



Lisa.Masila@unep.org on 11/03/2000 09:32:29 AM

Subject: PDF A Submission - Cedar Forest Insect Infestation in the Mediterranean Region

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Dear all,

Kindly find attached the PDF A on "Assessment of the scale of insect infestation in Cedar forests in the Mediterranean region and Addressing the infestation of the Tannourine-Hadath El-Jebbeh Cedars Forest," for your review and comments.

This file contains two attachments, the first one is the brief itself in Word and the second one, the endorsement letters in Acrobat format.

Regards,

Lisa Masila  
UNEP/GEF Coordination Office



- Cedar Forest Mediteranean.doc



- Cedar forest endorsement.pdf

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**PDF BLOCK A FOR BIODIVERSITY MEDIUM SIZE PROJECT**

<b>PART I - ELIGIBILITY</b>	
<b>1. Project name:</b> Assessment of the scale of insect infestation in Cedar forests in the Mediterranean region and Addressing the infestation of the Tannourine-Hadath El-Jebbeh Cedars Forest <sup>1</sup>	<b>2. GEF Implementing Agency:</b> United Nations Environment Programme
<b>3. Country or countries in which the project is being implemented:</b> Mediterranean subregion with emergency measures undertaken in Lebanon	<b>4. Country eligibility:</b> Lebanon ratified the Convention on Biological Diversity on 15 December 1994.
<b>5. GEF focal area(s), and/or cross-cutting issues:</b> Biodiversity	<b>6. Operational program/Short-term measure:</b> Urgent Short-term emergency measures.
<b>7. Project linkage to national priorities, action plans, and programs:</b> As a result of the national importance of the Tannourine Cedar forest-Hadath El-Jebbeh, the Minister of Environment promulgated a draft decision declaring the forest as a natural protectorate. Following approval by Cabinet, the Agriculture and Environment Committee and the Administration and Justice Committee approved it. Parliament approved it on 24 February 1999 and the forest has been declared a natural reserve.	
<b>8. GEF national operational focal point and date of country endorsement:</b> On 3 August, 2000, the GEF Focal Point for Lebanon, His Excellency Arthur Nazarian, Minister of the Environment, transmitted an endorsement letter to UNEP for the preparation and submission of a PDF-A for the above referenced project.	
<b>9. Project rationale and objectives:</b> Cedar forests in the Mediterranean cover an area of approximately 2700 km <sup>2</sup> in total. This is approximately 3% of forests in the entire Mediterranean subregion of which about 2% are protected. There are four types of Native Cedars in the world ( <i>Cedrus libani</i> A.Rich in Lebanon, Syria and Turkey; <i>Cedrus brevifolia</i> Henry in Cyprus; <i>Cedrus atlantica</i> Manetti in Morocco and Algeria; <i>Cedrus deodara</i> London in Afganistan and India). They are distributed as follows: Cedars of Lebanon: found in Lebanon (2,200 hectares); Syria (300 hectares); Turkey (100,000 hectares); and Cyprus (400 hectares); Cedars of Atlas: found in Morocco (140,000 hectares); and Algeria (27,000 hectares); Cedars of Himalaya: found in the Himalayas (500,000 hectares). This does not include the approximate 300,000 hectares of cedars that have been re-afforested during the last 50 years. 53% of Cedar forests (natural and re-afforested) occur in the Mediterranean region versus the entire global acreage of Cedar forests.  The cedar forest of Tannourine-Hadath El Jebbeh is the largest contiguous cedar forest in Lebanon that is left from what used to cover the Lebanese western mountain chain	

<sup>1</sup> Tannourine-Hadath El-Jebbeh Cedars Forest is also often referred to as Tannourine Hadet el Jobe.

and known under the name of "great cedar forest". About 50 species (trees, shrubs, herbs) living in the Tannourine forest are endangered or threatened. 8 endemic species living in Tannourine region find refuge in the Cedar forest of Tannourine and are endangered. They are *Pentapera sicula. var libanotica* c.& w. Barbey (Ericacea family), *Acantholimon libanoticum* Boiss (Plumbaginacea), *Alkanna prasinophylla* Rech. fil (Boraginacea), *Marrubium libanoticum* Boiss (Lamiacea), *Stachys ehrenbergii* Boiss. (Lamiacea), *Asperula libanotica* Boiss (Rubiacea), *Origanum libanoticum* Boiss (Lamiacea), *verbascum cedreti* Boiss. (serophulariace).

