

# Standard Operating Procedure for Forest Fire Fighting in Dagana Dzongkhag



**Inter-agency Forest Fire Coordinating Group  
2022**

## Contents

<b>1. BACKGROUND .....</b>	<b>1</b>
<b>2. OBJECTIVES .....</b>	<b>1</b>
<b>3. SOP: BASIC INITIAL PRIORITIES.....</b>	<b>2</b>
<b>4. PRE-INCIDENT PLANNING AND PREPAREDNESS .....</b>	<b>2</b>
5.1. Formation of Inter-Agency Forest Fire Coordinating Group members (IFFCG) .....	2
5.2 Fire fighting Training .....	3
<b>6. PRE-INCIDENT ROLES AND RESPONSIBILITIES OF IFFCG .....</b>	<b>3</b>
6.1. Collective Roles and Responsibilities of IFFCG .....	3
6.2. Specific responsibilities of the IFFCG .....	4
<b>7. FIRE SUPPRESSION AND OPERATIONS ON INCIDENT .....</b>	<b>4</b>
7.1. Fire Fighter Safety (SAFETY FIRST) .....	4
7.2. Forest Fire Incident Response Mechanism .....	4
7.3. Communication chain of command during forest fire incident .....	6
7.4. Roles and Responsibilities of IFFCG during incident active phase .....	7
7.6. Suppression Coordination on Large Fires .....	7
7.7. Water Tankers .....	7
<b>8. POST FIRE ASSESSMENT AND REHABILITATION.....</b>	<b>7</b>

## **1. BACKGROUND**

Forests play an integral role in the socio-economic development and environmental health of Bhutan. Amongst other drivers of deforestation and forest degradation, forest fire is the primary cause for loss in forest cover and valuable biodiversity. Therefore, forest fire poses the single most important threat to the Constitutional requirement of maintaining 60 percent forest cover. Catastrophic forest fires also undermine national conservation and developmental efforts and are often a cause for serious concern for communities as wildland-urban fire interface increasingly gets riskier, particularly in growing urban-hubs.

Forest fire fighting in Bhutan is a challenging task due to steep, rugged terrain, erratic and increasingly severe weather patterns. Many forest fire incidents are anthropogenic in nature, which makes the role of fire managers challenging in managing new fire incidents. While the current approach to forest fire fighting remains unchanged, fire fighters continue to respond to the fire with limited management guidance, planning and co-ordination of roles and minimal communication between agencies.

The ability of the first responders to effectively respond to fire incidences can greatly reduce damage to forests and quickly deter risk posed by such fires to communities. Effective response will depend on inter-agency coordination, preparedness and how adequately response teams are equipped and trained. Currently, fire fighters lack a common coordinated system for command and control for incident management planning during forest fire incidents. In the absence of a reliable incident management planning, all concerned agencies often fail to coordinate effective suppression response and also are exposed to unnecessary safety concerns.

Inter-agency fire fighters, such as Royal Bhutan Army, Royal Bhutan Police, Desuung, volunteers and local communities all contribute to fight forest fires. The response to forest fire incidence throughout the country requires a proper incident management system taking into consideration coordination, effective response mobilization and putting fire fighter safety first. The system should describe and define the responsibilities for all the stakeholders involved. There should be a standard operational flow from the designated Officer-in-Charge down through the entire operational task force.

## **2. OBJECTIVES**

- i. To ensure the safety of fire fighting personnel during forest fire incidents.
- ii. To provide for timely, efficient and effective fire fighting action on forest fire incidents.
- iii. For better coordination among the different stakeholders involved in fire fighting.
- iv. To achieve cost-efficient and optimal resources distribution for all forest fire fighters.

### 3. SOP: BASIC INITIAL PRIORITIES

These SOPs describe the method by which various forest fires fighting actions should be carried out in a coordinated approach.

While each new forest fire outbreak is different, they share many common features. By working out, in advance, how to react to any of those features, a fire fighter is able to focus attention on the unique features of a particular forest fire. This reduces decision-making workload and reduces the chance that something important might be missed.

By having SOPs, a fire fighter can more easily anticipate the actions of other fire fighters, lessening the risk of working at cross-purposes, which can lead to accidents and ineffective fire fighting. Any contradictory inefficiencies and issues in working by an SOP should be reported immediately via the fire fighter's commanding officer or existing chain of command. If the problem directly affects the safety of those on the fire line, the commanding officer should immediately take action to reduce any such potential risk occurring from the contradiction in priorities.

