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WILDFIRE

PREVENTION, PREPARATION AND EMERGENCY RESPONSE

FIREWISE

NATIONAL ASSOCIATION OF VOLUNTEERS IN THE REPUBLIC OF BULGARIA

2024

eMT Institute
OF DEVELOPMENT

Project 2023-2-EL01-KA210-ADU-000176579
Farmers in Resilient Engagement for Wildfire Sustainability and Education

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CHAPTER I

ABOUT WILDFIRE

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FIRES

A forest fire is an uncontrollable fire that destroys large areas of land. Fires are caused by lightning, human negligence, or arson. These fires can burn for days, destroying ecosystems and polluting the air and water.

Different types of wildfires include:

Ground fire

- **Ground fires:** Burn organic material below the surface, slow-moving but dangerous.

Surface fire

- **Surface fires:** Burn dry leaves, bushes and branches on the forest floor, spreading quickly.

Crown fire

- **Crown fires:** Spread from tree to tree with intense high flames, accelerated by wind.

Cascade fire

- **Cascade fires:** Wind spreads flames over long distances, spreading the fire rapidly.

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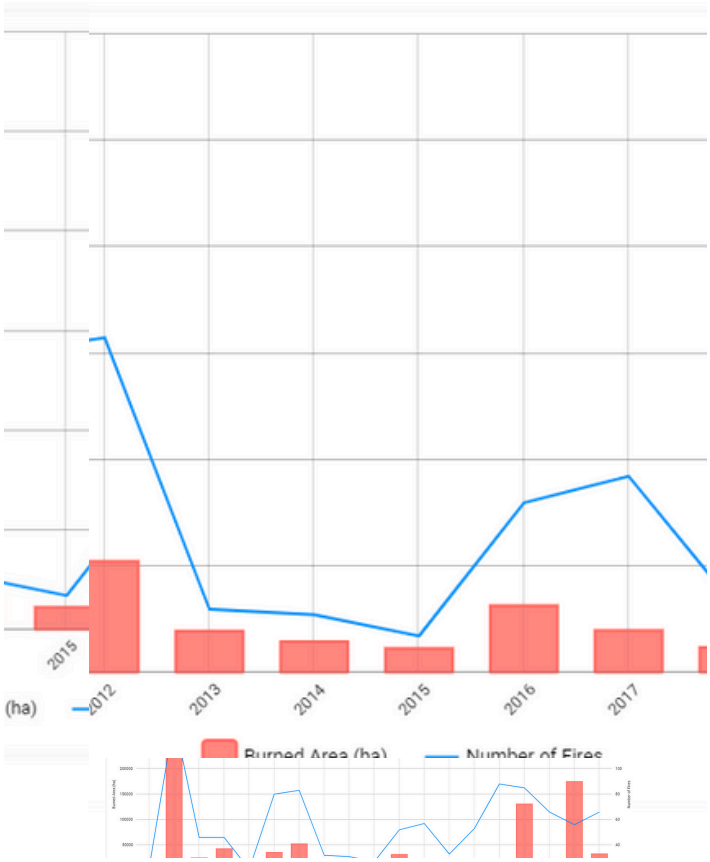
STATISTICS

In the last five years, Greece has experienced increasingly severe wildfires, largely due to climate change and hotter, drier conditions.

Here are some key statistics:



- **2023:** Greece faced its worst wildfire season on record, **with over 174,800 hectares burned**, especially in the Evros region. This fire was considered the largest in the EU's history. Additionally, mass evacuations, including nearly **20,000 people** in Rhodes, were carried out during the summer.(Copernicus EMS) (IAWF)
- **2021:** Over **100,000 hectares burned** during a devastating season, with record temperatures and wildfires (with over **50 wildfires** erupting in a single day in July). Fires in areas like Evia and Attica destroyed large parts of forests, homes, and infrastructure.(Copernicus EMS)(CTIF)(IAWF)
- **2020-2018:** There were also multiple fires, including the tragic Attica wildfires in 2018, where **over 100 people lost their lives**. (CTIF)

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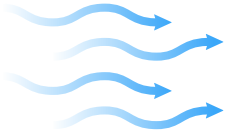
FACTORS

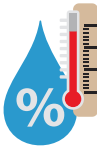
KEY FACTORS INFLUENCING WILDFIRES



- **Wind:** Wind is one of the **most crucial factors**, as it pushes the flames into new areas, carrying embers that can start spot fires ahead of the main blaze. Strong winds also provide fresh oxygen, fueling the fire's intensity

- **Terrain:** Fires spread faster uphill due to wind and more available fuel - flames can preheat the vegetation above them.