The cedar forests of Lebanon, which used to be widespread have dwindled owing to a lack of adequate management, illegal cutting of trees, and over grazing. Lately, a serious new threat has arisen in the Tannourine forest - the pest problem. The infestation is affecting about 70%<sup>2</sup> of the forest. The major concern amongst the scientific community is its rapid spread. The insects have started to attack the nearby Cedars of Becharre. The number of larvae per meter square in Becharre and Tannourine-Hadet el Jobe forest is about 18 and 600, respectively. There is concern that these insects will spread and subsequently reach the remaining cedar forests of the region.

Given that there is a potential risk from *Cephalcia* pest infestation of cedar forests in the wider Mediterranean region, project funding is being sought to determine the risk level of similar forests in the region. It will also identify appropriate management measures to address infestation at affected forests and determine replicable approaches for other forests in the region that may become inflicted with the same threat. GEF funding is therefore being sought under the Emergency Short-term measures window. The project addresses the criteria for funding under this window as per the following:

- (i) Likelihood of success: the PDF A phase will be used to bring together scientific experts particularly those working on cedar forests in the Mediterranean region to ensure the technical quality of the methodologies to be proposed during the medium sized project and to ensure an intricate linkage with national and regional institutions and networks;
- (ii) Cost effectiveness: PDF A resources will be utilised to develop a medium sized project to address the situation (see information below). Given that the Lebanese authorities and the French INRA have already begun researching and addressing the infestation, a GEF medium sized project will be additional to what is currently being done. Such a project will be designed to ensure that the research and activities carried out to date gets translated to a form that is more widely useful beneficial and adaptable to the rest of the region.
- (iii) Degree of threat, vulnerability or urgency: 70% of the Tannourine cedar forest is already affected by the infestation and the Cedars of Becharre are now showing first signs of infestation. With 53% of cedar forests (natural and re-afforested) of the world-wide total of cedar forests occurring in the Mediterranean region, the potential risk of loss of forest ecosystem loss could be quite high in the event of a

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<sup>2</sup> An estimated error of 5-10% is possible given that not all areas of the forest have been inspected. Of the 70% affected, 10-15% of the cedar trees are dead owing to repetitive attack of the insect over the years.

<sup>3</sup> The species is likely to be named *Cephalcia libanensis* or *Cephalcia Tannourinensis*.

<sup>4</sup> Demining is a mandate of the Lebanese army and is therefore being carried out by the army itself.

further spread of the infestation;

- (iv) Opportunism: A conducive national policy environment has been developed in Lebanon in response to the national importance of the Tannourine cedar forest (declaration of the Cedar Forest of Tannourine a nature reserve and this under Law No. 9 dated 25/2/1999). In addition, international collaboration has already been forged with the French INRA. Extending these efforts for the benefit of cedar forest conservation in the wider Mediterranean region would be timely;
- (v) Demonstration value: the project is specifically being designed to ensure that approaches used to control the insect infestation at Tannourine cedar forest are adaptable to controlling potential infestations at other cedar forest stands in the Mediterranean region. An assessment of the risk and level of infestation in other cedar forests in the Mediterranean region will form the scientific base upon which methods or approaches used in Tannourine cedar forest can be replicated for these other situations.

Specifically, the cedar forest of Tannourine-Hadath El Jebbeh is situated in the northern part of Lebanon and is bordered from the North by Beni Saab Farm, from the west by Niha-Kfour, from the South, Tannourine and from the East by Sir Mountain. It is the largest natural cedar forest in the country. Preliminary studies indicate that these forests are one of the richest in biodiversity in the region. These forests are the most protected in the region, since they are located at high altitudes, generally exceeding 1500 m in the region. They are considered to be one of the most adapted for this region, are resistant to drought and require little water, and little maintenance. Reforestation activities using Cedars have already started in France, Turkey, and Lebanon and could serve as an important alternative to reforestation programmes that currently utilise fast growing exotics. Thus, the conservation of remaining cedar stands is important if such a transition is to be adopted by the other countries in the Mediterranean subregion.