### 4. PRE-INCIDENT PLANNING AND PREPAREDNESS

#### 5.1. Formation of Inter-Agency Forest Fire Coordinating Group members (IFFCG)

The most important part of pre-incident planning is formation of the coordination group members (focal officers) from concerned agencies involved in fire fighting. The following focal officials have been nominated from all the concerned agencies as the member of the Inter-Agency Forest Fire Coordination Group (IFFCG) for Dagana Dzongkhag to act as the primary official contact during forest fire incidents:

**Table 1:** IFFCG Members

Sl.No.	Agency	Focal (by Position)	Contact
1.	Dagana Forest Division	CFO, Fire Focal	17620592
2.	Royal Bhutan Army (RBA)	OIC, Dagapela	17626760
	Royal Bhutan Police (RBP)	OC, Dagana	17916520/77303736
3.	Royal Bhutan Police (RBP)	OC, Dagapela	17608075
4.	Dagana Dzongkhag Disaster Management Committee	DDMC Focal	17889346/17781551
5.	Desuung	Dagana Dzongkhag	77345758

		Desuung Coordinator	
6.	Gup	Tseza Gewog	17584062
7.	Gup	Tshankha Gewog	77236415
8.	Gup	Laja Gewog	17762445/77226444
9.	Dzongkhag Cultural Officer	Dagana Dzongkhag	17994715/17638689
10.	Dagachhu Hydro Power Corporation Limited (DHPC)	Chief Executive Officer	17944708
11.	Hospital	Dzongkhag Health Officer	17623121

*Note: Any change in membership of the IFFCG should be informed and updated with the IFFCG.*

## **5.2 Fire fighting Training**

- i. The DoFPS/Dagana Forest Division will conduct basic fire fighting training of trainers (TOTs) for all the agency focal, who in turn will train their respective fire fighters.
- ii. Budget for basic firefighting training and equipment will be solicited from DDMC and other sources.

## **6. PRE-INCIDENT ROLES AND RESPONSIBILITIES OF IFFCG**

The IFFCG shall have numerous roles and responsibilities before the fire occurs (pre-incident), during the fire incident (suppression) and after the fire (post-fire). The Pre-Incident roles and responsibilities of the IFFCG shall be as follows:

### **6.1. Collective Roles and Responsibilities of IFFCG**

- i. Coordinate before the onset of the fire season and make preparations for the oncoming fire season including planning, training, awareness, identification of fire prone zones and regular monitoring.
- ii. Meet as and when required to discuss on issues related to forest fire management and suppression activities.

## **6.2. Specific responsibilities of the IFFCG**

- i. Divisional Forest Office shall ensure that community/public is well advocated on the rules and regulations on indiscriminate fire setting to avoid human negligence. Permit to be made mandatory for any kind of outdoor fire setting.
- ii. Agency members shall ensure that fire fighters from their respective agencies are ready and always on stand-by during the forest fire season to deliver effective first coordinated response.
- iii. The Divisional Forest members shall coordinate and liaise with DDMC on the conduct of forest fire fighting training and awareness programs.

