

**Food and Agriculture Organization
of the United Nations
Forestry Department**



**Questionnaire
on outbreaks and impacts of
major insects and diseases
on forests, other wooded land and other lands**

General Objective of the Questionnaire

FAO, with the cooperation of experts from member countries, is compiling data for a global Forestry Resources Information System on the impact of insect pest and disease outbreaks on forests. The system is designed to document, analyse and make available current information about forest health at the country level with special emphasis on developing countries, countries with economies in transition and rapidly industrializing countries. The aim of the system is to increase awareness of the severe problems related to forest insect pests and diseases worldwide, to provide up-to-date baseline information to support policy- and decision-making and forest management planning, and to facilitate access to technical information as the basis for sound field-level operations.

Suggestions to improve this questionnaire are welcome. Please use the final section "Suggestions or Additional Information" for this purpose. Please provide full contact information so that FAO may communicate directly on technical matters, if necessary. Please refer to FAO's Web site <http://www.fao.org/forestry/site/18748> for events, publications, glossary and definitions related to forest health.

FAO thanks you for your assistance in this task and looks forward to receiving your reply.

Structure of the Questionnaire

The questionnaire is split into **two levels**. **Level 1** focuses on the estimation of the area affected. **Level 2** requests more detailed information on each outbreak reported, if this information is available.

Level 1

Section 1.1	National Reporting Office and Contact Name
Section 1.2	Instructions
Section 1.3	Questionnaire on Area Affected per Year

Level 2

Section 2.1	National Reporting Office and Contact Name
Section 2.2	Instructions
Section 2.3	Questionnaire on Outbreak Characteristics

Suggestions or Additional Information

Country of outbreak _____



**FAO QUESTIONNAIRE ON
IMPACT OF MAJOR INSECTS AND DISEASES ON
FORESTS, OTHER WOODED LAND AND OTHER LANDS**

LEVEL 1

National Reporting Office and Contact name		
Reporter name:	_____	
Title/Level:	_____	
Specialization:	_____	
Institute:	_____	
Address:	_____	
Country:	_____	Institute's Web site: _____
Tel:	Fax:	e-mail:

Please return the filled-in questionnaire (either electronically or in hard copy) to:
FAO, Forestry Department, Viale delle Terme di Caracalla, 00100 Rome, Italy
Contact person: Ms Gillian Allard, tel: (+39) 06 5705 3373, fax: (+39) 06 5705 5137, e-mail: Gillian.Allard@fao.org

Level 1- Instructions on Area Affected per Year by Insect/Disease Type

This section requests information on the area affected every year by a particular insect or disease in the reporting country.

Outbreak: "Outbreak" is defined as the occurrence of a sudden rise in the incidence of a disease or an increase in numbers of a harmful insect within a certain area in a short period of time. Please fill in one table for each identified outbreak, creating as many tables as the number of outbreaks you intend to report. All outbreaks should be numbered.

Insect name: Please provide the Latin and/or common names of the species commonly affecting your country.

Disease name: Please provide the Latin and/or common names of the diseases commonly affecting your country.

Area affected: Please indicate the **total area** infested by a particular insect/disease every year. According to the UN definition adopted in the Forest Resources Assessment Update 2005 (FRA 2005), total area excludes area under inland water bodies (such as major lakes and rivers). Please specify in brackets the type of figure provided, using one of the following symbols:

* = Estimate, **A**= Average, **U**= Unknown or **O**=Official figure (in this case indicate source at the bottom of the page)

Reference unit of measurement: Please specify the area affected by a particular insect in thousands of hectares per year ('000 ha/year) or other unit of measurement such as cubic metres (m³) of affected wood or number of trees infested. In all cases please **indicate clearly the reference unit** in the appropriate column.

Years: Indicate the time period of the outbreak reported, deleting unnecessary columns. Outbreaks before 1980 will not be included in the analysis.

Totals: Please provide your estimation of "total area affected in the country" for each outbreak. This total should be the result of the summation of the area affected by each insect/disease reported. You can also express totals in terms of m³ or number of trees attacked by the reported insects/diseases.

Threshold levels: Please indicate at the bottom of the table the country thresholds i.e. the minimum area below which damage is ignored and not reported and/or minimum percentage of trees that must be affected.

