



United Nations Development Programme
GLOBAL ENVIRONMENT FACILITY



Date: JUN - 5 2000

To: Mr. Kenneth King
Assistant CEO

Attention: Program Coordination

From: Rafael Asenjo
GEF Executive Coordinator

Subject: **Submission of Medium Size Project Brief for GEF contribution of less than \$750,000: Egypt - Developing Renewable Ground Water Resources in Arid Lands: A Pilot Case - the Eastern Desert of Egypt**

Enclosed is a project brief for Egypt - Developing Renewable Ground Water Resources in Arid Lands: A Pilot Case - the Eastern Desert of Egypt, submitted to UNDP by Cairo University. Please note that the project has been endorsed by the GEF national operational focal point in Egypt.

In accordance with the operational guidance for the preparation and approval of medium-sized projects, we are submitting this to the GEF Secretariat for action by the Chief Executive Office (CEO). We understand that the Secretariat will recommend to the CEO that the project be submitted to the Council for approval, that it be returned for revision or that it not be developed further.

We are simultaneously circulating copies to UNEP/GEF, World Bank/GEF, and STAP for comments to the GEF Secretariat. We expect to receive these comments within 15 working days. Therefore, we look forward to receiving the CEO's decision on or before 7 July, but understand that the project will not be formally approved, even if the CEO has endorsed it, until the Council has reviewed it within the following 15-day period, namely by 28 July 2000

Thank you and best regards.

cc: Ahmed Djoghlaif, UNEP
Lars Vidaeus, World Bank
Madhav Gadgil, STAP
Rohit Khanna, UNEP/GEF
Mark Griffith, UNEP/STAP

UNDP

Mr. Edmund Cain
Resident Representative
UNDP
Cairo

Cairo, 28 June 1999

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٩٩/٧/٢٢
م. عبد الحليم

Dear Mr. Cain,

I take this opportunity to extend my appreciation of the continued UNDP support to the environment sector in Egypt. In this regard I attach, for your consideration under GEF funding, a proposal that is submitted by Cairo University titled "Developing Renewable Underground Water Resources of the Eastern Desert".

I would also like to express my endorsement of the project and would sincerely appreciate your assistance in conveying this note of endorsement to the GEF.

Thank you for your cooperation,

Sincerely,

Dr. Ibrahim Abd El Gelil
Chief Executive Officer

استلمت نسخة من الملحق
والمرافقات للتوصل إلى
طارق جابر أبو مقل
م. عبد الحليم

لاستاد الدكتور / أسامة البجا

GLOBAL ENVIRONMENT FACILITY (GEF) TECHNICAL REVIEW

PROJECT NAME: Developing Renewable Groundwater Resources in Arid Lands: A Pilot Case – The Eastern Desert of Egypt.

1. OVERALL IMPRESSION

The project brief is very informative and logically presented. The objectives are clearly stated and, in my opinion, achievable. The proposed methodologies are appropriate. This is a project worthy of the support of the GEF.

The above notwithstanding, I have made some suggestions below for consideration by the Proposers.

On a minor point, I should like the Proposers to proofread the document for some editorial issues.

2. RELEVANCE & PRIORITY

This is a very relevant project. I would accord it highest priority for funding.

3. APPROACH

In my opinion, the general approach of the study is adequate. However, I wish to draw the Proposers attention to the following:

- (i) Project Activity 2: Investigating the origin of recharge waters – Have the Proposers considered using chloride mass balance techniques? This technique has been used successfully in recharge studies in the Kalahari Dessert (Botswana). References can be found in the Journal of Hydrology (Amsterdam) from about 1995 onwards. The Proposers may also wish to contact the Director of Geological Survey, Botswana (Attention: Dr Edson Selaolo) for a copy of the GRES II Report. [The report may also be available on the Free University (Amsterdam) website.]
- (ii) Project Activity 7 – Hydrological modelling: I doubt whether the US Soil Conservation Service model is appropriate. Runoff generation in arid areas may be best modelled by deterministic lumped parameter and/or partial area contributing hydrological models. Numerous examples of such models abound in the hydrological literature. Possible examples are the partial contributing area models developed by Bevan and Kirkby; the Pitman model (Water Resources Commission, South Africa); the Boughton Model (Griffith University, Australia); the Monash Model (Monash University, Australia). The WMO published a comparison of some hydrological models. The Journals to search are the Journal of Hydrology (Amsterdam); the Hydrological Sciences Journal (Wallingford); Water Resources Research (US)

and Journal of Hydrology (New Zealand). There are also numerous Israeli studies on runoff generation in the Negev. The volumes of water to be extracted are large and so a hydrological model that allows for the simulation of the dynamic changes in some hydrological parameters may be more appropriate. While the Synthetic Unit Hydrograph approach may generate numbers, the physical and hydro-ecological relevance of these numbers cannot be determined.