- **Temperature:** Higher temperatures dry out vegetation, making it more flammable. Hot climates contribute to faster fire spread



- **Humidity:** High humidity keeps vegetation moist, reducing fire risk.

- **Seasonality:** Dry, hot seasons, like summer, increase wildfire frequency.

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CAUSES OF WILDFIRES

Natural causes: Lightning and volcanic eruptions.

Human causes:

- **Arson**: Deliberate setting of fires accounts for a significant portion of wildfires, often driven by malicious intent (30% of all wildfires).

- **Campfires and Barbecues:** Unattended or improperly extinguished campfires are a frequent cause, especially in camping areas.

- **Cigarette Butts:** Discarded cigarettes that are not fully extinguished can easily ignite dry vegetation.

- **Agricultural Burns:** Controlled burns, if not properly monitored, can escape and turn into wildfires.

- **Power Lines:** Downed or faulty power lines can create sparks that ignite fires, particularly in dry, windy conditions.

- **Machinery:** Sparks from equipment like chainsaws or cars driving through dry grass can ignite fires.

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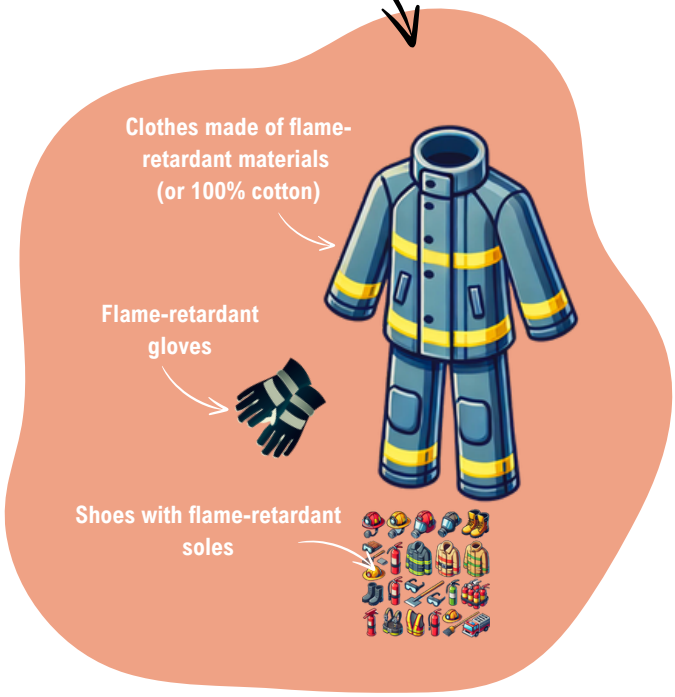
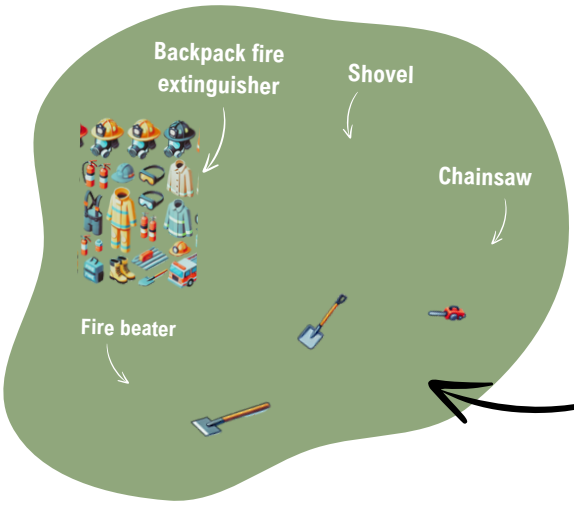
EQUIPMENT & PROTECTION

Wildfires are extremely dangerous, and all people involved in putting down such fires must be properly equipped, trained, and follow firefighters' instructions strictly. This page's primary purpose is to summarize personal protective equipment (PPE) against flame, smoke, slips and falls, and cuts and abrasions.

