

---

**2017 Asia Forest Fire Management Training**

*Seoul, Republic of Korea, 15-22 October 2017*

---

# Forest Fire Management in Bhutan

***Akey Dorji***

***Department Of Forest and Park Services  
Bhutan***



***Kencho Tshering***

***Department Of Forest and Park Services  
Bhutan***

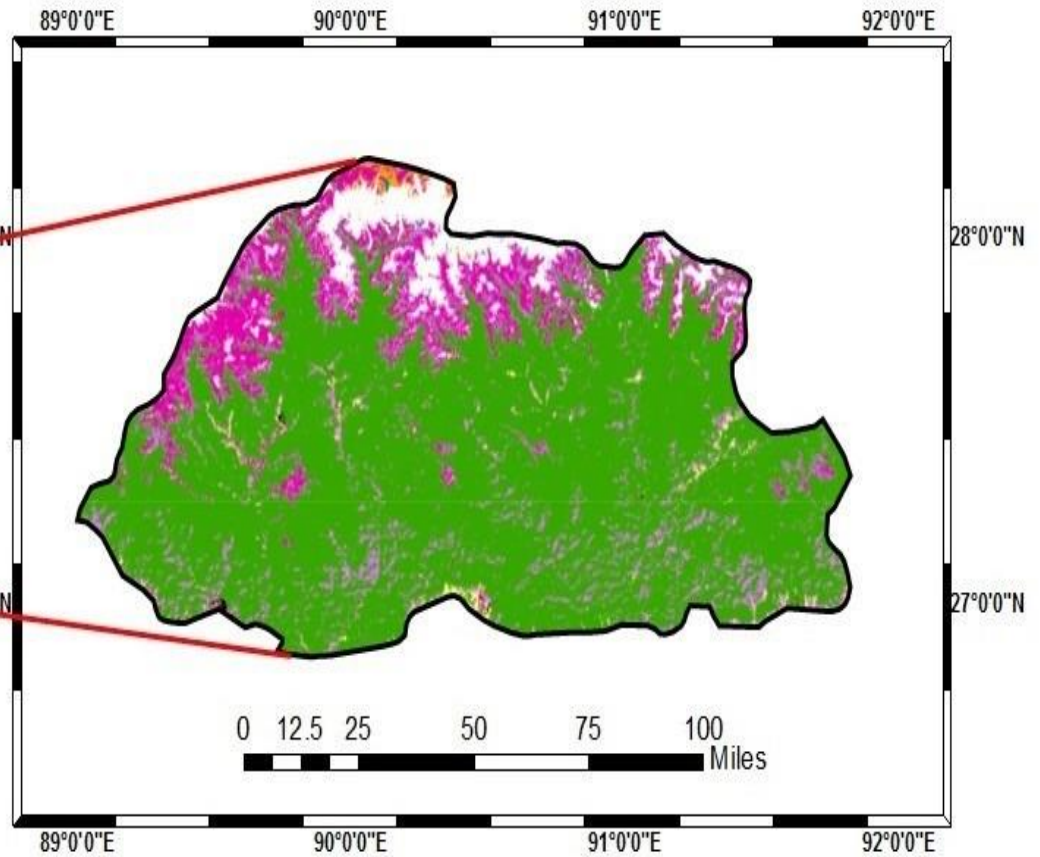
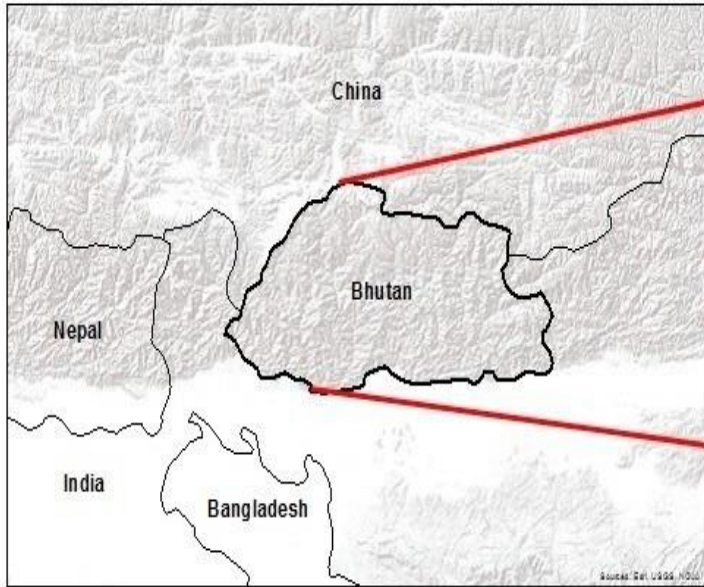