- (iii) The proposed approach does not consider environmental implications of the research going into the production stage, namely when groundwater is withdrawn for agriculture. Considering the possible volumes to be withdrawn, significant drops in the water table are to be expected periodically. Will such a drop have ecological implications? I can see that questions such as this one can be answered at the implementation stage. However, due to the fact that it will be difficult to resist exploitation of the water if the proposed research proves the volumes available, it will be prudent for the proposed research to consider the question at least at the preliminary level

4. OBJECTIVES

I would have preferred to see an itemised listing of the objectives. However, the project objectives are valid, clearly stated and are achievable.

5. BACKGROUND AND JUSTIFICATION

Sufficient background information has been provided on which to judge the project. The project's relevance to national and regional priorities is clear. The justification for this project is clear. It fits into the national priority of increasing food production to meet increasing population. It is a project that will prove beneficial to the nation's effort at food self-sufficiency.

6 ACTIVITIES

The activities as presented in the project brief are logical. A possible activity to consider including is one to address likely environmental concerns that may result from taking the results of the research to the development stage. See comments under (3) above.

7. PROJECT FUNDING

The funding levels indicated are appropriate for the proposed activities. However, should any of the suggestions made above be taken aboard, a small increase in funding (probably less than 1%) may be necessary.

8. TIME FRAME

In my opinion, the objectives of the proposed project can be achieved in the time indicated in the project brief.

9. RATIONAL FOR GEF SUPPORT

Although the project is national, its outcome will have implications for international waters in the region. In a region where tensions already exist over water resources, any project that aims at lessening dependence on the already over-committed Nile waters should be encouraged.

10. ADDITIONAL COMMENTS

As stated above, my only doubt about the project concerns the appropriateness of the US Soil Conservation Method for the type of hydrological modelling required in this project. I would like to urge that this aspect be looked into and other models evaluated for use. I am not in favour of developing a brand new model. Numerous models are available that have already been tried in similar conditions. What is required here is the choice of an appropriate one.

I am also concerned somehow about the likely environmental impact of the anticipated withdrawal of water from the alluvial aquifers. I would also urge that some consideration be given to this issue.

As a final comment, I would like to reiterate my opinion that this project is worthy of GEF support. In that regard, I stand ready to expatiate on my suggestions should that be considered necessary.

NAME OF REVIEWER: Professor Francis T.K. Sefe



Global Environment Facility

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Facsimile Cover Sheet

DATE: December 22, 1998 No. of Pages:
Inc. Cover sheet

TO: Dr. Mohamed Sultan PHONE:
ORGANIZATION: Argonne Laboratory FAX: (630) 252-5498

FROM: Andrea Merla PHONE: (202) 458 8198
Program Manager, International FAX: (202) 522-3240
Waters

CC:

SUBJECT: MSP Concept: Egypt - Developing Renewable Underground Water Resources of the Eastern Desert

Message:

Thank you very much for the interest demonstrated in the GEF. The project concept has been reviewed and the idea found eligible for GEF financing under OP#9, Land Degradation Component. There are a few comments:

- Emphasis should be placed on the demonstration character of this initiative: the experience gained in a selected location of the Eastern Desert could in fact be replicated widely in similar conditions in Egypt and other arid countries. The aquifer model that will be developed through the project should be tested with a limited number of boreholes.

For further consideration of your project concept, please submit it to any of the three Implementing Agencies of the GEF (World Bank, UNEP and UNDP) making reference to this communication. The whole process should be of course driven by the Government of Egypt.

Sincerely,

File: 15 JUL 1999	
Date:	
Name	Location
SE	SE
AS	