

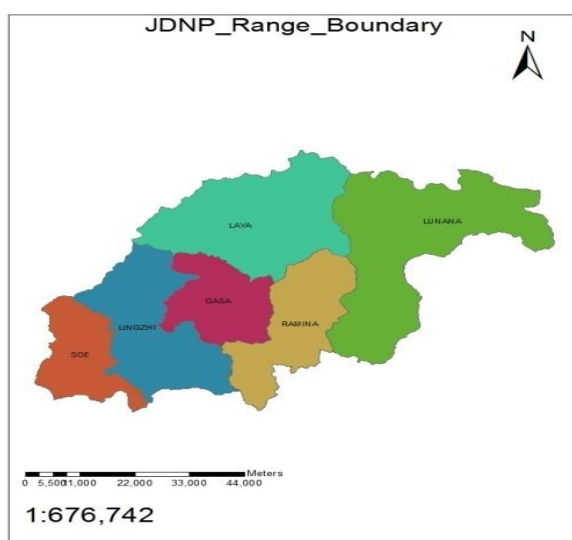
Project Update: February, 2016

Purposive Sampling from Department of Forest and Part Services, Jigme Dorji National Park, Royal Society of Protection of Nature (RSPN), Ugyen Wangchuck Institute for Conservation and Environment (UWICE), RNR-RDC (Renewable Natural Resources Research Development Centre, Yusipang) was carried out before the field work on the forest disease in Bhutan in February 2016. According to purposive sampling very few researches on forest diseases were conducted and limited numbers of diseases were reported in Bhutan which is given in Table 1.

Table 1 Forest Diseases in Bhutan.

Si no	Name of diseases	Affected tree	Cause/ Pathogen	Reported
1	Mortality	<i>Pinus wallachina</i> and <i>Pinus spinulosa</i>	<i>Ips schmutzenhoferi</i>	1988, 2000, 2002
2	Dieback	<i>Pinus wallachina</i>	Drought	1994, 1999, 2001, 2003 and 2008.
2	Mortality	<i>Pinus roxburghii</i>	<i>Ips longifolia</i>	1980's
3	Dieback	<i>Abies densa</i>	Prolonged drought	1993
2	Parasitism	<i>Pinus wallachina</i> and <i>Pinus roxburghii</i>	<i>Arceuthobium minutissimum</i> and <i>Taxillus kaempferi</i>	1986

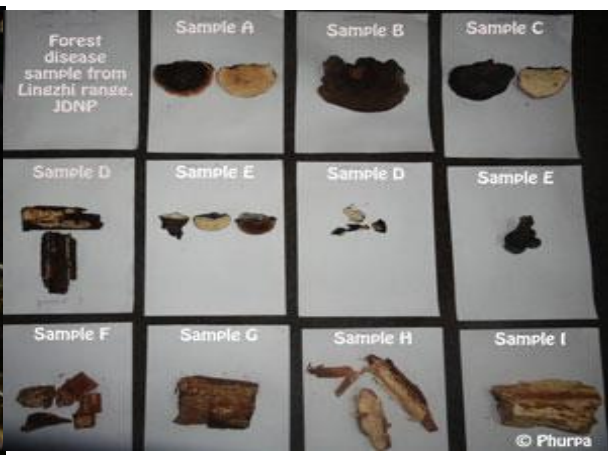
Forest diseases detection programmes (area sampling and field surveillance) were carried out from February 22nd to March 21st 2016 in five areas of Jigme Dorji National Park (Soe range, Lingzhi range, Gasa range, Ramina range and Laya range) from the lowest to the highest altitude (1551m to 3370m masl) except Lunana range due to the snow cover.



Numbers of disease were seen affecting the economic important tree species such as *Abies densa*, *Tsuga dumosa*, *Pinus wallichiana*, *Pinus roxburghii*, etc.

At present laboratory analysis and diseases authentication is under process at Forest Research Institute, India. Forest diseases list of economic important tree species of JDNP will be submitted in coming update.

Map 1 Study area, JDNP



Left to right: Heart rot of *Abies densa*; Field surveillance of the forest diseases; *Fomitopsis pinicola* on *Tsuga dumosa*; Heart rot of *Tsuga dumosa*; *Juniperus recurva* mortality and sample for laboratory analysis.