Usually, the Cedars in Lebanon grow on Calcareous rocks with shallow soil. The cedars in Tannourine are an exception, they grow in addition to calcareous soils, on sandy and volcanic soils. It is a pure cedar forest, which includes 98% of cedar trees. The forest represents an environmental, economic, social and cultural basis, namely due to wood production, non-wood products and ecotourism. The persistent demands of the local civil society resulted in Winter 1999 in the declaration of the Cedar Forest of Tannourine a nature reserve and this under Law No. 9 dated 25/2/1999.

The main threats to the forest are severe pest problems and remnant landmines, the latter of which the Lebanese army are already addressing. The newly discovered insects first attack the spring oblong buds and chews on the new needles as they develop. The others aggressively attack the rounded buds produced in summer and eat the bud from the inside, causing them to dry and fall off the tree.

INRA-France and the Faculty of Agricultural and Food Sciences, American University of Beirut have been following the development of the pest problems over the past two years. These studies have shown that the Cedar Forest of Tannourine-Hadath El Jebbeh is aggressively attacked by *Cephalcia* which could threaten its existence in the short term.

The insect belongs to the Hymenoptera order and the Pamphillidae family and was first recorded in Lebanon in April 1998, unknown at the international level<sup>3</sup>. The adults began to fly in the open and in huge numbers starting May 1, 1998 and April 26, 1999. The adults mate quickly and the egg laying stage directly follows the adult emergence. Females lay the eggs on unopened new buds so that when the buds are opened the eggs will be located at the lower sides of the needles. The numbers of eggs as well as the percentage of branches attacked this year have risen over the past 2 years.

As the eggs hatch, the first larval instars begin their chewing activity and the chewed needles start turning yellow. The chewing period continues for two months after which the larvae fall off the tree to the ground and bury themselves. After the last moult, the larvae cease to eat, drop to the ground and penetrate the soil, often to the boundary of mineral soil at a depth of 15-35cm where they make a hole for hibernation. At this stage, the insect is in diapause. Diapausing larval counts are being performed regularly each month and this year infestation was predicted by the regular count. During the fall months, the larvae undergo morphological changes.

Research carried out to date by a French/Lebanese scientific team has been mainly centred on the biology of the insect and its impact on cedars. Since this insect species is new to science, its biological characteristics (feeding behaviour, egg laying potential, interaction with the host) need to be understood before conducting any control measures. The biological studies will continue for the next years as well as the ecological consequences on the trees and the insects.

Studies on the management of the insect are being undertaken whereby the use of environmentally friendly pesticides is being tested under laboratory conditions. Pheromones are increasingly becoming a valuable tool in monitoring and controlling the infestation and thus the first steps of pheromone identification are being carried out.

The underlying causes of the infestation are only recently being researched. Since the pest is not an imported species, it is hypothesised that its population levels are affected by environmental factors as in the case of *Cephalcia* species affecting spruce trees in Norway, Italy and other countries. A period of several low years of rainfall and relatively high temperatures could lead to infestation levels as was the case in spruce forests in Norway and Poland. Climatic conditions of the Tannourine cedar forest are thus being studied along with the biological characteristics of the insect. Other possible causes relating to the lack of human disturbance are also being researched and could account for the lack of natural enemies and the biological cycle of the insect. Additional research needed includes the need to monitor the insect in different forest stands and the use of pheromone for such monitoring could be useful. Additionally, an inventory of possible natural enemies and potential pests should be established in all the cedar forest stands.

Insect growth regulator has been used to help initiate control of the infestation. The regulator acts on the sugar chains of immature insects, blocking the chain and preventing the insect from going from one stage to another. The regulator belongs to the *Benzylurea* family and the active molecule is *Diflubenzuron*. There is a similar type of

insecticide being used in France against the processionary moth infesting pine stands. The ecological impact of this growth regulator was studied on the natural enemies of this insect and it was shown that ecosystem balance was restored three years after treatment.

