

United Nations Development Programme Global Environment Facility - Regional Bureau for Africa



FAX MESSAGE

DATE:

3 September 1996

Pages: / Total

TO:

MR. AVANI VAISH

GEF SECRETARIAT

FROM:

Gandhali V. George (Ms.) Gandhale V. george (Ms.)

SUBJECT:

ERITREA ENABLING ACTIVITIES.

Dear Mr. Vaish,

Further to our telephone conversations this afternoon, please find attached a revised and final version of the above proposal.

Thank you for your observations; I apologize for the oversights which have been corrected as follows:

- 1. On page 9, para 37, the reference to the Task Force has been deleted. Please note also that the paragraph numbers have been adjusted.
- 2. On page 12, Annex 1, the component "Fixed Project Cost" has been corrected and now reflects \$10,000 for "Monitoring/Evaluation".
- 3. "Project Management" has been increased by \$10,000 and "Monitoring/Evaluation" has been decreased by \$10,000 for the reasons explained in points (5) and (7) of Sherry Hu-Fazzi's memo of 28 August 1996.

Thank you again for your comments.

Best regards.

Gandhali V. George (Ms.)

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PROPOSAL FOR REVIEW

Country:

ERITREA

Project Title:

Enabling Eritrea to Prepare its first National Communication in

Response to its Commitments to the UNFCCC

GEF Focal Area:

Climate Change

Country Eligibility:

Convention Acceded

Total Project Cost:

US \$303,850

GEF Financing:

US \$303,850

Country Contribution:

In kind

GEF Implementing Agency:

UNDP

Executing Agency:

Eritrean Agenc

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4 Ministries an

Estimated Approved Date:

Local Counterpart Agencies:

September 199

- Para 38 to te revised

Project Duration:

2 Years

GEF Preparation Cost:

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UNDP

Executing Agency:

Eritrean Agency for the Environment

Local Counterpart Agencies:

4 Ministries and one Commission

Estimated Approved Date:

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Project Duration:

2 Years

GEF Preparation Cost:

US \$ 40,000 (in kind from the Government of Eritrea)

BACKGROUND AND PROJECT CONTEXT

Country Profile

- 1. Eritrea is an arid and semi-arid country located in the Horn of Africa. It obtained its independence on 24 May 1991 following a protracted war which lasted over three decades. It has a land area of about 122,000 square km. Of this, 12,000 square km is categorized as crop land, and 49,000 (or nearly half) is categorized as grazing land.
- 2. Per capita income has been estimated at between U.S. \$130 and \$150. In 1994, 53 percent of the population was estimated to be below the poverty line. Agriculture accounts for 15-25 percent of the GDP, lower than many African countries. Only between 3 to 5 percent of the land is under cultivation reflecting the difficult agricultural potential of the country. Industry accounts for about 20 percent of GDP and the balance of the national income is accounted for by the service sector. In rural areas agriculture is a dominant source of income and growth, attracting 80 percent of the population. Land holdings are small varying between a half hectare in the highlands and two hectares in the lowlands.
- 3. Present estimates place the population at anywhere between 2.6 to 3.6 million. The urban population is about 500,000. About one half million Eritrean refugees reside in Sudan, the average rate of population growth is estimated to be around 2.7 to 3 percent.
- 4. Average life expectancy is around 46 years and infant mortality is around 135 per 1000 live births. Nearly 80 percent of the population above the age of 15 is illiterate.

Main sectors emitting greenhouse gases

- 5. As in many other developing countries, over 80% of the total energy demand and over 96% of the household energy needs are met from biomass (fuelwood, charcoal, animal waste and crop residue). This huge consumption of biomass, estimated to be 2.2 million tones or about 1 tone per capita in 1993, has directly contributed to a drastic loss in vegetative cover and to the overall degradation of Eritrea's terrestrial environment. The unsustainable and unmanaged use of biomass coupled with less than 10% efficiency of traditional cookstoves is implicated in greenhouse gas emissions as well as eye and respiratory diseases caused by smoke and particulate matter from wood burning.
- 6. Second, the supply and efficiency of commercial energy (mainly electricity and oil products) was severely weakened before independence. The war damages and deliberate neglect of maintenance and repair services has caused significant reduction in energy transformation facilities like generators and the refinery at Assab. The per-capita consumption of commercial energy is merely around 0.2 tones oil equivalent (toe) as opposed to 0.7 toe average for the worlds developing countries.