Level 1- Questionnaire on Area Affected per Year by Insect/Disease Type

OUTBREAK 1

Insect/Disease	Trees affected	Unit	Outbreak period <small>(specify in brackets if the figure is O=Official, *=Estimate, A=Average or U=Unknown)</small>										
Name	Name	ha/000ha/m ³ /n. of trees	1980	1981	2000	2001	2002	2003

TOTAL AREA AFFECTED

--	--	--	--	--	--	--	--	--	--	--	--	--	--

AND/ OR

TOTAL NUMBER OF TREES AFFECTED

--	--	--	--	--	--	--	--	--	--	--	--	--	--

AND/OR

TOTAL WOOD VOLUME AFFECTED

--	--	--	--	--	--	--	--	--	--	--	--	--	--

Source of Official data:

Threshold level of affected area:

Level 1- Questionnaire on Area Affected by Insect/Disease Type

OUTBREAK 2

Insect/Disease	Trees affected	Unit	Outbreak period <small>(specify in brackets if the figure is O=Official, *=Estimate, A=Average or U=Unknown)</small>										
Name	Name	ha/000ha/m ³ /n. of trees	1980	1981	2000	2001	2002	2003

TOTAL AREA AFFECTED

--	--	--	--	--	--	--	--	--	--	--	--	--	--

AND/ OR

TOTAL NUMBER OF TREES AFFECTED

--	--	--	--	--	--	--	--	--	--	--	--	--	--

AND/OR

TOTAL WOOD VOLUME AFFECTED

--	--	--	--	--	--	--	--	--	--	--	--	--	--

Source of Official data:

Threshold level of affected area:



Country of outbreak _____

**FAO QUESTIONNAIRE ON
IMPACT OF MAJOR INSECTS AND DISEASES ON FORESTS,
OTHER WOODED LAND AND OTHER LANDS**

LEVEL 2

National Reporting Office and Contact name		
Reporter name:	_____	
Title/Level:	_____	
Specialization:	_____	
Institute:	_____	
Address:	_____	
Country:	_____	Institute's web site: _____
Tel:	Fax:	e-mail:

Please return the filled-in questionnaire (either electronically or in hard copy) to:
FAO, Forestry Department, Viale delle Terme di Caracalla, 00100 Rome, Italy
Contact person: Ms Gillian Allard, tel: (+39) 06 5705 3373, fax: (+39) 06 5705 5137, e-mail: Gillian.Allard@fao.org

Level 2- Instructions on Outbreak Characteristics

In this section, please provide all the details on the specific outbreaks reported in Level 1.
Repeat the Level 2 table for each outbreak indicated in Level 1 of the questionnaire.
Other comments should be added to the worksheet entitled “Suggestions or Additional Information”.

1 EXACT LOCATION AND TIMING OF OUTBREAK

In this section please specify the name of the outbreak location, the region and timing (seasons).

2 FORESTS AND TREES AFFECTED

In this part you should mark the type of tree cover infested by the insects or diseases indicated in Level 1 of the questionnaire.
Note the following definitions provided for FRA 2005:

Forest Type

Forest	Land spanning more than 0.5 hectares; with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these threshold <i>in situ</i>
Other wooded land	Land not classified as “Forest” spanning more than 0.5 hectares; with trees higher than 5 meters and a canopy cover of 5-10 percent, or trees able to reach these threshold <i>in situ</i> ; or with a combined cover of shrubs, bushes and trees above 10 percent.
Other land with tree cover	Land classified as “Other land”, spanning more than 0.5 hectares with a canopy cover of more than 10 percent of trees able to reach a height of 5 m at maturity.
Other land	All land that is not classified as “Forest” or “Other wooded land”.
Inland water bodies	Inland water bodies generally include major rivers, lakes and water reservoirs.

Source: **FAO**. 2004. *FRA 2005 - Terms and definitions*. Forest Resources Assessment Programme Working Paper 83E. Rome.

In this Level 2 questionnaire the term “**Other Lands**” includes three FRA 2005 categories: “Other Land with Tree Cover”, “Other Land” and “Inland Water Bodies”.

Forest characteristics

The following classification has been **adapted** from the definitions prepared for FRA 2005 and refers to either “Forests” or “Other Wood Land” or “Other Lands”.

Primary function:	Forest/Other wooded land of native species, where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed.
Modified function:	Forest/Other wooded land of naturally regenerating of native species, where there are clearly visible indications of human activities.
Semi-natural function:	Forest/Other wooded land of native species, established through planting, seeding or assisted natural regeneration.
Productive function:	Forest/Other wooded land of introduced species and in some case native species, established through planting or seeding mainly for production of wood or non- wood goods.
Protective function:	Forest/Other wooded land of introduced species, established through planting or seeding mainly for provision of services.

Source: **FAO**. 2004. *FRA 2005 - Terms and definitions*. Forest Resources Assessment Programme Working Paper 83E. Rome.

3 CAUSES AND EFFECTS OF DAMAGE

Please choose the predisposing cause and the visible effects, providing, if possible, extra details such as year of damage.

4 ECONOMIC AND ENVIRONMENTAL IMPACTS

Loss of income from wood refers to the total income lost in the area affected in a specified period of time. It can be expressed in *US dollars* or *local currency*. In this latter, please indicate also the **exchange rate**. The values should exclude taxes.

In the **methodology of estimation** please specify if the figure is derived only from the loss of the **wood standing volume (WSV)** or is the **total lost income** including non-wood forest products such as honey, berries, nuts, medicinal plants, forage, game or fish etc.