National Institute of  
Forest Science



APAFRI





### Legend

- |  |  |
|--|--|
|  Cropland                      |  Urban       |
|  Other vegetation             |  Bare areas |
|  Broadleaf/Needleleaf forests |  Water      |
|  Grassland                    |  Snow       |



Xigaze  
日喀则市

Shannan  
山南地区

Yamthamdu  
काठमाडौं

Jigme Dorji  
National Park

Thimphu  
Paro

SIKKIM

Bhutan

Darjeeling

Siliguri

Tawang

Gohpur

Sitamarhi  
सीतामढ़ी

Tezpur

Jorhat

Darbhanga  
दरभंगा

Nalbari

ASSAM

Nagaon

Kishanganj

Guwahati

NAGALAND

Patna  
पटना

BIHAR

MEGHALAYA

Shillong

Dimapur

Sahibganj  
साहिबगंज

Senapati

Banka  
बाँका

Pakur  
पाकुर

Sylhet  
সিলেট

Imphal

Dumka  
दुमका

Rajshahi  
রাজশাহী

Silchar

MANIPUR

Hazaribagh  
हज़ारीबाग

Dhanbad

Bangladesh Google

AH1

AH1

N507

N2

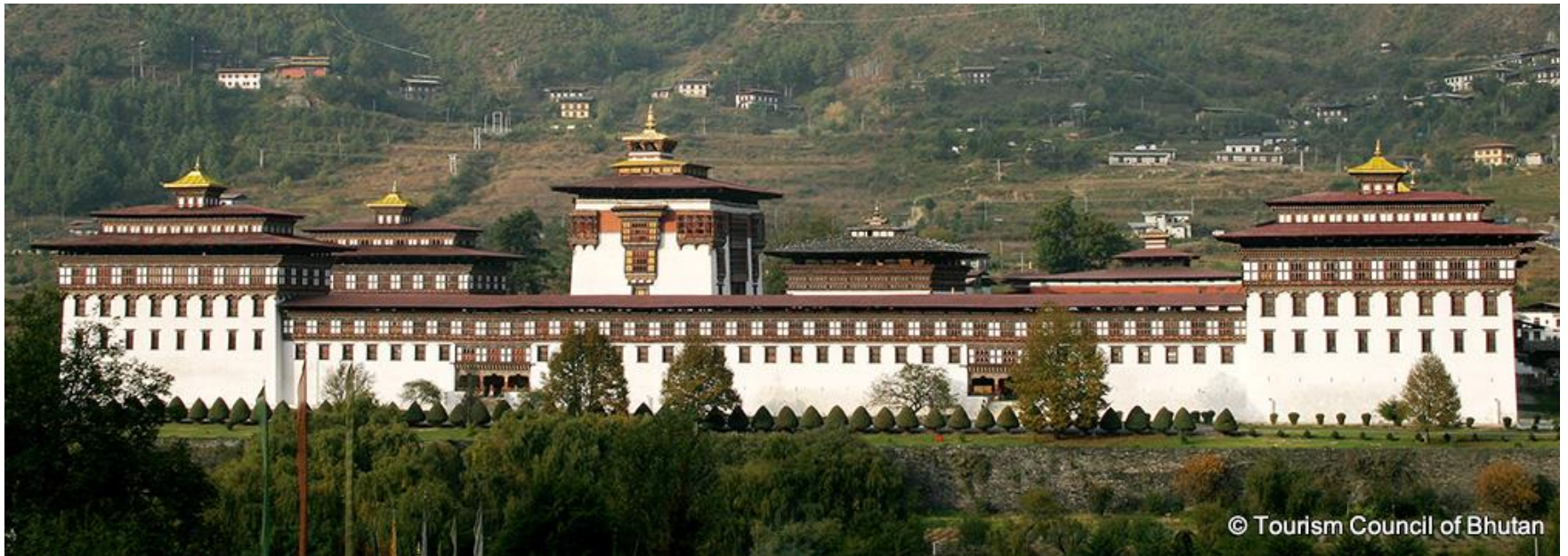
N5

AH1

N502

# The Constitution of the Kingdom of Bhutan

**“The Government shall ensure that, in order to conserve the country’s natural resources and to prevent degradation of the ecosystem, a minimum of sixty percent of Bhutan’s total land shall be maintained under forest cover for all time”.**



