from 1998 to 2006, the Programme of Environmental Management in Hospitals and Schools was warranted and deemed appropriate. The main objectives of the programme were described in subsection 4.1. However, the obtainability of the recommended energy efficiency measures to achieve the project's objectives present many challenges such as funding.

5.2 Project Implementation

Since the launch of the Programme of Environmental Management in Hospitals and Schools, implementation of several energy efficiency measures has taken place (see Plates 1-4). The four hospitals that have benefited so far are Cornwall Regional, Black

River, Lionel Town and Percy Junior Hospitals, as illustrated in Table 3. However, the solar water heaters at Lionel Town and Black River Hospitals are not functional as both institutions require approximately JA\$800,000 to replace antiquated piping systems that are not compatible with the new water heaters (Interview David Blissett 22 June, 2007). At Cornwall Regional Hospital the installation process has just begun.

Table 3 Implementation of Energy Efficiency Measures

Hospital	Efficiency Measures
Black River	Solar Water Heaters
Lionel Town	Solar Water Heaters
Percy Junior	Solar Water Heaters
Cornwall Regional	Solar Water Heaters and Water Conservation Project.

From numerous interviews with the parties involved at the various hospitals, especially those who have benefited from the implementation of the efficiency measures confirmed that this was done at the right time. This is because the project has afforded the hospitals many positive spin offs in terms of cost savings and improvement in the quality of services offered. Moreover, the integrated nature of the programme will allow for its continued sustainability.

Other benefits emanating from the implementation of the programme include training and capacity building in preventative maintenance. This activity was not only effective but will allow hospitals across Jamaica to be more efficient and competent in their day-to-day operations.

The implementation of the energy efficiency measures, managed by the Project Manager, PCJ submitted quarterly reports, highlighted the progress of the programme. These reports allowed for transparency and management of the project. Moreover, though some of the scheduled activities for the work plans for Phase I and II were not completed in the time frame specified, the work plans can be considered to be effective as it permitted the assessment of what needed to be done and setting of new targets. Noteworthy of mention

is that a number of the stakeholders and beneficiaries interviewed were not fully aware of the Programme. This is partially due organizational changes within ministries and other organizations involved.



Plate 1

The first of a three stage installation process of Solar Water Heaters at the Cornwall Regional Hospital. The installation is expected to be complete July, 2007.



Plate 2

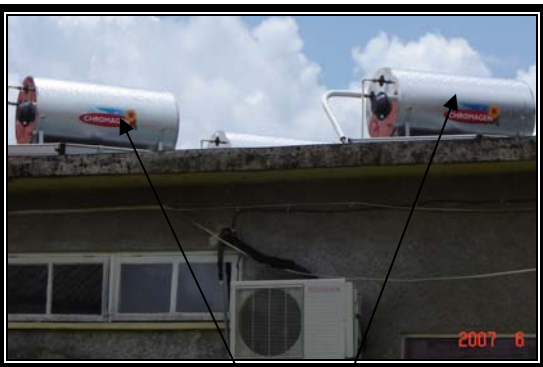


Plate 3

Solar Water Heaters installed at Lionel Town Hospital but no funds for piping.

Solar Water Heaters servicing the Male Ward at Percy Junior Hospital.



Plate 4

Solar Water Heaters installed to serve the Laboratory at Black River Hospital. However, the heaters are not functional as the hospital needs approximately JA\$400,000 for piping.

5.3 Project Output and its Impact

This project was developed to address energy efficiency and conservation in Hospitals and Schools. Four hospitals were chosen to become part of a demonstration effort in implementing efficiency and conservation, and to develop an energy efficiency programme for the remaining hospitals, including a number of educational institutions.

The immediate result of implementation would be a reduction in energy and water consumption and costs for pilot hospitals and schools, which would have allowed funds previously used to provide utilities to be used to increase the quality of the facilities for health-care and education delivery within the institutions.

In order to ensure sustainability, Activity 3 was incorporated in the work plan for training and capacity building to ensure that the Regional Hospital Boards put in place a system of preventive maintenance and develop key staff with the expertise to maintain the systems. To this end several training workshops have been conducted and well received. (See Section 4.3 and Table 1.).