## **7. FIRE SUPPRESSION AND OPERATIONS ON INCIDENT**

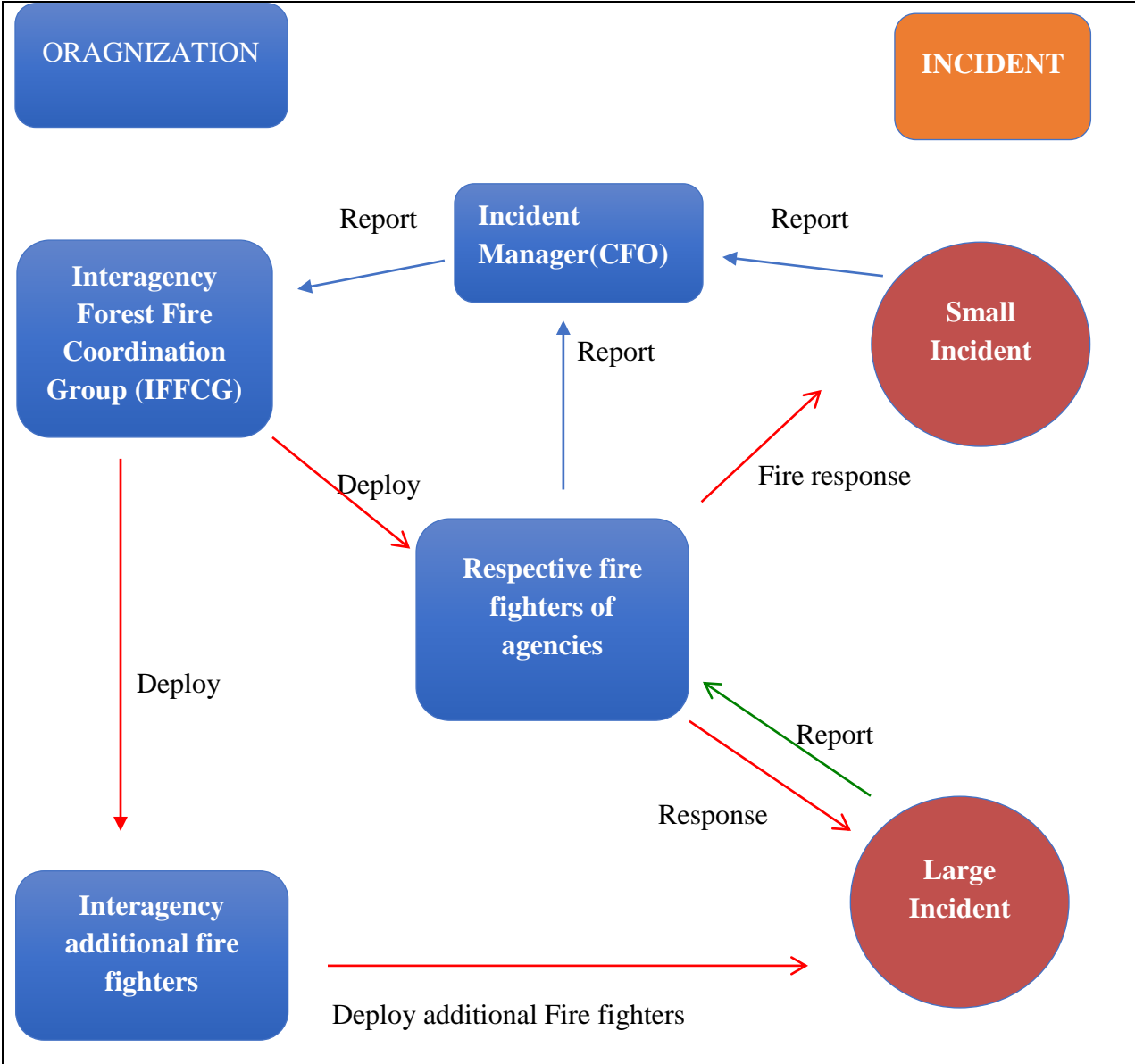
### **7.1. Fire Fighter Safety (SAFETY FIRST)**

- i. The Officer-in Charge of the respective agency is accountable for safety at the forest fire. All fire fighters are also individually responsible for their own safety.
- ii. All fire fighters should work collectively at the incident site to ensure safety of other fire fighters and other people in the area.
- iii. On the incident site everyone should be aware of possible hazards and identify methods to eliminate, reduce or avoid them.
- iv. The medical staffs should be informed so that instant deputation of first aids can be catered.

### **7.2. Forest Fire Incident Response Mechanism**

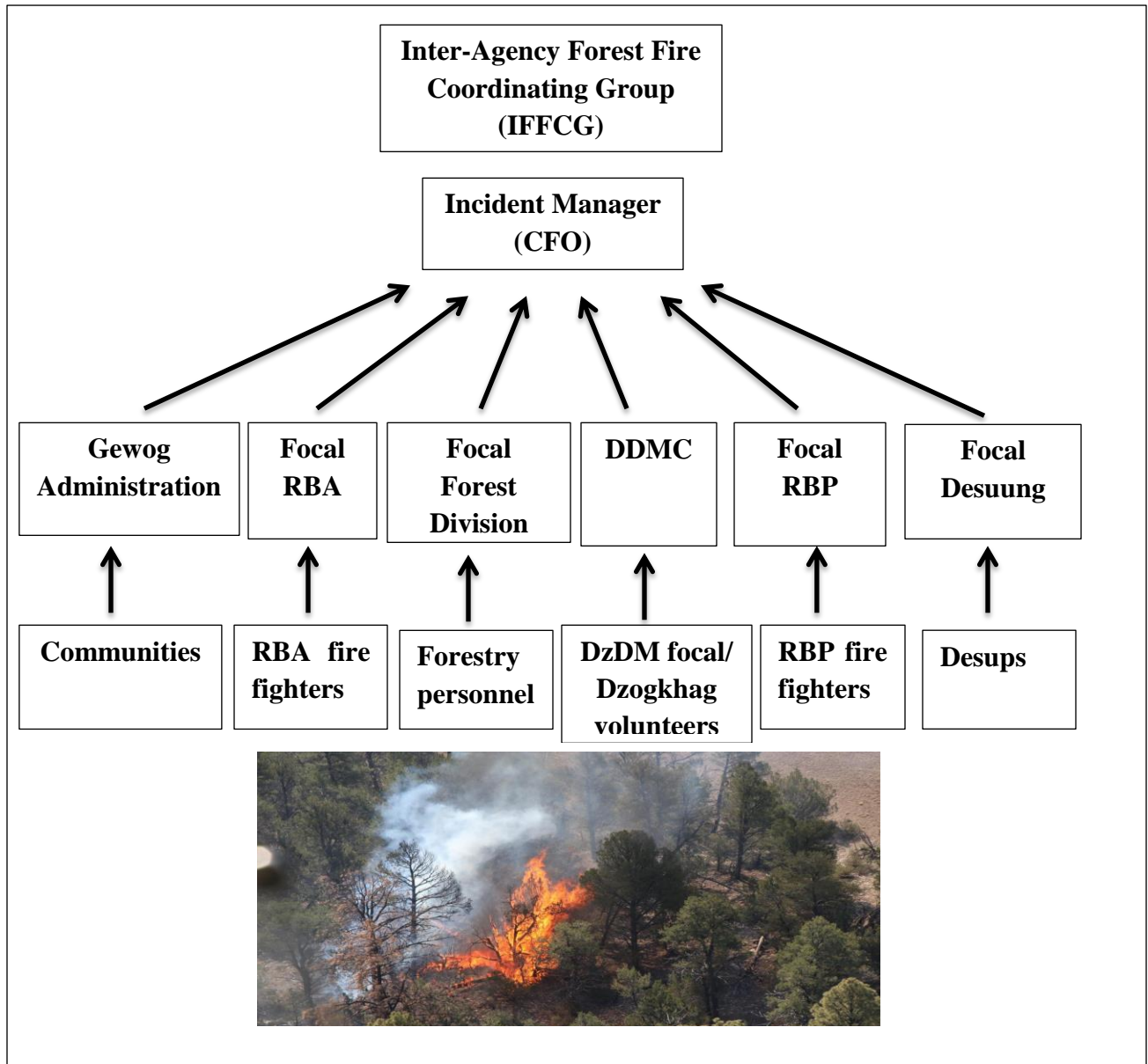
On receipt of the first incident report by any members of the IFFCG, respective agencies will immediately deploy their fire fighters depending on availability to the incident site. The fire fighters will size up the incident and initiate first response to suppress and contain the fire. Based on the outcome, the initial responders from Divisional Forest Office will submit the incident report to the Incident Manager (CFO) stating whether the fire is contained or if additional backup is required.