The first spraying operation was conducted last year in exceptional circumstances and was considered as experimental as it was conducted late in the season when half of the larvae had already fallen from the trees. The insecticide appears to have killed more than 80% of the larvae present on the trees. A control zone was maintained without any spraying. The number of larvae in the soil has been monitored all year round. In the treated areas, the number of larvae was significantly different from the untreated areas (400-600 larvae/m<sup>2</sup> in the treated area versus 950-1000 larvae/m<sup>2</sup> in the control). It should be noted that in the treatment of the forest, the aim was not to eradicate the insect but to reduce its damage by diminishing its numbers to a stage where damage would not affect the forest. It has been suggested that since the insect has different diapausing periods that extend over three years, the treatment of the forest should be planned for at least three consecutive years to be able to stop the still increasing population from another resurge.

Owing to the high threat that this poses to the entire forest, a workshop was held on 6 May, 1999 under the auspices of the Ministry of Environment and organised by the Association of the Friends of Tannourine-Hadath El Jebbeh Cedars, the municipalities of Tannourine, Hadath El Jebbeh and Kfour Al Arabi and the Natural Reserves project. It was concluded that relative forest decline has increased during the current spring and will result in more irreversible tree decline over the course of the year which in turn will lead to the decline and possible death of the entire forest and that the following recommendations should be considered:

- aerial spraying of the forest with insect growth regulators in order to decrease the large numbers of *Cephalcia* insect to restore the ecological balance but with due analysis of potential wider environmental impacts (it should be noted that GEF funding will be considered for the analysis of appropriateness and possible environmental impacts of any spraying exercises that are being recommended and that no GEF funds will be requested for the actual spraying exercises should they be deemed necessary);
- demining<sup>4</sup> of the forest becomes primary so as to be able to remove and cut all dead branches and trees from within the forest. This step is essential in order to limit the damages caused by the scolytid and bark beetles whose multiplication and increased number threaten the whole forest;
- continuing studies and research on the development and multiplication of *Cephalcia* and the other insects present in the forest;
- ensure an integrated health management of the forest ecosystem.

In the long term, the following recommendations were made:

- continuous monitoring of the pests and the detection of possible natural enemies;
- securing funds for research on the biological studies of the cedar forest pests, their control and their natural enemies;
- secure scholarships for students specialising in forest sciences;

- working group committees should be formed jointly between the universities, governmental institutions and non-governmental organisations to take care of this problem;
- determine, and put in place, ways to prevent the spread of such an attack to other similar forests in Lebanon and to the Mediterranean cedar forests in adjacent countries;

To date, the Ministry of Agriculture has been actively involved in trying to solve the issue of insect infestation in the Cedar forest of Tannourine-Hadath El Jebbeh. The spraying operation, which was conducted last year, was financed by the Ministry of Agriculture (MoA), which issued a government decree (Decree No. 724, dated May 17, 1999) to retain 150,000,000 Lebanese Pounds (i.e. US \$100,000) for the operation. In addition, the MoA is currently working with the FAO through the Technical Cooperation Program (TCP) to assist in the Ministry in preliminary research, and training on the current infestation of the Tannourine Cedar Forest.

The project to be considered for GEF financing will therefore be designed with the following objectives:

- to assess the risk of, and prevent, similar pest infestations of Mediterranean Cedar forests elsewhere in the country and in other countries in the Mediterranean region;
- in the immediate short term, to address the emergency situation relating to the high degree of threat posed to the forest from pests and to put in place a sustainable management plan for the forest. This would include establishment of a multi-disciplinary team to manage the forest and address the major threats affecting the forest; training and awareness raising; elaboration and implementation of a management and monitoring plan, and mobilising resources for implementation. The longer-term objective would be to use this case as a pilot base for determining an approach for controlling the insect infestation in other cedar forests in the Mediterranean region should such infestations occur.

#### **10. Expected outcomes:**

It is hypothesised that cedar forests in the Mediterranean are at risk from *Cephalcia* pest infestation. The medium sized project will determine the actual level of risk of these forests. It will determine appropriate management measures to address infestation at affected forests and identify replicable approaches for other forests in the region that may become inflicted with the same threat. Further, it will identify measures to prevent the spread of risk to other forests in the region.

The medium sized project will therefore result in the following outcomes:

- level of risk from *Cephalcia* attack determined for cedar forests in the Mediterranean region;
- replicable approach to address threat from pests in cedar forests throughout the Mediterranean region;
- actions implemented in cedar forests already under threat from the pests;
- development and implementation of a sustainable management plan for the forest;
- actions implemented to prevent and control the threat of similar pests from

spreading to Mediterranean cedar forests elsewhere in the country and to adjacent countries.