Although walk-through energy audits were conducted for 17 hospitals and 8 schools, the reports on the hospitals have been completed and disseminated, but the reports for the schools are incomplete. As such, nothing yet has been done for the schools.

Case Study- Cornwall Regional Hospital

In an interview with Mr. Ramsay (14 June 2007), Maintenance Supervisor at the Cornwall Regional Hospital noted that the hospital has observed some positive outputs and impacts of the Programme. Since the implementation of the water conservation project consisting mainly of repairs to leaking pipes and fitting and replacement of conventional toilets to water saving models, the hospital has seen improvements. Examples of the improvements include:

- Reduction of water consumption by 12.4%
- Achieved cost savings of 4%

The target for cost savings in water consumption as stated in the project document is 10% to 15%. It can be seen that if the other recommended measures are implemented, then the Cornwall Regional as well as the other Hospitals in Jamaica can achieve this objective.

In terms of the impacts of the solar water heaters, no documentation is available as the system is still being installed. It should be noted, however, that the target for energy cost reduction is 25% to 30%.

5.4 Project Relevance and Effectiveness

The Programme of Environmental Management in Hospitals and Schools can be considered to be relevant in the various communities in which they are located. This is because the communities will be provided with better services, for example the availability of hot water and improved sanitation. Additionally, with the implementation of EMS, this will allow for better control on the disposal of waste and other hazardous materials at the respective hospitals so as to ensure public health and safety.

5.5

Lessons Learned

Several lessons can be learnt from the Programme of Environmental Management in Hospitals and Schools. From the evaluation of the programme the following lessons can be learned:

- The project needs proper funding to achieve the required objectives of the programme
- Hospitals and Schools can make significant cost savings if the recommended conservation measures are implemented (case study of Cornwall Regional Hospital)
- Hospitals as well as the Schools should adopt a system of documentation so that future best practices can be disseminated
- The Programme has the potential to move beyond Hospital and Schools to become an island-wide initiative to sensitise and educate the public on conservation measures.

5.6

Recommendations

The following recommendations can play a pivotal role in enhancing and improving energy efficiency in hospitals and schools. These include:

- Completion and review of the energy audits for the participating schools and implementation of the recommendations. Additionally, expanding the programme to incorporate all schools across Jamaica.
- Hospitals and Schools through self-initiative could organize fund-raising events to gain a percentage of the capital to implement the efficiency measures recommended. This is of paramount importance because as noted earlier, funding is a major obstacle.
- The training and workshops on capacity building and sustainability should also be conducted for schools. This could perhaps include the establishment of an energy committee where students would be a part of this initiative as children are the best ambassadors of change.

- A programme of sensitisation of staff in both hospitals and schools to build awareness on the importance and necessity to conserve the available resources. This could take the form of posters and stickers on light switches.
- The integration of the private sector is also important to support the initiatives in the hospitals and schools.
- The GOJ could ensure that in their procurement of the necessary equipment(s) should purchase in bulk in order to gain substantial discounted costs on large orders.
- Government procurement should purchase quality (not cheap) electrical/electronic equipment that can cope with the vagaries of voltage fluctuations and meets or exceeds the standards.

5.7

Conclusion

The overall concept and design of the Programme of Environmental Management in Hospitals and Schools is not only appropriate and imperative but could be a driving force of change. This is extremely important at a time when the price of oil is skyrocketing and Jamaica's dependence on imported energy, which has reached crisis proportion, has adversely impacted on the country's macroeconomics situation. The high import bill has adversely affected Jamaica's exchange rate and inflation levels.

Moreover, the launch of the programme is logical and coherent in terms of the expected outcomes and the long-term sustainability. This long-term sustainability is important to Jamaica achieving Millennium Development Goals four (4) and five (5)- enhancing maternal and infant healthcare. However, the lack of available resources has in some instances delayed and/or could impede the successful implementation of the energy efficiency measures. Increased attention should therefore be given to the different methods through which funding can be provided.