# Background



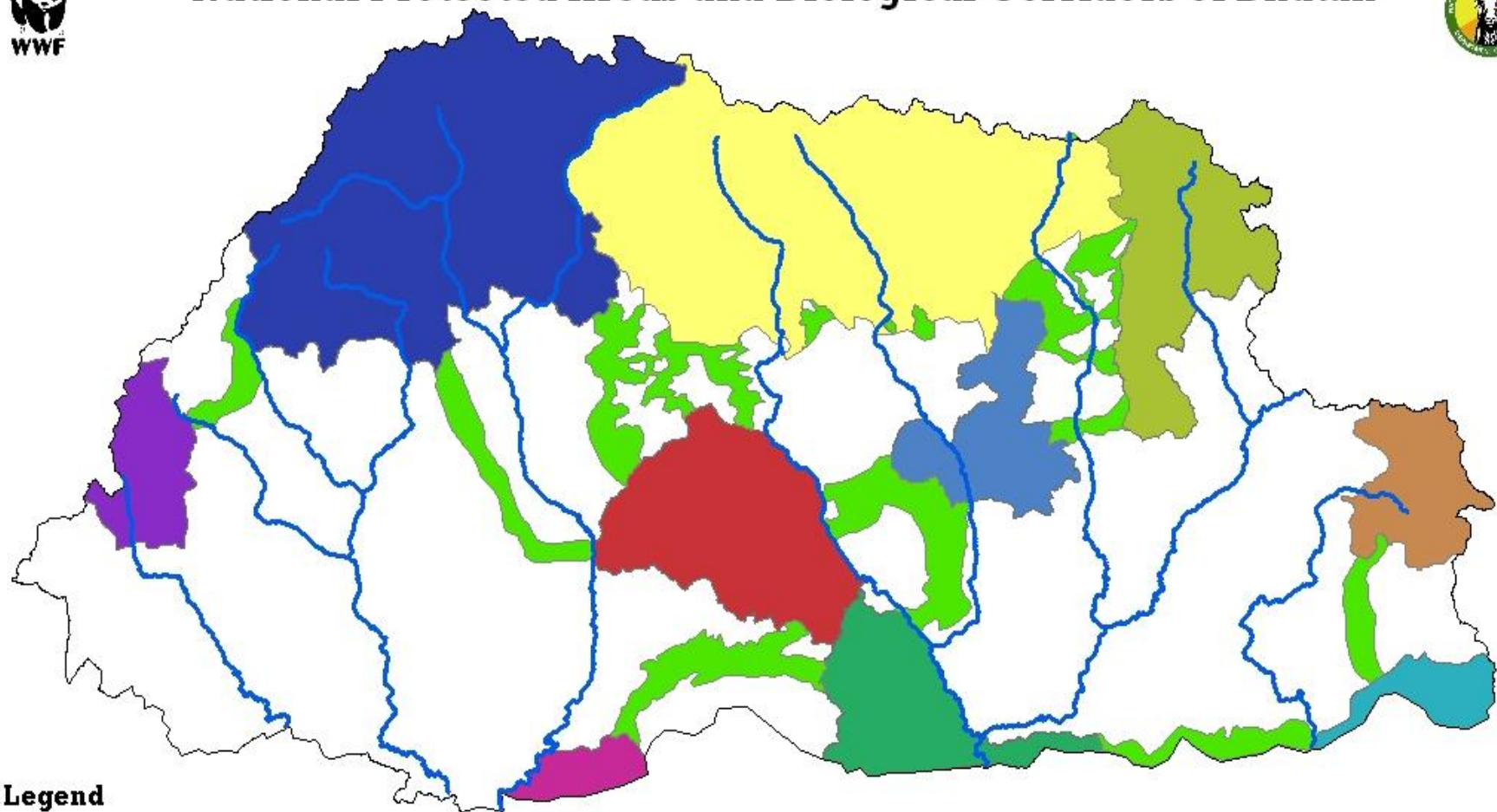
**Total area=38,394 km<sup>2</sup>**

**Forest Cover=72%**

**Protected area=51.32%**



# National Protected Areas and Biological Corridors of Bhutan



## Legend

- |  |   |
|--|---|
|  Main River                            |  Khaling Wildlife Sanctuary  |
|  Biological Corridor                   |  Phipsoo Wildlife Sanctuary  |
|  Wangchuck Centennial Park (4914sq.km) |  Royal Manas National Park   |
|  Bumdeling Wildlife Sanctuary          |  Sakteng Wildlife Sanctuary  |
|  Jigme Dorji National Park             |  Thrumshingla National Park  |
|  Jigme Singye Wangchuck NP             |  Torsa Strict Nature Reserve |