**11. Planned activities to achieve outcomes:**

The following activities are envisaged for the medium sized project and will be outlined in more detailed following the preparatory PDF A phase:

Activity 1. Detailed regional-scale assessment of the extent of insect infestation of Cedar forests in the Mediterranean subregion

Activity 2. Following the results and lessons learned from addressing the insect infestation at the Lebanon Tannourine Cedar Forest (see activities outlined below), the medium sized project will disseminate, and where feasible apply, the experiences to the other relevant countries in the subregion facing the similar situation.

Activity 3. Addressing the emergency measure in the Lebanon Tannourine Cedar Forest. This will comprise of the following sub-activities:

Activity A. Establishment of a GIS database of the reserve which will entail survey of forest boundaries, landmines' location, land ownership data, topography of the forest, fauna and flora, soil quality and geological and relief data;

Activity B . Managing problems and setting remedial actions which will encompass examining experiences for protection of cedars from other ecosystems, demining the cedar forest to make it safe for implementation of other management activities, elaboration and implementation of a proper plan to manage the insect infestation and development and implementation of a sustainable management plan for the longer term management of all threats facing the forest such as over-harvesting, overgrazing and soil erosion;

Activity C. Training of various target groups on a regional basis on invasive species control, forest management, GIS, monitoring;

Activity D. Undertaking public awareness raising activities concerning the cedar forest;

Activity E. Developing and implementing a monitoring plan for the forest;

Activity F. Mobilising resources for the longer-term implementation of the management plan for the forest.

**12. Stakeholders involved in project:**

Stakeholders that will be consulted in the preparatory phase include the local communities and municipalities, the Lebanese Army, the ministries of environment and agriculture, the government appointed committee for the protection of the reserve, NGOs and working in the area. In addition, given the subregional significance of this project, other stakeholders will include the relevant agencies within the subregion that are dealing with management of cedar forests as well as local and international scientists who have been dealing with cedar and pest management issues.

A detailed stakeholder involvement plan will be developed as part of the preparatory phase.

PART II - INFORMATION ON BLOCK A PDF ACTIVITIES

**1. Activities to be financed by the PDF A:**

PDF resources are being requested to formulate a Medium size project brief. Under the PDF A, the following activities are envisioned:

- a) Identify local and international scientists dealing with cedar and pest management related issues; Identify the agencies and personnel dealing with management of cedar forests throughout the subregion (e.g. *Silva Mediterranea*, a network on Mediterranean Forest Management where conservation of cedar stands is a priority issue);
- b) Convene a workshop with the stakeholders identified above to review the extent to which insect infestation is affecting cedar forests in the Mediterranean subregion. This will include a determination of the extent of the infestation in the Lebanon Cedar Tannourine Forest, whether it is spreading and to where particularly in light of the fact that the infestation appears to be spreading to Becharre with the view towards determining how the medium sized project to emanate from this preparatory phase will build into it activities to prevent or control the spread of infestation of this globally significant species both nationally and regionally. The workshop will also include discussions on activities (c ) to (g) mentioned below and STAP's scientific and technical advice will be sought;
- c) Carry out a detailed analysis of the research that has been carried out thus far by both the French/Lebanese scientific team and other teams working on similar situations (including the feasibility of using the tool-kit developed by CABI/SCOPE/IUCN on invasive species for this project);
- d) Carry out a review to determine whether the underlying causes of the infestation can be scientifically established and how;
- e) Identify types of longer term research needed particularly vis-à-vis the infestation potentially affecting the other stands in the country/region (including a methodology for assessing the risk of cedar forests in the region at risk from the pest infestation that will be carried out in the medium sized project);
- f) Carry out an impact analysis of the growth hormone that is potentially to be used for curbing the infestation as one of the possible options under consideration. This will include a review of the impact studies carried out to date on the use of this hormone usage and the effectiveness of its use in any other sites to date with the view towards determining the most effective and environmentally benign form of action for controlling the infestation (however, GEF funds will not be sought for spraying exercises that may be recommended from this initiative);
- g) Carry out a detailed analysis of the existing threats to the Lebanon Cedar Tannourine Forest which will need to be addressed in the management plan to be developed in the medium sized project;
- h) Establishment of a multi-disciplinary team to manage the Lebanon Cedar Tannourine forest with clear terms of reference developed;
- i) Development of a medium sized project brief following consultations with the various stakeholders noted above to detail the project components. The project brief will be written according to GEF criteria and guidelines. The project brief will: a) outline the status of cedar forests in the Mediterranean sub-region and the extent of insect infestation (accompanied with a map to show the location and size of cedar forests in the region); (b) outline the activities that need to be undertaken at Cedar