Crude oil is imported, refined in Assab and distributed to Eritrea and Ethiopia on a quota basis.

7. The electricity supply which now accounts for 3% of the total energy consumption is limited to the capital and other cities. Essentially the whole rural population, comprising about 80% of the total, is still living without electricity. The Eritrean Electric Authority (EEA) operates two systems, the Self Contained System (SCS) and the Inter Connected System (ICS). The ICS serves Asmara, Massawa and the towns in-between (see table below).

System	Installed Capacity	Firm Capacity	
ICS	64.7	45.4	
SCS	18.2	14.8	

- 8. Of the ICS generators which are all consuming either diesel or fuel oil, 30.6 MW capacity or 47.4% of the existing total were commissioned after independence. The corresponding figures for the SCS are 10.6 MW or 58%. The efficiency of electricity generation is estimated to be 36% for the ICS and 32.2% for the SCS. As the Government has given top priority to the power sector, it has approved the establishment of an 84 MW power plant (heavy fuel oil fired). Completion of this project is expected in 1998 and the site is in Hirgigo near Massawa.
- 9. The share of non-biomass renewable technologies is still small in terms of total power output. The installed photovoltaic systems have a capacity of about 100 KW. This capacity is concentrated in high-value uses such as schools, clinics and water systems in isolated areas. Furthermore, the Government has established an Energy Center whose principal goals are:
 - to promote research & development on renewable energy resources/applications;
 - to train technicians and arrange demonstrations to the public on renewable energy technologies (RETs);
 - to offer repair & maintenance services on installed RET systems;
 - to develop appropriate renewable energy technologies.

This Center has begun work on photovoltaic system support, wind resources evaluation, and stove efficiency research which may aid future mitigation of greenhouse gas emissions.

LAND AND USE CHANGE AND FORESTRY

Land use change

10. There are no definitive studies indicating the extent and scope of land use change and it is therefore difficult to proffer an indication of the impact of land use change on GHG emissions. Urban expansion and the change of agricultural land to urbanization is a key aspect of this issue. According to the National Environmental Management Plan (NEMP-E) urban population grows between 5 - 7 percent per annum (NEMP-E 1995).

Enclosure of grazing areas

Another aspect of land use change is closure for natural regeneration. At present 100,000 hectares of bushland is under permanent closure. This represents less than one percent of the total land area. The Ministry of Agriculture (MOA) has made the enclosure of grazing area one of its main strategies in the battle against soil degradation and the loss of tree and vegetative cover. In addition to the current enclosed areas, MOA anticipates eventually being able to enclose about 50,000 ha per year. The implications of these two aspects of land use change to GHG emissions needs to be studied further.

Forestry

12. The extent of forest and woodland coverage is controversial and widely debated. The view that there was in the past widespread forest cover in Eritrea is not accepted by some experts. These experts base their argument on ecological reasoning, i.e. the existence of 21 varieties of endemic non-forest birds whereas only a few endemic forest birds are to be seen. The table below gives an indication of the types of forest and glassland cover:

Type of Forest Cover	Area (ha)	Percent of total land	
Disturbed Forest	60,000	0.55	
Riverine woodland & Bush Land	195,024	1.80	
Dense Shrubland	1,099,448	10.14	
Open Shrubland	1,182,333	10.91	
Bushed Shrub Grassland	865,419	7.98	
Wooded Grassland	158,457	1.46	
Wooded Farmland	35,000	0.32	
Plantations	10,000	0.09	
TOTAL	3,605,681	33.25	

(Source: FAO (1944) and World Bank Mission Estimates (1996))

13. According to a World Bank mission which studied forestry issues, tree cover in many parts of the country is probably fairly stable, although lack of regeneration in many areas will lead to a slow decline. Licenses for land clearance in the Western Lowlands are being issued at a very slow rate and regulations are in place to prevent any clearing of land that has more than 25 percent tree cover. This appears to be effectively protecting the important riverine forests. The savannah grassland acacias are regenerating slowly, although the cutting of large trees for fuel may be affecting regeneration, as seed sources are depleted. The current size of plantation forest area, i.e. 10,000 hectares, is probably too insignificant to affect GHG.