# Department of Forest and Park Services

SFED

NRED

FPED

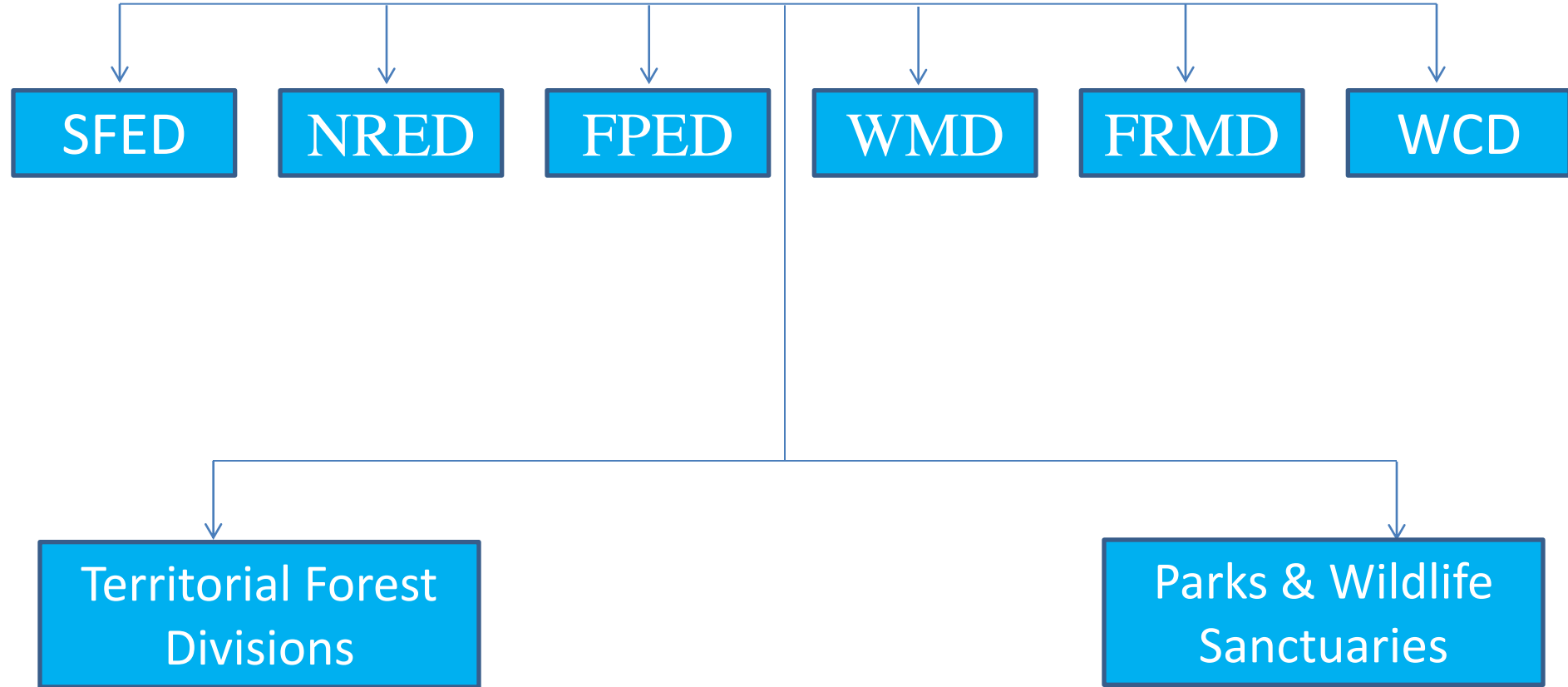
WMD

FRMD

WCD

Territorial Forest  
Divisions

Parks & Wildlife  
Sanctuaries



---

# Causes

Agriculture debris burning

Electric shock circuit

Lemon grass harvesters

Cattle herders for new grass

Picnickers

Camp fires





# Impact of Forest fire

- ❖ Devastating impact on the environment and the economic viability of communities
- ❖ Threaten and causes destruction to houses, infrastructure, wildlife and domestic animals.



# Prevention Activities

## Awareness



MINISTER

FFMP/FPED/11/15-16/609

8<sup>th</sup> December, 2015

The Dasho Dzongda  
20 Dzongkhags

Dasho

As all of us are aware, Bhutan's forests especially pine forests are most at risk from forest fires since they are highly flammable. Moreover the forest floor contains pine needles and cones which further aggravate the situation. So on a dry and windy weather the risks are very high.

Most fires are caused by human activities. Various measures to prevent forest fires have been initiated by the Ministry of Agriculture and Forests. Yet deliberate as well as