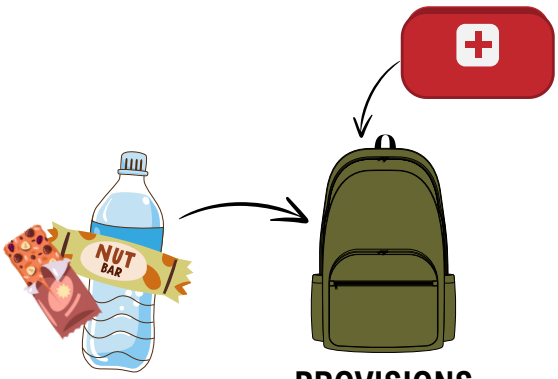
EYES AND AIRWAYS

BODY





FIRE CONTAINMENT EQUIPMENT



PROVISIONS

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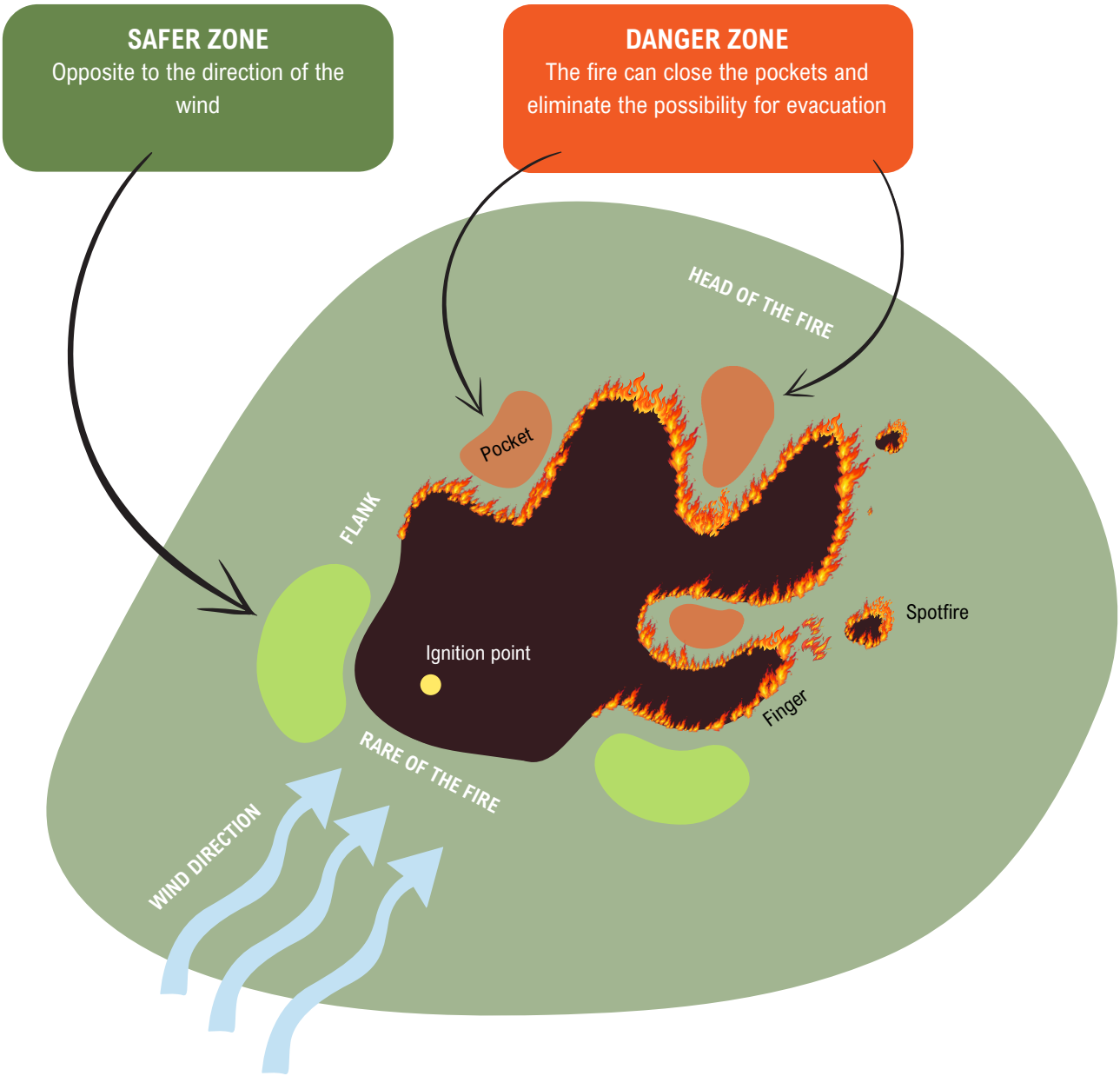
FIGHTING WILDFIRE