PARTICIPATING INSTITUTIONS

The Eritrean Agency for the Environment (EAE)

- 14. The EAE is responsible for co-ordinating environmental actions in Eritrea. The Eritrean Environmental proclamation allows it to promote environmental protection, including issues related to GHG emissions, inter-alia, by
 - requiring integrated planning of development actions;
 - requiring active public participation in environmental protection;
 - requiring EIA for all development activities including those impacting on climate.

The EAE is the national focal point for all environmental conventions including the UNFCCC.

The Ministry of Agriculture

- 15. The Ministry of Agriculture is a key Ministry in climate change issues and its decisions have important bearing on the status, protection and expansion of
 - land under cultivation;
 - land under forest and woodlands.

The Housing and Land Commission

16. The commission is responsible for the implementation of the Land Law No. 59/1994. In addition, the commission is responsible for land classification and allocation, both activities have significant impact on climate issues.

The Ministry of Energy, Mines and Water Resources

17. The Ministry is responsible for promoting, regulating, and developing energy use and energy supplies in the country.

The Ministry of Trade and Industry

18. The Ministry is responsible for promoting and regulating industrial development in Eritrea.

Climate Change Committee

19. A climate change committee has been established under the auspices of the Eritrean Agency for the Environment. This committee will provide policy guidance for the implementation of the project. The committee is composed of representatives from:

The EAE (Chair)

The Ministry of Energy, Mines and Water Resources (Secretary)

The Ministry of Agriculture

The Housing and Land Commission

The Ministry of Trade and Industry

The Ministry of Marine Resources\

THE ERITREAN ENVIRONMENT PROCLAMATION

20. The principal proclamation in the environmental field is the Eritrean Environmental Proclamation (1996), currently being circulated for comments before it is submitted to the Baito (parliament) for adoption.

Eritrea and the UNFCCC

21. Eritrean acceded to the UNFCCC on April 24, 1996. Eritrea applied for international cooperation with the US country study programme without success.

Background of the Project Request

22. Eritrea is anxious to fulfill its obligations under the UNFCCC. Eritrea requires supplementation of the existing expertise in order to prepare its national report under the convention.

PROJECT OBJECTIVES

- 23. The immediate objectives of the project are to prepare the first National Communication of Eritrea to the Conference of the Parties in accordance with Article 12 of the UN Framework Convention on Climate Change, and build in-country capacity to fulfill its commitments to the Convention. The project will be implemented over the course of two years.
- 24. The Communication, will provide estimates of GHG emissions (including CO2, CH4, and N2O) and sinks, and national climate change vulnerabilities. Furthermore, it will provide an outline of mitigation and adaptation strategies to be pursued and the potential impacts/benefits expected from these programmes. Assistance is needed to build technical capacity in quantitative emissions and vulnerability evaluation, and feasibility assessment for different mitigation and stage I adaptation strategies.
- 25. The project can also be seen as a useful exercise to enhance general awareness and knowledge of climate change-related issues in Eritrea. This will further enable Eritrea to incorporate climate change considerations in economic and technical planning and strategy formulation. Furthermore, international and scientific coordination and cooperation on climate issues will be improved. A part of this task is to strengthen institutional mechanisms and frameworks for dialogue, information exchange and cooperation among all the relevant players from all sectors.
- 26. Last but not the least, the project will assist Eritrea to identify mitigation projects with the target of reducing greenhouse gas emissions, or enhancing sinks. These projects may also be eligible for further funding or cofunding by GEF or other multilateral or bilateral organizations.

PROJECT DESCRIPTION

27. The following project components have been identified as priority activities for fulfilling the

project objectives.