Annex 1

HOSPITALS AND SCHOOLS VISITS

List of Persons Interviewed June 18-22, and July 3, 2007

Date	Locations	Interviewer	Person Interviewed
Monday 18 th	1.Sir John Golding Rehab.	MikeRod	Judith Whitter (CEO) & Roy Powell
	2.Mona Prep School	“	Jullian Richards (Admin)
	3.National Chest Hospital	“	Haisle Waite (CEO)
	4.St. Georges College	MR/LP	Margaret Campbell (Principal)
	5.Shortwood Teachers College	Leiska Powell	Mr.Tomlinson (Artisan)
	6.HWT Primary School	“	
	7.Belvue Hospital	MR/LP	Hugh Porter (CEO)
Tuesday 19 th	1.Lionell Town Hospital	MR/LP	Beverly Douglas (CEO)
	2.May Pen Hospital	“	Carlton Grant (Maintenance Supervisor)
	3.Percy Junior Hospital	“	Mr.Jones (Artisan)
	4.Chapleton Hospital	“	
Wednesday 20 th	1.Spanish Town Hospital	MR/LP	David Dobson (CEO)
	2.Linstead Hospital	“	Helen Brooks (CEO)
	3.Dinthill Technical High School	LP	Mr. Clarke (Principal)
	4.Ocho Rios high School	MR/LP	Mrs. McIntyre (Principal)
Thursday 21 st	1.Issac Barrant Medical Center	MikeRod	Winsome Wildman (SPHI) & Ms Hemmings(Cashier) Gerald Johnson (Artisan)
	2.Port Antonio Hospital	“	Sister Bennett (Snr. Nurse)
	3.Buff Bay Hospital	“	Gary Francis (CEO)
	4.Annoto Bay Hospital	“	
Friday 22 nd .	1.Black River Hospital	MR/LP	Mr. Hastings (Operations Manager)
	2. Mandeville Hospital	“	David Blissett (Maintenance Manager, SRHA)
Tuesday, 3 July 2007	1. Bustamante Children Hospital	MR	Henry Anglin (Administrator)

Focus Groups

NAMES	TITLE/POSITION	ENTITY
Claon Rowe	Project Engineer	PCJ
Conroy Watson	Director of Energy	Min. Commerce & Technology
Howard Lynch	Director Policy, Planning & Development	Ministry of Health
Lauriston Wilson	Director Technical Services	Min. Education & Youth
Claudius Ramsey	Director Ops & Maintenance	Western Region Health Authority
Maikel Oerbekke	Consultant	Ecological Technologies
Eaton Houghton	Consultant	Caribbean ESCo
David Blisset	Maintenance Mgr	Southern Region Health Authority

Annex 2

INTERVIEW QUESTIONS

FOCUS GROUPS

1. Did you participate in the initial focus group meetings on the Programme for Environmental Management in hospitals and schools?
2. Did you receive any reports on the progress of the programme?
3. (If yes), What recommendations, if any, were made by this organization?
4. What recommendations have been implemented by your organization?
5. Did you participate in the workshop and public consultation on energy efficiency with stakeholders?
6. What was your overall input in this project?

HOSPITALS/SCHOOLS

1. Are you aware of the Programme of Environmental Management in schools and hospitals?
2. Do you know if Energy Audits were conducted for this institution?
3. Did you receive a copy of the Energy Audit?
4. Were any of the recommendations in the Energy Audit, implemented?
5. (If yes), When? and what energy efficiency measures were installed?
6. When was training/workshop of the maintenance personnel and capacity building conducted?
7. What were the outcomes of this workshop?
8. Are there any improvements in energy efficiency since the implementation stage?
9. What lessons have been learnt from this project?

Annex 3

References

1. Phase 1. Hospital Audits
2. Walk-Through Hospital Audits
3. Energy TTF Jamaica Project
4. Final Version UNDP-PCJ Hospital Project
5. Investment Package Report
6. Quarterly Reports/Work Plans
 - a. July-December 2005
 - b. January-December 2006
 - c. January-March 2007
7. UNDP Annual Report – Hospital Programme Phase1. 2005