The fastest-moving, hottest, and most dangerous part of a wildfire is called the head. When the wind is strong and its characteristics vary, the fire spreads at high speed, branching out in different directions following the direction of the wind. This is how pockets of fire are formed. They are extremely dangerous for firefighters, as they can block the escape route, so the fire is attacked from the flank.



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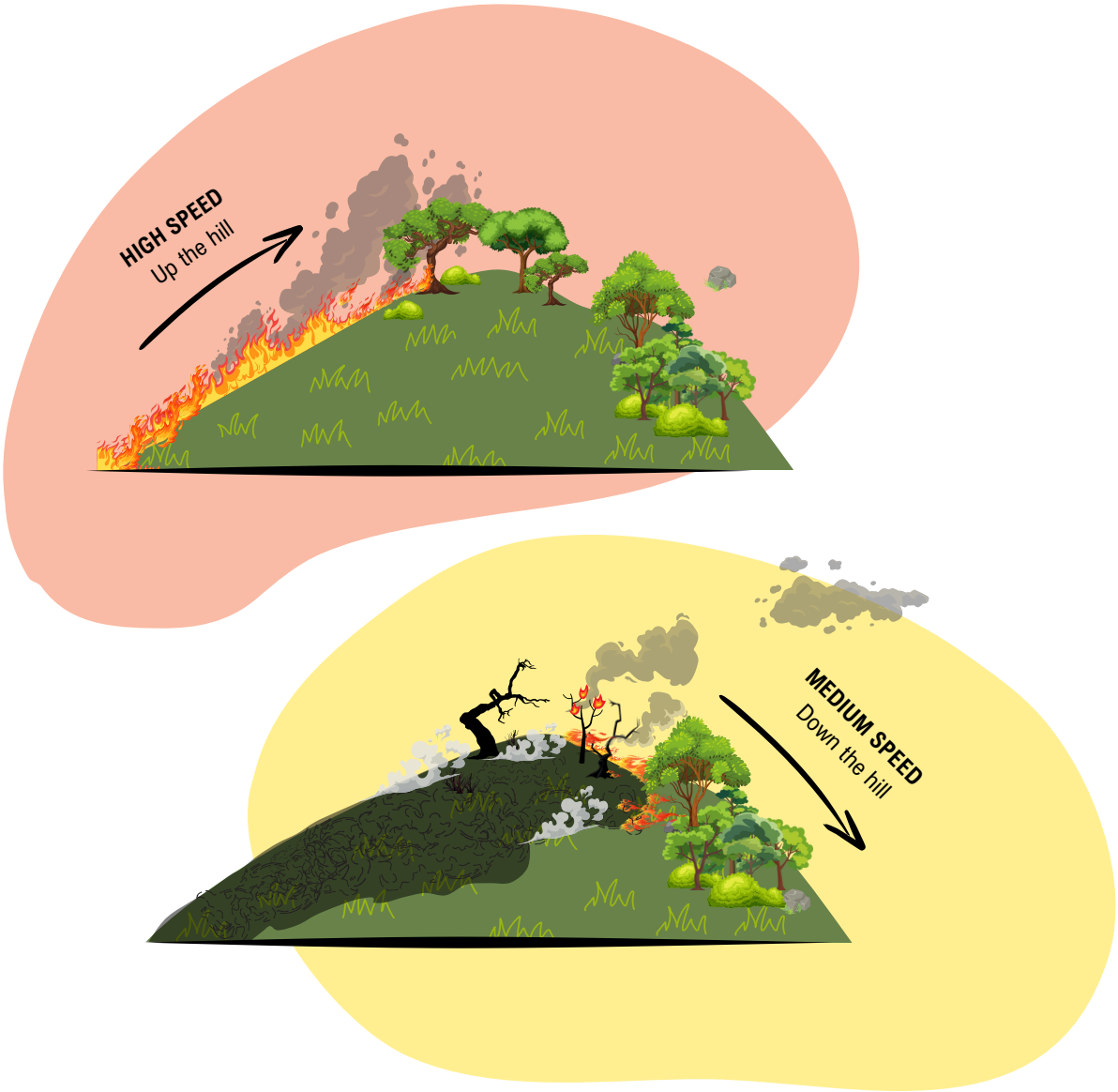
RATE OF FIRE SPREAD