1. Project Steering Committee Formulation

- 28. A local Project Coordinator has been identified and a project steering committee has been formed with representatives from the Eritrean Agency for the Environment (EAE), Ministry of Agriculture (MOA), Ministry of Energy, Mines and Water Resources (MOEMWR), the Ministry of Industry and Trade, the Ministry of Marine Resources, and the Land Commission. The Committee will include two representatives of the local NGOs. The Committee will also be chaired by the representative of the EAE. The representative of the MOEMWR will serve as the secretary of the committee. The steering committee prepares the project work plan and delegates responsibility for project components. In additioy ynn the steering committee will:
 - and buttering transfer to the second
 - give guidance and monitor the implementation of the project;
 - coordinate cooperation and communication with international organizations;
 - provide continuing interagency coordination on climate-change issues in country;
 - ensure and support a smooth transition from enabling activities to the implementation of the identified response measures.

2. Information Collection and Dissemination Capacity Building

- 29. The project will build capacity in information collection and dissemination on the project components:
 - Building on existing capacity within different government ministries the project will enhance energy resource, environmental, GHG emission, and climate change evaluation and information collection activities.
 - Acquisition of internationally available information about the general methodologies and practices related to the vulnerability assessments or greenhouse gas mitigation analysis, as well as about specific technologies and practices in the fields of energy efficiency, renewable energy sources, carbon sequestration, reduction of methane emissions, etc.
 - Acquisition of environmental information from international databases and sources.
- 30. Specific attention will be paid to dissemination of and public access to the available information (as well as results of this project) in order to enable a wide participation and involvement of all the interested individuals and organizations both during and after the project. This activity will include the establishment of an effective electronic communication with access to the Internet.

3. Study of Climate Change Impacts:

31. The project will study the impacts of climate change (as understood now) especially on the

agricultural and biomass supply sectors. The study while building on the existing methodologies and "tools" like IPCC Common Methodology on Sea Level Rise and the UNEP Country Case Studies on Climate Change Impacts and Adaptation Assessments, will focus on performing a detailed country specific study since almost no work has been done on drought frequency and climate change impact analysis for Eritrea. This study will evaluate climate change/variability and drought intensities and impacts in Eritrea as measured by national rainfall and moisture indices.

4. Greenhouse Gas Inventory

- 32. The project will undertake a national inventory of greenhouse gases following the latest IPCC methodology and guidelines, and build in country capacity to regularly update this inventory. To this end the project will do the following:
 - Identify existing data needs, evaluate the reliability of the data, and prepare a strategy to resolve deficiencies in the needed database.
 - Undertake specific studies to fill the existing data requirements and establish a permanent data collection and management system under cooperation of the relevant institutions (including Ministry of Agriculture, Ministry of Energy, Mines, and Water Resources, Eritrean Agency for the Environment, and Land Commission) to provide the basic statistical data for present and future inventories.
 - Undertake the GHG inventory using the latest IPCC methodology with 1994 as a baseline.
 - Ensure the institutionalization of a regular inventory process in line with the obligations of the countries of the UNFCCC.

5. Mitigation Analysis and Strategy

- 33. In order to undertake the mitigation analysis and prepare a national mitigation strategy, the project will undertake the following actions:
 - Organize a workshop to present different methods and tools for mitigation analysis and clarify challenges and opportunities of such an analysis for the relevant institutions in Eritrea not only from the viewpoint of greenhouse gas reduction but also related to the general planning and development processes under way in the country.
 - Undertake a mitigation analysis using the selected tools and the collected background information in order to construct a series of different climate change mitigation scenarios, evaluate their consistency with the general development goals of Eritrea and prepare a draft proposal to implement the most promising mitigation measures.

6. Public Workshop/Forum

34. A workshop or forum will be organized (with wide local participation and relevant international partners) to present the results of the project, together with results or status of other ongoing national projects relevant to the issue. The objective of the workshop will be formulation of a national strategy on the reduction of greenhouse gases and the mitigation of climate change impacts.

7. Preparation of Communique

35. The project results together with the products of other ongoing government efforts will be used to prepare the first national communication of Eritrea to the Conference of the Parties.

RATIONALE FOR GEF SUPPORT

SEQUENCE OF ACTIVITIES:

- 36. The activities will be carried out in sequence. Tasks building on the results of prior activities will only be undertaken if prior steps have been taken. The process of preparing the national communication will comprise the following four elements, which are carried out in turn:
- (a) Stocktaking and inventories (collection of background information);
- (b) Identification of options to meet the objectives of the Convention;
- (c) Preparation of a national plan (national implementation strategy).
- 37. The project is consistent with the GEF Operational Criteria on Climate Change in order to provide coordinated and timely assistance for countries to fulfil their commitments to the Convention. This project responds to such objectives by implementing an activity needed to enable Eritrea to prepare its first national communication to the Conference of the Parties. The successful implementation of this project will contribute to international efforts to challenge global warning and its effect on climate change.