Annex 4

Evaluation Work Plan

UNDP Programme of Environmental Management in Hospitals and Schools

Project Title: Programme of Environmental Management in Hospitals and Schools				Start Date: June 1, 2007
				Target Finish Date: July 5, 2007
Principal Organization: UNDP				
Project Definition: The objective of the Project is to increase energy efficiency and improve water management of Hospitals and Schools in Jamaica. The overall purpose of this Evaluation is to learn from project implementation so that the Lessons Learned can be the basis for Improving future project planning, design and management.				
Task	Evaluation Task/Activity	Start Date	Finish Date	Results (Issues & Concerns)
1	Evaluator Briefing	01/06/2007	07/06/2007	
	Review Project Document	04/06/2007	15/06/2007	Current status quarterly reports
	concept and design			Annual project progress reports
	implementation			Programme workplan/approved activities
	output and its impact			
	relevance and its effectiveness			
2	Site Visits (Hospitals & Schools)	11/07/2007	22/06/2007	Arrange for visits and interviews
	Interviews (Stakeholders/ Beneficiaries)			Contact list
	Focus group discussions			Contact list
3	Draft Report		26/06/2007	Copy of UNDP Guidelines for
	Lessons learned			Evaluation Reports.
	Sustainability			Draft report to be discussed with UNDP
	Gaps/Opportunities			PMU
	Recommendations			
	Adjustments			
4	Final Report		05/07/2007	Tripartite review of report for approval

Annex 5

Terms of Reference



United Nations Development Programme

PROJECT EVALUATION

TERMS OF REFERENCE

PROJECT TITLE: PROGRAMME OF ENVIRONMENTAL MANAGEMENT IN HOSPITALS AND SCHOOLS

PROJECT NUMBER: 00043276

BRIEF DESCRIPTION:

The objective of Environment Management in Hospitals (ATLAS 00043971) project is to increase energy efficiency and improve water management in public schools and hospitals in Jamaica. Under this project, energy audit will be conducted in all the Hospitals in Jamaica and a representative sample of schools. Audit recommendations will be implemented in those hospitals and schools in the poorest areas of the country. Savings accrued by better management of the energy and water bill will be used to improve maternal and child care in the relevant institutions. Along with this, training in Environmental Management Systems (EMS) will take place to ensure that a culture of continual improvement in efficiency of energy and water use will be implemented within the institutions. The lessons learned from this project will contribute to the updated Energy Plan, which will provide inputs into the formulation of an updated National Energy Policy. Dissemination of these lessons will be facilitated by a series of dialogs and consultations. The process of consultation should also identify the capacity gaps that are required for planning and implementation of the energy policy.

Implementing agency or Government Counterpart: Petroleum Corporation of Jamaica, a division of the Ministry of Science Commerce and Technology

Executing agency: UNDP Jamaica

Total project budget: US\$ 515,000

EVALUATION PURPOSE:

The evaluation should assess the project from its commencement through to the end of April 2007.

The consultant evaluator is required to undertake a thorough evaluation of the following aspects of the project:

- Project concept and design
- Project implementation
- Project output and its impact.
- Project relevance and effectiveness

The evaluation seeks to ensure that lessons learned from the project will be recorded and recommendations made that speak to future courses of action and any follow-up activities for sustainability.

In general the overall purpose of the evaluation is to learn from the project implementation so that lessons can be drawn that can be the basis for instituting improvements to future project planning, design and management.

Project concept and design

In assessing the project concept and design the evaluation should review the problem addressed by the project and the project strategy. This should encompass an assessment of the appropriateness and obtainability of the project objectives – in the light of activities outside the project - and of planned outputs, activities and inputs as compared to cost effective alternatives. An evaluation of the executing modality and managerial arrangements is integral to this process.

The evaluator is also required to determine the appropriateness, quality and cost effectiveness of the Situation Analysis and the Outcome Indicators, and to review the project work plans, the project timetable and the budget. An analysis of the clarity, logic and coherence of the project document should be provided for.

Implementation

The evaluation should assess the implementation of the project in terms of quality and timeliness of inputs, with a view to determining the efficiency and effectiveness of activities carried out. The evaluator is also required to assess the effectiveness of co-ordination and management as well as the quality and timeliness of monitoring by all parties to the project.

Project Outputs and Impact

The evaluation should assess the outputs and impact achieved or expected to be achieved by the project, as well as the likely sustainability of project results, where applicable. This should encompass an assessment of the achievement of the immediate objective(s). If the project has had significant unexpected effects, whether of a positive or negative

nature, these are also to be assessed.