unintentional forest fire incidences occur across the country damaging large area of forest resources, infrastructures, leading to economic losses. Once a forest fire gets ignited it is very difficult to suppress given the steep terrain, limited resources (man power and firefighting equipment) and highly inflammable ground fuel cover (needles, dry grasses, cones, etc)

Therefore, the undersigned would like to request Dashos to kindly inform the public of respective jurisdiction to take precaution and preventive measures to avoid any incidents of forest fires.

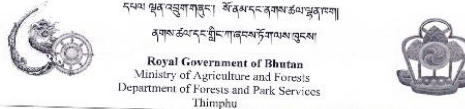
The undersigned would like to seek your kind support to minimize the damage to forest resources from fire incidents and save our environment.

With regards,

*(Signature)*  
(Yes, I am)

Copy to  
The Secretary, MoAF for kind information  
The Director General, DoFPS for kind information

PHONE: +975-2-322482, 322129 (O) FAX: +975-2-323153



དཔལ་ལུན་འབྲུག་གཞུང་། རྒྱལ་ཡོད་རྒྱུ་ལེན་ལུང་།  
འབྲུག་ཡུལ་དང་རྒྱུ་ལེན་གྲུབ་ལུང་།

Royal Government of Bhutan  
Ministry of Agriculture and Forests  
Department of Forests and Park Services  
Thimphu