Environmental impact:

Estimate the level of impact on the basis of personal judgement.

5 CONTROL STRATEGIES APPLIED

Please choose the control strategies that were applied in your country for the outbreak and provide as much information as possible.

Level 2 – Outbreak Characteristics

OUTBREAK 1

Primary causal agent

1. **INSECT:** Scientific name:...../Common name:...../Synonyms:.....
 2. **DISEASE:** Scientific name:...../Common name:...../Synonyms:.....

1. EXACT LOCATION AND TIMING OF OUTBREAK

Affected area.....	Region.....	Season.....
--------------------	-------------	-------------

2. FOREST INFORMATION

Forest Type 1. <input type="checkbox"/> Forest 2. <input type="checkbox"/> Other Wooded Land 3. <input type="checkbox"/> Other Lands	Forest characteristics 1. <input type="checkbox"/> Primary 2. <input type="checkbox"/> Modified 3. <input type="checkbox"/> Semi-natural 4. <input type="checkbox"/> Productive plantation 5. <input type="checkbox"/> Protective plantation	Age class of affected trees 1. <input type="checkbox"/> Mature 2. <input type="checkbox"/> Young 3. <input type="checkbox"/> Seedlings 4. <input type="checkbox"/> All
--	--	---

3. CAUSES AND EFFECTS OF DAMAGE

Predisposing cause(s) of damage 1. Fire <input type="checkbox"/> Year..... 2. Pollution <input type="checkbox"/> Year..... 3. Storm <input type="checkbox"/> Year..... 4. Flooding <input type="checkbox"/> Year..... 5. Drought <input type="checkbox"/> Year..... 6. Human impact <input type="checkbox"/> Year..... 7. Frost <input type="checkbox"/> Year..... 8. Other <input type="checkbox"/>	Visible effects 1. <input type="checkbox"/> Mortality 2. <input type="checkbox"/> Dieback 3. <input type="checkbox"/> Modification of final purpose/use 4. <input type="checkbox"/> Defoliation 5. <input type="checkbox"/> Wood damage
---	---

4. ECONOMIC AND ENVIRONMENTAL IMPACTS

Economic impact <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 20%;">Year</th> <th style="width: 40%;">Loss of income from wood</th> <th style="width: 40%;">Currency (Ex. rate)</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Year	Loss of income from wood	Currency (Ex. rate)													Methodology of estimation: WSV <input type="checkbox"/> TOT. LOST INCOME <input type="checkbox"/>	Environmental impact 1. <input type="checkbox"/> Low 2. <input type="checkbox"/> Medium 3. <input type="checkbox"/> High
Year	Loss of income from wood	Currency (Ex. rate)															

5. CONTROL STRATEGIES APPLIED

<table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 33%;">Year</th> <th style="width: 33%;">ha*</th> <th style="width: 33%;">Cost/ha</th> </tr> <tr> <td>Quarantine.....</td> <td> </td> <td> </td> </tr> <tr> <td>Removal of inf. trees.....</td> <td> </td> <td> </td> </tr> <tr> <td>Chemical.....</td> <td> </td> <td> </td> </tr> </table>	Year	ha*	Cost/ha	Quarantine.....			Removal of inf. trees.....			Chemical.....			<table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 33%;">Year</th> <th style="width: 33%;">ha*</th> <th style="width: 33%;">Cost/ha</th> </tr> <tr> <td>Biological.....</td> <td> </td> <td> </td> </tr> <tr> <td>IPM.....</td> <td> </td> <td> </td> </tr> <tr> <td>Mixed planting.....</td> <td> </td> <td> </td> </tr> </table>	Year	ha*	Cost/ha	Biological.....			IPM.....			Mixed planting.....			<table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 33%;">Year*</th> <th style="width: 33%;">ha</th> <th style="width: 33%;">Cost/ha</th> </tr> <tr> <td>Sound management practices.....</td> <td> </td> <td> </td> </tr> <tr> <td>Other.....</td> <td> </td> <td> </td> </tr> </table>	Year*	ha	Cost/ha	Sound management practices.....			Other.....		
Year	ha*	Cost/ha																																	
Quarantine.....																																			
Removal of inf. trees.....																																			
Chemical.....																																			
Year	ha*	Cost/ha																																	
Biological.....																																			
IPM.....																																			
Mixed planting.....																																			
Year*	ha	Cost/ha																																	
Sound management practices.....																																			
Other.....																																			

SUGGESTIONS OR ADDITIONAL INFORMATION

1. Extra contact name *(if different from previous)*

Contact name:	Complete Address :
Title :	Tel :
	Fax:
	E-mail :

2. Comments on outbreak ... *(specify outbreak number)*

(PLEASE WRITE IN CAPITAL LETTERS)

3. Web site

Is there a database of insect pests/diseases in your country available electronically? Yes No
If so, please provide details and Internet address (Web site)