SUSTAINABILITY AND PARTICIPATION

- 38. The Government of Eritrea fully supports the objectives of this project and gives a very high priority to its activities. The Government has also endorsed that the project activities be used for production of the national communications in compliance with the UN Framework convention on Climate Change. In-kind contribution from the government in the area of project preparation, information collection on energy consumption, preliminary evaluation of GHG sources, wind energy resources assessment, and preliminary improved stove work amounts to approximately \$40,000.
- 39. It is expected that after successful completion of the project, the Project Steering committee will continue to deal with UNFCCC related matters on a permanent basis. Also, as already mentioned under activity 2, specific attention will be paid to dissemination of and public access to the available information as well as capacity building for actual mitigation of the greenhouse gas emissions and climate change impacts.

PROJECT FINANCING, BUDGET AND INCREMENTAL COSTS

40. As an enabling activity, this project would not take place without the UNFCCC. Therefore, the full costs of the project equal the incremental costs of the project. With the exception of the contribution of the Government of Eritrea, GEF is being requested to fund the full amount of the project. A detailed project budget reflecting the different sub-tasks is presented in Annex 1.

ISSUES, ACTIONS, AND RISKS

- 41. The ultimate criteria of success will be how the results of the project will be incorporated in the broader development goals of Eritrea. The project addresses this issue by already establishing an institutional framework for cooperation through the Steering Committee which also coordinates interministerial collaboration on a wide range of environmental issue. Sustainability and environmental considerations are already integrated into the broader development goals of Eritrea; the project will strengthen and amplify this commitment.
- 42. Considering the immediate results of the project, the crucial element will be, as well, a close collaboration between the different ministries and departments at the institutional level as well as collaboration of the project personnel at the individual level with each other and the project support staff paid by the government. Another issue is the international collaboration, especially when preparing a workplan for and implementing the research-oriented activities 3,4,5. During this process, common methodologies will be used and among others IPCC and UNEP will be consulted to ensure that the methods and details of the subjects are also relevant from the global point of view. The project will also use when applicable the results of ongoing or finalized projects like UNEP Country Case Studies on Climate change Impacts and Adaptation Assessments, UND/GEF ALGAS (Asian Least-Cost Greenhouse Gas Abatement Strategies) CC: TRAIN and US Country Study Programme to avoid duplication of effort and ensure the effective implementation of the project. In addition country-specific analysis methods and techniques will be developed when necessary to ensure the accuracy and relevance to the results of Eritrea.

INSTITUTIONAL FRAMEWORK AND PROJECT IMPLEMENTATION

- 43. The principal executing agency of the project will be the EAE. The project steering committee chaired by the representative of the EAE will be charged with ensuring co-ordination in project implementation. The EAE and the Department of Energy shall assume responsibility for all decision making. Under the different sub-tasks study tours will be undertaken and working links with international partners will be established in order to ensure effective exchange of information and appropriate implementation of the project.
- 44. With these arrangements, the project seeks to establish close links with other climate change related activities being carried out by other GEF implementing agencies or by other multilateral or bilateral organizations. It will do so practically as figured above and also by participating in the informal consultative mechanism, CC: FORUM, being set up by the UNFCCC secretariat, to ensure that results of this project will be shared among all actors involved in climate change and GHG activities.

MONITORING AND EVALUATION

- 45. After a detailed work-plan for the project has been prepared, and external review on it will be undertaken. The purpose of the review is to identify in the very early stage of the project the eventual gaps overlaps and other risks of the successful implementation as well as to identify potential partners and sources of information from which the project could benefit.
- 46. The project coordinator/manager from the Executing Agency in collaboration with representatives of the line Ministries will be responsible for monitoring the project on a continuing basis. In order to do this the Project Manager with the help of the leaders of the research teams will prepare regular reports on the progress and the different subtasks under it. In addition to this, an external midterm evaluation will be conducted approximately 12 months after the start of the project. This will be undertaken by the EAE line Ministries and external consultants jointly. The purpose of the evaluation is to review the overall success of the project and suggest modifications in project implementation. The recommendation from the evaluation will be disseminated immediately, so that appropriate action can be undertaken without delay. A joint meeting of the evaluators together with the Project steering committee has been designed for this purpose. Among the project activities subject to monitoring will be: climatic changes, greenhouse gas inventory, human and institutional capacity building targets indicated as outputs.