FFMP/FPED-11/15-16/359

October 21, 2015

### NOTIFICATION

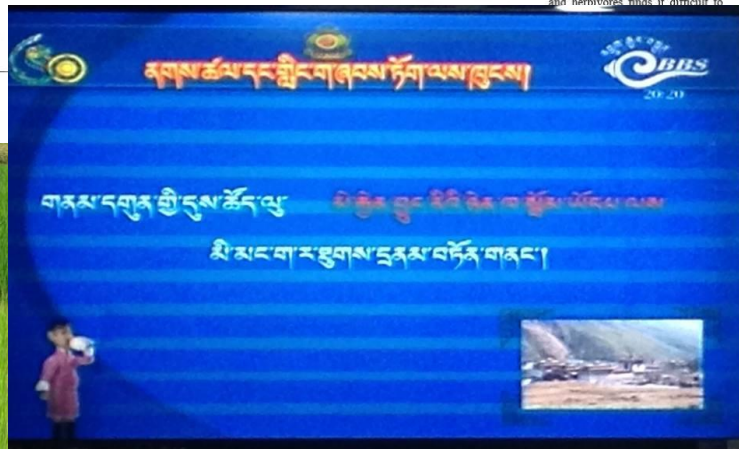
This is to notify that with the onset of dry season there is vulnerability of forest fire. As nation will be celebrating His Majesty Fourth Druk Gyelpo's birthday with grand celebration to commemorate 60<sup>th</sup> birth anniversary across country, and not to interrupt the celebration all the Department field offices are required to take necessary awareness and preventive measures on forest fire management in respective jurisdiction. The Department would also like to remind in all to take extra vigilance on forest fire during the celebration period and carry out surveillance duty regularly.

*(Signature)*  
(Changmo Norbu)  
Director General



As wet summer exits giving way to fall season which will be followed by dry winter, the once beautiful forests with lush greenery, adorned with variety of flowers are reluctantly transforming into dull and dismal areas. There are not many bees buzzing around and herbivores finds it difficult to

becoming ever miser with water and to conserve it, they opt to get rid of their leaves and other flimsy branches through which substantial amounts of water is lost by means of evapo-transpiration. But to a layman, it is like trees are going for hibernation or for a long sleep. However, all that falls from the sky lands on the forests floor. This is all the thickening dry biomass, grass, and shrubs and any other forest undergrowth, having completed their annual growth cycle only adds fuel to the fire. At this time of the year that the forests are rendered most vulnerable and susceptible to outbreak of forest fire. It takes just a small flicker of fire to rage into full-fledged forest fire engulfing the whole mountains and vales. Then the huge treasure of forests and other natural resources get annihilated and obliterated. And when the fire burns, it burns not only plants, but along with it, millions of insects and other life forms are charred too, which is utterly sinful from the Buddhism standpoint. When there is an incident of forest fires, it is nightmare to the foresters, arm forces, Desups, forest fire volunteers and community members in proximity to the forest fire incident site. They must leave everything behind and head to battle the fires. They must combat to douse the fire



Notification on Prevention of Forest fires  
Posted on October 26, 2015

The Forest Fire Management Section, (FFPD) of Department of Forest and Park Services would like to remind all concerned that with the onset of the dry season, all are requested to carry out forest fire preventive measures. This has become even more important since our country will be celebrating the 60<sup>th</sup> Birth Anniversary of His Majesty the fourth Druk Gyelpo. So, all are requested to be extra vigilant especially during the Celebrations in order not to disrupt this important occasion.

Towards this, we are pleased to attach a formal notification from the Hon'ble Director General, DoFPS.

