Near East

The total number of pest species reported for the two countries in the Near East region was 81. Only seven pests were recorded for Cyprus while 75 were reported for Kyrgyzstan (Figure 9).

Insect pests were the most commonly reported pest species (70 percent) followed by diseases (15 percent) and other pests (15 percent) (Table 10). Kyrgyzstan reported 12 species in the other pest category, including the indigenous dwarf mistletoe (*Arceuthobium oxycedri*), while the remainder were acrarines. Both countries reported more indigenous species as forest pests.

Kyrgyzstan reported more pests in naturally regenerated forests, mainly on broadleaf trees, while pests in Cyprus were reported in equal numbers in naturally regenerated and planted forests, generally on conifers.

Of the insect pests, coleopterans were the most abundant species (Figure 10). Pathogens were only reported from Kyrgyzstan and the most common species reported were Basidiomycota.

Countries profiled in the region

FIGURE 9
Number of forest pest species reported, Near East

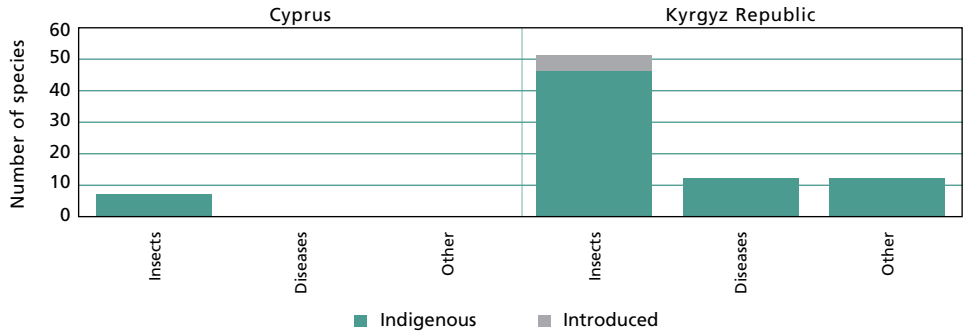
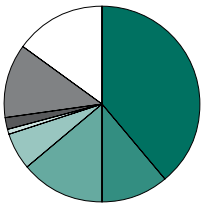


TABLE 10
Summary of the data on forest pest species reported, Near East

Pest Type	Number of pest species						
	Total	In naturally regenerated forests	In planted forests	In both types of forest	On broadleaf	On conifer	On both host types
Indigenous species							
Insects	52	26	16	10	25	25	2
Diseases	12	5	5	2	5	7	0
Other	12	8	4	0	11	1	0
Introduced species							
Insects	5	2	1	2	5	0	0
Diseases	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0
Total	**81**	**41**	**26**	**14**	**46**	**33**	**2**

FIGURE 10
Most prevalent pests, Near East



Insects
- Coleoptera 39%
- Hemiptera 11%
- Lepidoptera 14%
- Hymenoptera 6%
- Other insects 1%

Diseases
- Basidiomycota 12%
- Ascomycota 2%

Other
- Other pests 15%

SPECIES FOUND IN MORE THAN ONE COUNTRY

The gypsy moth, *Lymantria dispar**, was noted to occur in both countries; the Asian strain in Kyrgyzstan and the European strain in Cyprus. It is a major pest of broadleaf trees in both naturally regenerated and planted forests and is of particular concern in wild pistachio (*Pistacia Vera*), fruit trees and walnut (*Juglans regia*) forests in Kyrgyzstan. The indigenous bark beetles, such as *Ips*, *Orthotomicus* and *Tomicus* species, are a particular problem in the region.

CAPACITY FOR FOREST HEALTH PROTECTION

Monitoring and detection

As in other regions profiled, monitoring and detection activities in the Near East countries are often informal although some activities have targeted specific pests. In Cyprus, a method to predict defoliation by the pine processionary caterpillar, *Thaumetopoea wilkinsoni*, using egg mass and colony counts has been developed. Kyrgyzstan has a risk rating system for phytophagous insect pests.