Project relevance or effectiveness

The evaluator should review effectiveness of project in the communities in which they are located, as well as examine how the project has become relevant to today's disadvantaged youth.

Recommendations

Recommendations may be made by the consultant, as appropriate. Proposals should outline concrete action, which could be taken in the future to improve or rectify undesired outcomes. Given that this is a pilot project, such proposals should take into account that the project may be considered for replication, and/or a continuing phase. Recommendations may include issues pertaining to the management and/or implementation of the project.

Lessons Learned/Best Practices

The consultant is required to document lessons learned from the project, especially those that have a context for application beyond the project as well as any good practices.

DOCUMENTATION:

The main documentation related to the project is to be found in Annex I. In addition, the project file will be made available to the consultant for review.

EVALUATION METHODOLOGY:

The evaluator is required to undertake a desk review of the main project documentation contained in the Annex, as well as other relevant documents issuing from the project.

The evaluator is also required to hold interviews with key stakeholders, and to visit all focal points involved in order to conduct focus group discussions and/or one-on-one interview with project beneficiaries.

RESPONSIBILITY FOR EVALUATION:

Excellent writing skills, at least a University degree or equivalent in engineering, energy management or a related field to at least the masters level; ten years working experience in Energy management or provision or a related field; and experience in preparation of project evaluations. Previous experience/familiarity with the UN system is an advantage.

The candidate should be highly motivated and capable of working independently. Ability to work with a wide variety of people from governments, agencies, NGOs, and research institutions is essential. A good understanding of the institutional framework is highly desirable.

In addition the consultant should have:

- Training in project management;
- Facilitation skills and experience;
- Demonstrated ability in managing and supervising project activities;
- Strong communication skills (verbal and written);
- An openness to a fully participatory and consultative approach to project implementation; and
- Computer skills including a working knowledge of Word, Power Point Excel and Microsoft Projects.

In conducting this evaluation the evaluation consultant will not act as a representative of any party, but is required to use his/her independent judgment in determining the findings.

BRIEFINGS, CONSULTATIONS AND ADMINISTRATIVE SUPPORT

Upon commencement of the evaluation, UNDP Jamaica will brief the evaluator and furnish him/her with the project document and any background documentation that is available. The evaluator is not authorised to make any commitments on behalf of UNDP with any parties concerned.

The project co-ordinator, under the guidance of the Manager, is responsible for liaising with the evaluator, and for providing a briefing and the documentation at the outset of the evaluation. The project coordinator will assist the evaluator in arranging stakeholder interviews, etc.

The project co-ordinator will furnish the evaluator with an up-to-date status of the project in terms of outputs (to be) produced, activities (to be) implemented and inputs (to be) procured. A recent project progress report may be substituted for this status.

DELIVERABLES:

In undertaking the evaluation, the consultant evaluator will be required to provide the UNDP project management unit with:

- (1) A detailed work plan, showing a schedule of (a) interviews with key stakeholders and (b) focus group discussions and/or one-on-one interview with project beneficiaries.

Payment Terms: 30% payable within 14 working days from submission and approval of the work plan.

- (2) A draft report which thoroughly documents the evaluation exercise, highlighting in particular the key lessons learned, issues for sustainability, identifies the gaps or opportunities which impacted on the achievement of the desired objectives of the project, and makes recommendations for corrective measures and continued work in this area.

Payment Terms: 30% payable after submission of draft report.

The evaluator will follow the UNDP Guidelines for Evaluation Reports (Annex II). The evaluator undertakes to discuss the draft evaluation report with the UNDP project management unit and to make subsequent adjustments, if required.

(3) A final report which takes into account the required adjustments.

When the final draft is submitted, UNDP will distribute copies to the other stakeholders of the project for discussion and review during the Tripartite Review meeting where conclusions and recommendations on the outcome of the evaluation will be made.

Payment Terms: 40% payable within 14 working days from submission and approval of the final report.

TIMETABLE:

The consultancy will be carried out from 1 June to 5 July 2007. The Final Report is to be submitted by 5 July 2007, upon completion of the overall review.

PAYMENT:

The consultant will be remunerated for the provision of these services with a lump sum not exceeding USD 7,500.00 for the duration of the assignment.