The speed at which wildfires spread is influenced by the terrain. Fires move faster uphill due to the upward movement of heat and flames, which dry out vegetation ahead of the fire, making it more flammable. In contrast, fire spread downhill tends to be slower, as the flames struggle to maintain intensity when moving against gravity. This demonstrates the importance of slope in wildfire behavior, where steep uphill slopes lead to a rapid spread and downhill slopes slow it down.



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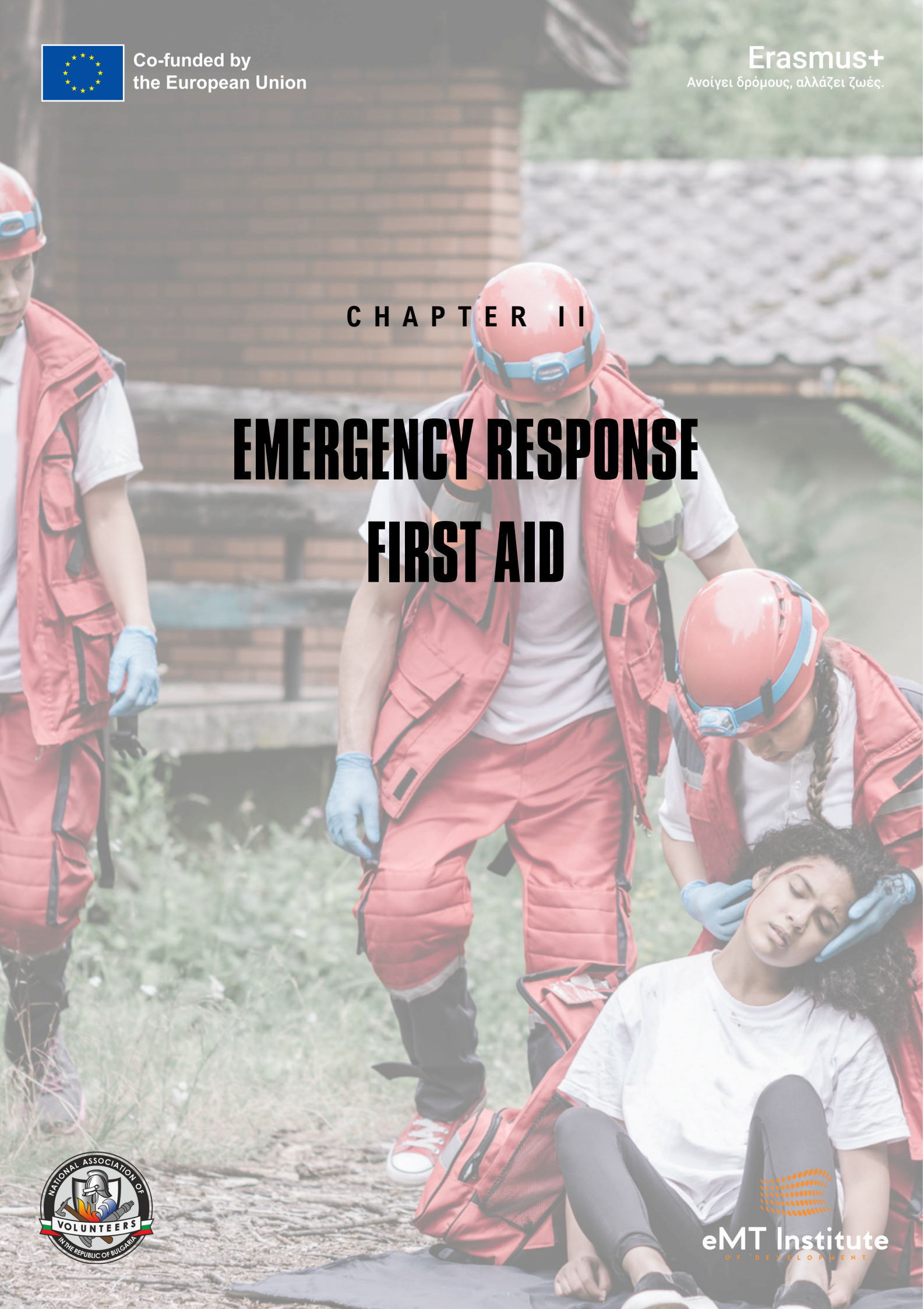