forests in the Mediterranean subregion to show clearly how the lessons and experiences in dealing with the insect infestation at the Lebanon Tannourine Cedar Forest can be applied to other cedar forests in the subregion; (c) clearly detail the principal threats affecting, in particular, the Lebanon Cedar Tannourine Forest and how these threats will be addressed with emphasis on the insect infestation b) include an analysis of the baseline to determine the extent to which national development plans and programmes in the project area are supportive of biodiversity conservation; c) identify existing gaps in the baseline and the corresponding actions needed to effectively mitigate threats and ensure the effective conservation of the biodiversity of the project site; d) determine whether required actions are incremental in nature and therefore eligible for GEF financing (i.e. activities or measures which cannot be justified on grounds of domestic benefits alone and which are far more likely to generate global benefits as opposed to national or local ones); e) include a monitoring and evaluation plan; and f) a clear institutional framework outlining responsibilities of various national and regional governmental, non-governmental and scientific organisations and networks in the medium sized project.

## **2. Expected outputs and completion dates:**

The following are the outputs of the PDF A phase:

- a) An assessment of the globally significant biodiversity of the project site and an analysis of the threats to the biodiversity completed;
- b) A review of the extent of the infestation within Lebanon and within the entire Mediterranean subregion, outlining if more detailed assessment work is needed and for what purpose, completed;
- c) A thorough analysis of the research that has been carried out thus far on the infestation, recommendations for controlling it and any identified underlying causes of the infestation (or activities needed to be undertaken in the medium sized project to scientifically establish the underlying causes) completed;
- d) An agreed upon methodology to be used in the medium sized project for determining the risk of cedar forests in the region at risk from the pest infestation;
- e) An impact analysis of the growth hormone that is to be used for curbing the infestation completed;
- f) A multi-disciplinary team established to manage the forest with clear terms of reference developed;
- g) Medium-size project brief, in GEF format, including:
  - logical framework that clearly describes the project strategy, project outcomes, global and national benefits;
  - an analysis of the extent or risk of spread of the infestation and how it will be prevented or controlled through this project;
  - other research that will be carried (either with GEF funds or funds from other sources) particularly vis-à-vis the infestation potentially affecting the other stands in the country/region;
  - incremental cost analysis;
  - stakeholder participation plan;
  - monitoring and evaluation plan;

- and other components per requirements of the MSP format.

h) The PDF A will be used to secure donors to finance the non-GEF component of the medium-size project.

The PDF A will be completed over a period of 4 months.

**15. Other possible contributors/donors and amounts for the Block A:**

MoE will contribute about US \$ 5,500 in-kind towards the preparation of the PDF-A (PDF A GEF cost US\$ 25,000 which will prepare the GEF Medium sized project brief not to exceed US \$1million).

**16. Total budget and information on how costs will be met for the Block A (including the Block A grant):**

Budget Item	GEF	Other (\$)	MoE (in-kind)
<b>Total</b>			
Experts/ Research Scientist			\$ 2,000
Subcontracts			
1. Assessment of biodiversity of project site and threat analysis at site	2,000		
2. Review of infestation extent	3,000		
3. Analysis of research to date	2,000		
4. Review of further research needed	2,000		
5. Impact analysis of growth hormone	2,000		
Regional workshop	10,000		
Transportation to the Reserve			\$ 1,000
Drafting of GEF medium sized project Communications	4,000		
Office Space (4 months)			\$ 2,000
Miscellaneous (telephones, faxes, photocopies,etc.)			\$ 500
<b>TOTAL</b>	<b>25,000</b>		<b>\$ 5,500</b>

**PART III - INFORMATION ON THE APPLICANT INSTITUTION**

**17. Name:**

Ministry of the Environment which will be assisted by the Government Appointed Committee for the Tannourine Cedar Forest Nature Reserve.