The Incident Manager will then solicit additional backup teams from other agencies in case of larger fires, which could not be contained by the initial responders. The IFFCG shall be fully responsible for coordination and fire suppression till the fire is suppressed and contained. Figure 1 & 2 gives a diagrammatic illustration of the flow of decision making, on-ground suppression action and communication.



**Figure 1:** Incident coordination system during forest fires

### 7.3. Communication chain of command during forest fire incident



*Figure 2: Communication protocol flow chart*



#### **7.4. Roles and Responsibilities of IFFCG during incident active phase**

- i. As soon as the fire incident is reported the IFFCG will coordinate and plan response as per fire situation
- ii. The local government leader will provide first-hand information on forest fire if the fire is reported within Geogs. Respective Gups and Forestry Officials stationed at Geogs will provide situational analysis of the fire to IFFCG through Incident commander.
- iii. As a first response, the IFFCG will dispatch the fire fighters to the forest fire incident site to investigate, suppress and contain the fire.
- iv. The IFFCG will start mobilizing additional teams and keep them ready for deployment depending on first incident report from the initial responders.
- v. The incident Manager (CFO) will inform the other IFFCG focal on the fire situation at the site and will decide on next course of action accordingly.
- vi. Transportation of forest fire fighters/volunteers during large fire incidences will be arranged by respective agencies and any additional requirement will be facilitated upon coordination by Incident Manager.
- vii. The Divisional Forest Office fire fighters will investigate and determine the main cause of fire and report back to IFFCG.

#### **7.5. Logistic Coordination at Incident Site:**

Overall logistic distribution will be done by Dzongkhag Disaster Management Committee (DDMC). Dagana DDMC will do fund mobilization for food and refreshment.

#### **7.6. Suppression Coordination on Large Fires**

The IFFCG will initiate incident suppression planning including: rotation of fire fighters, calling-off of fire fighters during the night, additional logistic organization (DDM).

#### **7.7. Water Tankers**

- i. It is necessary to arrange water tankers when fire incidents occur in or around road-heads.
- ii. Water tankers will be deployed to the road-head nearest to incident site to suppress fire, which is accessible from the road for water supply, and to protect adjoining infrastructure.
- iii. The fire brigade will be dispatched by the RBA and RBP (IFFCG Members) based on decision taken by the IFFCG.

### **8. POST FIRE ASSESSMENT AND REHABILITATION**

- i. Divisional Forest Office Dagana will be responsible for coordination and implementation of all post-fire activities as per provisions of the Forest and Nature Conservation Rules and Regulations 2017, and other technical guidelines and practices.

- ii. Divisional Forest Office will share a technical fire report with respective IFFCG members
- iii. Divisional Forest Office will investigate and verify the cause of the fire. In the events of deliberate setting/human negligence, Divisional Forest Office will apprehend the culprit with support from Royal Bhutan Police.