TEL: 212-906-6362

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ANNEX 1 PROJECT BUDGET ACCORDING TO GEF ACTIVITY NORMS IN US DOLLARS

	Planning	Execution	Institutional/ Strenthening	Training	Technical Support	Total Cost
Inventory/Stocktaking - Greenhouse Gas Inventory - Vulnerability assessment	5,000 5,000	40.000 10,000	10,000 8,000	7,000 7,000	8,000 5,000	70,000 35,000
Identification of Options - Mitigation options - Stage I adaptation	5.000 5.000	10,000 000,01	5,000 5,000	7,000 7,000	3,000 3,000	30,000 30,000
Preparation of Strategic Action Plan	5,000	10,000	7,000	5,000	3,000	30.000
Preparation of National Communication	3,000	5.000	3,000	7,000	2,000	20,000
Fixed Project Cost - Project management - Monitoring/Evaluation	10,000	35,000	10,000	10.000 -	5,000 -	70,000 10,000
Sub-Total	38,000	120,000	48,000	50,000	39,000	295,000
% of Total Costs	12.9	40.7	16.3	16.9	13.2	100
Support Costs	3%					8,850
GRAND TOTAL						<u>303,850</u>

ANNEX 2

ACTIVITY MATRIX FOR CLIMATE CHANGE ENABLING ACTIVITIES IN ERITREA

Enabling Activity Commitment.	Output- Planning, Execution and Research.	Capacity Building- Instit. Strenghtening.	Capacity Building- Training.
Inventory and Stocktaking			
Emission inventory		,	
-CO2 from energy sources	x	X	×
-Co2 from land use change	x	x	X
-Ch4 from energy sources	x	x	X
-CH4 from other sources	X	X	X
-N2O	X	X	X X
-other sources and gases	×	×	^
Vulnerability assessment			
-agriculture	x	X	×
-forestry	X	×	X
-coastal zone	X	X .	X
-water resources	X	X	X
-health impacts	x	X 	X X
-natural ecosystems	X	X	x
-other impacts	<u> </u>	x	^
Identification of Options to Meet the Objectives of the Convention			
Mitigation options			
-energy related			
-industry	x	X	X
-transport	X	x	X X
-energy supply	x	X	x
-residential	X	×	^
-non-energy sources			x
-agriculture	X	X	1
-forestry	X	X	X X
-waste management	x	X	×
-other	X	X	×
-sink enhancement	×	×	
Adaption options (stage 1)	x	x	х
Preparation of a Plan to Fulfill Commitments			
-national plan for mitigation	×	x	x
-national plan for adaption	x) x	X
-public awareness building	x	x	X

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Preparation of a National Communication			
-inventory	x	x	x
-mitigation options	x	x	×
-vulnerability and adaptation	x	x	x
-other relevant information	l x	l x	\ ×

X = Areas to be covered by the proposed project.

'\$\$\$' = Areas already covered by other projects or programs:

CCT = CC:TRAIN

GEF = Other Regional or Country GEF "Enabling" Project

GTZ = German Agency for Technical Cooperation

SAREC= Swedish Agency for Research and Cooperation

SEI = Stockholm Environmental Institute

UNE = UNEP-GEF Country Case Studies

UNR = UNEP-RISO Greenhouse Gas Abatement Cost Studies

US = U.S. Country Studies Program

'X(\$\$\$)'=Some preliminary activities have already been undertaken, but completing activities presented in the proposed project are needed to finalize the task.

0 = Remaining ability gaps for which additional funding from GEF or other sources might still be requested.

'0(\$\$\$)'=Some preliminary activities have already been but completing activities not undertaken by the proposed project might be needed to finalize the task.

NA = Non-applicable.

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