**18. Date of establishment, membership, and leadership:**

The State Ministry of Environment was first created in May 1981. In April 1993, a Ministry of Environment was officially established by law No. 216. The MoE currently has approximately 36 employees.

	<p>The MoE has received approval to hire 22 additional staff (14 Technical and 8 administrative). His Excellency Arthur Nazarian was appointed Minister of the Environment in December 1998.</p> <p>The Government Appointed Committee for the supervision of all activities related to the protection and conservation of the Tannourine Cedar Forest Nature Reserve was established by Decision #17/1 dated 24/3/2000 from the Ministry of Environment.</p>
<p><b>19. Mandate/terms of reference:</b></p> <p>The responsibilities of the MoE include controlling all forms of pollution, the use of pesticides, deforestation and forest fires, solid waste management, protection of fauna and flora, and urbanisation.</p> <p>Specific sector laws include the protection of natural sites, drinking water, sewage, marine pollution, air pollution, industry, hunting, fishing, urban development, mining, management of waste, establishment of nature reserves, etc. The main goal of MoE is the protection of the environment.</p>	<p><b>20. Sources of revenue:</b></p> <p>The MoE has limited financial resources. There is a yearly combined budget of about US \$ 100,000 which is allotted for the management of the three initial protected areas which are: 1) Arz El Chouf; 2) Horsh Ehdén; and 3) Palm Islands. As of this year, the Ministry has budgeted about US \$ 17,000 for each of the protection of the three newly established protected areas, which are: 1) Tyre Coast; 2) Bentaël; and 3) Tannourine Cedar Forest.</p>
<p><b>21. Recent activities/programs, in particular those relevant to the GEF:</b></p> <p>Programmes of relevance to the conservation of the Tannourine Cedar Forest (and thus of relevance to the GEF Programs on Forest and Mountain ecosystems) include executing programmes for the protection of the forest, including starting a campaign to identify the pests affecting the forest, an estimation of damages and possible modes of intervention, <u>demining part of the forest</u>, and working towards the development of a sustainable management plan.</p>	
<p>PART IV - INFORMATION TO BE COMPLETED BY IMPLEMENTING AGENCY</p>	
<p><b>22. Project identification number:</b> To be assigned</p>	
<p><b>23. Implementing Agency contact person:</b> Ahmed Djoghlaïf, Executive Co-ordinator, UNEP GEF Co-ordination Office</p>	
<p><b>23. Project linkage to Implementing Agency program(s):</b></p> <p>CABI in partnership with SCOPE (Scientific Committee on Problems of the Environment) and the World Conservation Union (IUCN), is carrying out a project which lays out the basis for a comprehensive approach to addressing the loss of biodiversity due to invasive exotic species through a scientifically-based global strategy and action plan. The third meeting of the Conference of the Parties (COP) of the CBD in its Decision III/9</p>	

and the recently held fifth Conference of Parties encouraged this approach. To ensure effective action against invasive exotic species, UNEP promoted an additional GEF funded component (US \$750,000) for which funding is being used for specific aspects of the project relating to defining the best current practices, and disseminating lessons learned from case study countries that are especially impacted by invasive exotic species, or which offer special opportunities for deriving useful lessons from their experiences. This project will be linked to the CABI/SCOPE/IUCN project overseen by UNEP particularly in the context of using the tool-kit developed by this project to prevent invasions in other Mediterranean Cedar forests in the neighbouring countries.

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Insect  
Infestation  
at Tannour  
Cedar forest

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**FASCIMILE COVER SHEET**

Date: August 3, 2000

No. Of Pages: 2  
(Including cover sheet)

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Nairobi, Kenya  
(Original copy sent by mail)

CC: **Yves De San**  
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Fax No: 254-2-226-886/622-615