Data management

National capacity for the collection and management of forest health data is weak in both the countries profiled. Little data are collected and tools for data management need to be developed. In Kyrgyzstan, a number of studies have been carried out on insect pests and a few on forest diseases.

No quantitative information was provided by Cyprus for FRA 2005. Kyrgyzstan provided information for both reporting periods. Insects affected 70 000 ha of forest for the 1990 period and 60 000 ha for the 2000 reporting period. Diseases affected 16 000 ha and 10 000 ha of forest for the 1990 and 2000 reporting periods respectively.

Pest management

In Cyprus, a variety of tactics have been used to target specific pests. Rapid removal of wind thrown, storm damaged or infested trees has been used to deal with bark beetle infestations. Direct control projects against the pine processionary caterpillar, *Thaumetopoea wilkinsoni*, have been conducted annually through ground or aerial application of microbial or chemical insecticides. No information was found on pest management strategies in Kyrgyzstan although the country correspondent noted that new control methods will be introduced, with priority given to biological control.

Ownership

Forests in Kyrgyzstan are public lands. In Cyprus private forest ownership is often passive, with little or no management.

ADDITIONAL INFORMATION

Insect pests, along with fire, are the greatest threats to forests in the Near East (FAO, 2007a). However, data are not highly reliable since most countries do not maintain good records on forest disturbances.

A number of important, high-profile pests are significant pests in the region including *Armillaria mellea**, *Erannis defoliaria*, *Hyphantria cunea*, *Lymantria dispar**, *Pineus pini*, *Thaumetopoea wilkinsoni** and *Thaumetopoea pityocampa**. In northern Iraq and southwestern Islamic Republic of Iran, brown-tail moth, *Euproctis melania*, is one of the most destructive defoliators of oak and fruit trees. In Lebanon, *Cedrus libani* was under serious threat from repeated defoliations caused by a new pest, the cedar web-spinning sawfly, *Cephalcia tannourinensis.* Fortunately, concerted efforts in management reduced the risk to local trees and gene stock and prevented transboundary spread. The blue gum chalcid, *Leptocybe invasa**, was reported in nurseries and young eucalypt plantations in Tunisia in 2004 (Ben Jamaa and Belhaj Salah, 2007).

Pines are the target of a variety of bark beetles that can cause tree death, branch dieback and reduced productivity. These include the European bark beetle, *Orthotomicus erosus**, in Cyprus and Turkey on *Pinus brutia* and *P. pinaster*; the lesser pine shoot beetle, *Tomicus minor*, found infesting *P. pinaster* in Cyprus and Turkey; the pine shoot beetle, *Tomicus destruens*, recorded in Cyprus; and *Phloeosinus armatus* recorded on *Cupressus sempervirens* in Cyprus. Currently, stands of *Pinus pinea* in Lebanon are seriously infested with an unidentified bark beetle; it may be a *Tomicus* species. Tree death has occurred in all stands.

Chestnut blight caused by the fungal pathogen *Cryphonectria parasitica* is a prevalent problem in *Castanea sativa* in chestnut-growing regions of Turkey.

Dieback and declines of forest trees, junipers and cedars in particular, are also a significant concern to many countries in the region. The interrelated causes, biotic and abiotic, are being examined. Some species affected by decline and dieback include: *Juniperus procera* in the Asir highlands, Saudi Arabia; *Cedrus libani, Juniperus excelsa* and *Abies cilicica* in Lebanon; and *Juniperus polycarpus* in Kyrgyzstan and Oman.

Phloeosinus armatus was recorded as a pest of conifers, cypress in particular, in naturally regenerated and planted forests in Cyprus. Kyrgyzstan reported *Phloeosinus turkestanicus* as a pest of conifers, primarily junipers, in both forest types.

REGIONAL PEST MANAGEMENT EFFORTS

Concerned about the increased threat to forests and trees outside forests posed by climatic changes that may influence movement and establishment of new insect pests and diseases, the countries of the region have established the Near East Network on Forest Health and Invasive Species (NENFHIS) (www.fao.org/forestry/51295) to foster integrated and dynamic forest pest management in the region and provide decision-makers with baseline data for making informed decisions.