Please click here to view details

DoFPS

208 total views, 1 views today

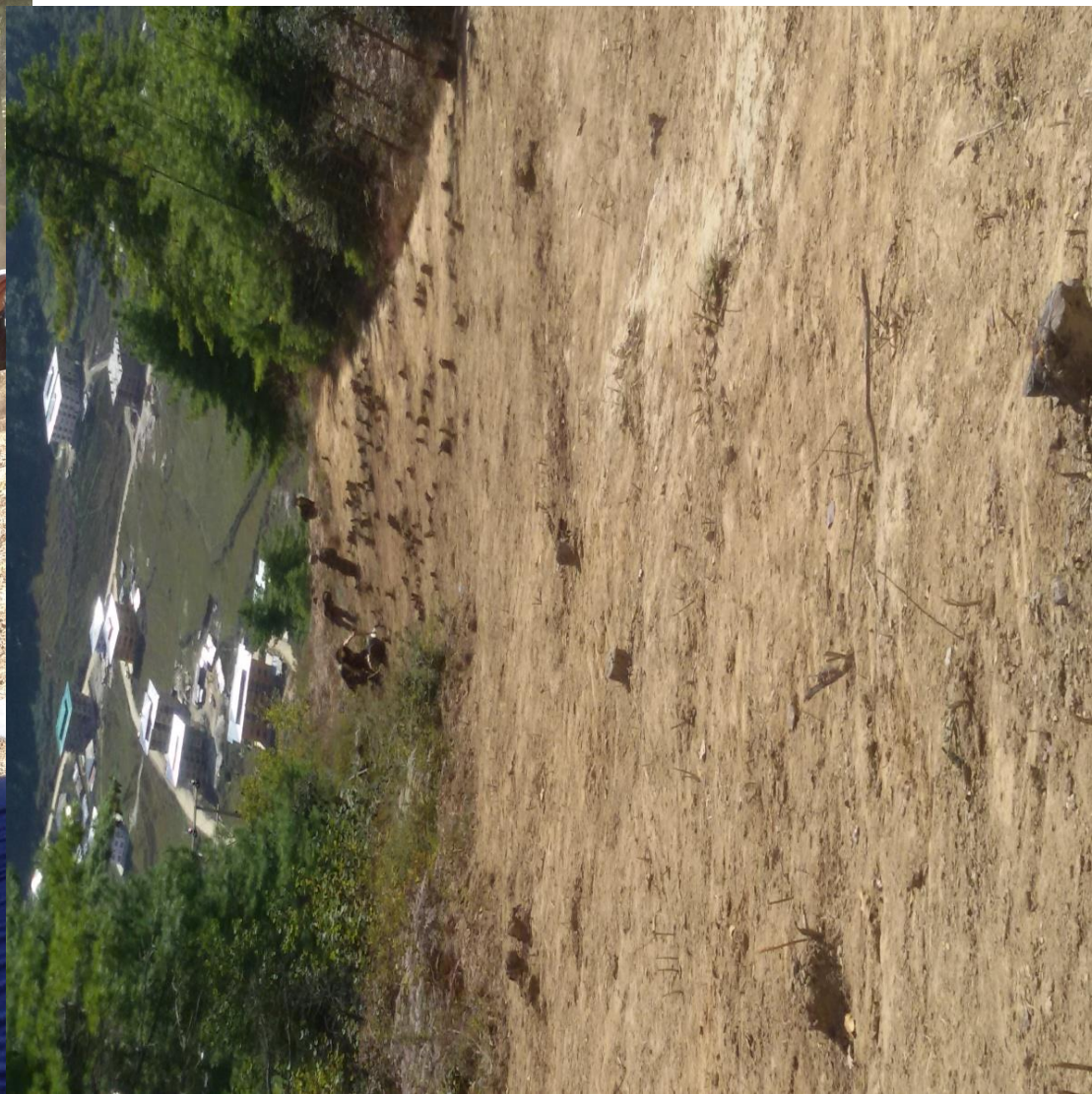
Share Print PDF

Follow Us On  
Publication Subscription  
Google Apps Manual  
Google Email  
Google Contacts  
Google Calendar  
Google Sites  
Google Documents  
Google Drive  
Forum Discussions  
No merging to transfer

# Prevention activities



# Creation of Fire line



# Forest Fire Volunteer Program



# Tools and Equipment

Communication handset

Shovel

Rake

Flappers

Power chain saw

McLeod

Portable Water pump

Safety ropes



# Machinery



# Forest Fire Suppression Activities





# Mopping up





An aerial photograph of a lush green mountain valley. The foreground and middle ground are filled with dense green forests and scattered buildings, likely a village or small town. The background shows rolling hills and mountains under a blue sky with some clouds. The text "Thank You" is overlaid in the center in a large, bold, black font.

**Thank You**