07 AUG 2000

Fax No: (961) 4981521 -

Initials \_\_\_\_\_

Fax No: 254-2-226-886/622-615

Fax No: (202) 477 1374

Fax No: (202) 477 1374

CC: S Aggarwal-Khan

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UNEP  
AR...  
AUG 07 2000

1. Mr. DJOGHLAIF

2. \_\_\_\_\_

3. \_\_\_\_\_

Fax No: 254-2-226-886/622-615

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Initials \_\_\_\_\_

**U N E P**  
GEF COORD. OFFICE  
**RECEIVED**

ALTERNATIVE REQUIRED  
NO  YES

08 AUG 2000

WHAT \_\_\_\_\_  
WHO: AD/SAM

WHEN COMPLETED \_\_\_\_\_  
CIRCULATE NO  YES

FILE IN HSP



REPUBLIC OF LEBANON  
MINISTRY OF ENVIRONMENT

THE MINISTER

August 3, 2000

Our Ref: 1935/B

Mr. Ahmad Djoghalf  
Executive Coordinator  
UNEP  
P.O. Box 30522  
Nairobi, Kenya

Dear Mr. Djoghalf,

**Subject: "Addressing the Insect Infestation of the Tannourine-Hadath El Jebbeh Cedar Forest" – Endorsement Letter.**

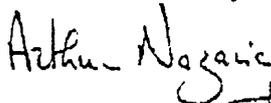
The Ministry of Environment requests UNEP assistance in the preparation of a GEF PDF-A and Medium Size Project entitled "Addressing the Insect Infestation of the Tannourine-Hadath El Jebbeh Cedar Forest".

The Ministry of Environment fully supports and endorses the aims of this priority project

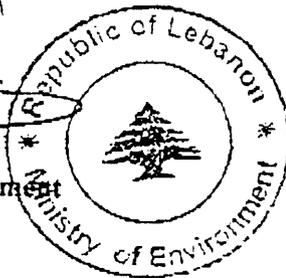
The Ministry is in the process of acquiring capacity for contracting in accordance with the UNEP procurement guidelines. To expedite the activities discussed in the PDF-A request, the Ministry requests, on an exceptional basis, UNEP execution of the PDF-A.

We look forward to working with the UNEP in the development of this project.

Very truly yours, 



Arthur Nazarian  
Minister of Environment



cc  
Yves De San (Resident Representative – UNDP Lebanon)  
Berj Hatjian (Director General – MoE)  
Sheila Aggarwal-Khan (Project Manager – UNEP, Nairobi)  
Sherif Arif (METAP Coordinator – World Bank)  
Shobba Shetty (GEF/Coordinator – World Bank)  
Lina Yamout (Acting Head of Dept. Urban Environment – MoE)  
Nancy Khoury (NFP GEF – MoE)  
Ramez R. Kayal (METAP – World Bank)

PDF A  
UNEP

11/10/2000



Kanta Kumari  
11/10/2000 02:48 PM

Extn: 34269 GEF  
Subject: PDF A: STRM Regional: Assessment of the Scale of Insect Infestation in Cedar Forests in the Mediterranean Region and Addressing the Infestation of the Tannourine-Hadath El-Jebbeh Cedars

----- Forwarded by Kanta Kumari/Person/World Bank on 11/10/2000 02:48 PM -----



Kanta Kumari  
11/10/2000 02:47 PM

Extn: 34269 GEF  
To: Ahmed.Djoghla  
Subject: PDF A: STRM Regional: Assessment of the Scale of Insect Infestation in Cedar Forests in the Mediterranean Region and Addressing the Infestation of the Tannourine-Hadath El-Jebbeh Cedars

Dear Ahmed:

We have looked over the above PDF A being submitted as a STRM, and have the following comments:

1. Biodiversity significance: clearly the cedars are biologically and globally significant. Any GEF intervention must be on this terms.
2. Justification for GEF support: part of the proposal is justified as a STRM i.e. the urgency to address the rapidly spreading infestation of the cedars: which require prompt response/action. The proposal being presented as a mix of urgent consultations, reaching consensus for action, targeted research; but is also coupled with longer term management action. Spraying as a means and as an option to address the problem clearly goes beyond what the GEF could support, not least because the implications of such an action on, both on in-situ and ex-situ biodiversity are not clear. While the GEF could provide funds to reach a understanding, consensus etc. the scope for GEF support must be clearly construed.
3. Regional: this appears largely as a national project, rather than a regional exercise. The regional aspect needs to be made explicit: in terms of justification, involvement, participation etc.

We hope that the above points are fully taken on board in any further development of the PDF A..

Kanta Kumari

Kanta.

To: Gefbio  
Julie Anne Waller  
Gef Program Coordination/Service

Is the option biological control being considered?  
[Signature]