CHAPTER II

EMERGENCY RESPONSE
FIRST AID

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FIRST AID PROTOCOL

BURNS

1. **Check for danger! Put flames out and gloves on!**
2. **CALL 112** in case of major burn injury
3. **Check to see if they're breathing. If no breathing, start CPR**
4. **Remove /cut around clothing from burned areas, DO NOT** try to remove clothing stuck to the skin.
5. **Wash the burned area with CLEAN WATER. DO NOT APPLY ANY medical or home remedy, including ointment, butter, or cream!**
6. **Cover the burned area with a sterile bandage or clean cloth that's moistened with cool, clean water.**

STROKE

- **F** **FACE DROOPING:** Is the face **DROOPING**? Ask the person to smile - is the **SMILE UNEVEN** on one side? Is there numbness?
- **A** **ARMS WEAKNESS**: Ask the person to raise the arms - are they raised evenly or one is dropping? Ask the person to squeeze your fingers - do left and right hand have the same strength?
- **S** **SPEECH DIFFICULTY:** Ask the person to repeat something. Slurred speech can indicate that the person is having a stroke.
- **T** **TIME TO CALL 112:** If you or someone else is having a stroke, act quickly and call 112 or your local emergency medical services. The first 60 min are CRITICAL!

DO NOT GIVE ANYTHING TO EAT OR DRING. DO NOT GIVE MEDICATIONS!

Until the ambulance arrives: if the victim is **CONSCIOUS -** put him in a lying position with his head slightly lifted. If he is **UNCONSCIOUS** - put him in a recovery position.

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BURNS

ASSISTING PEOPLE IN CASE OF FIRE INJURIES

Inhaling smoke is a serious problem for those in the path of the fire. Excessive smoke exposure can lead to severe respiratory and other medical issues, and even certain death. In fact, smoke inhalation is the most common cause of death in a fire.

Important! What you must do before rushing to help someone injured in a fire is:

Make sure it is safe for you!
Wear a respiratory mask!

112

1. If the injured person is **CONSCIOUS AND BREATHING**, move them as far away from the smoke as possible.
2. Help them get into a position where they can breathe easily.

1. If the injured person is **UNCONSCIOUS BUT BREATHING**, drag them away from the smoke as quickly as possible.
2. Place them in a **recovery position** to keep their airway open.

1. **IF THE PERSON IS NOT BREATHING, IMMEDIATELY START CPR!**

3. If there are burns, you can cut the burned clothing AROUND the wounds (if it's stuck, don't touch it), pour water over the burns, and cover them with gauze.
DO NOT APPLY ANYTHING ON THE BURNS!

4. Monitor the condition of the injured person until the medical team arrives.

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CHAPTER III

FIRE PREVENTION

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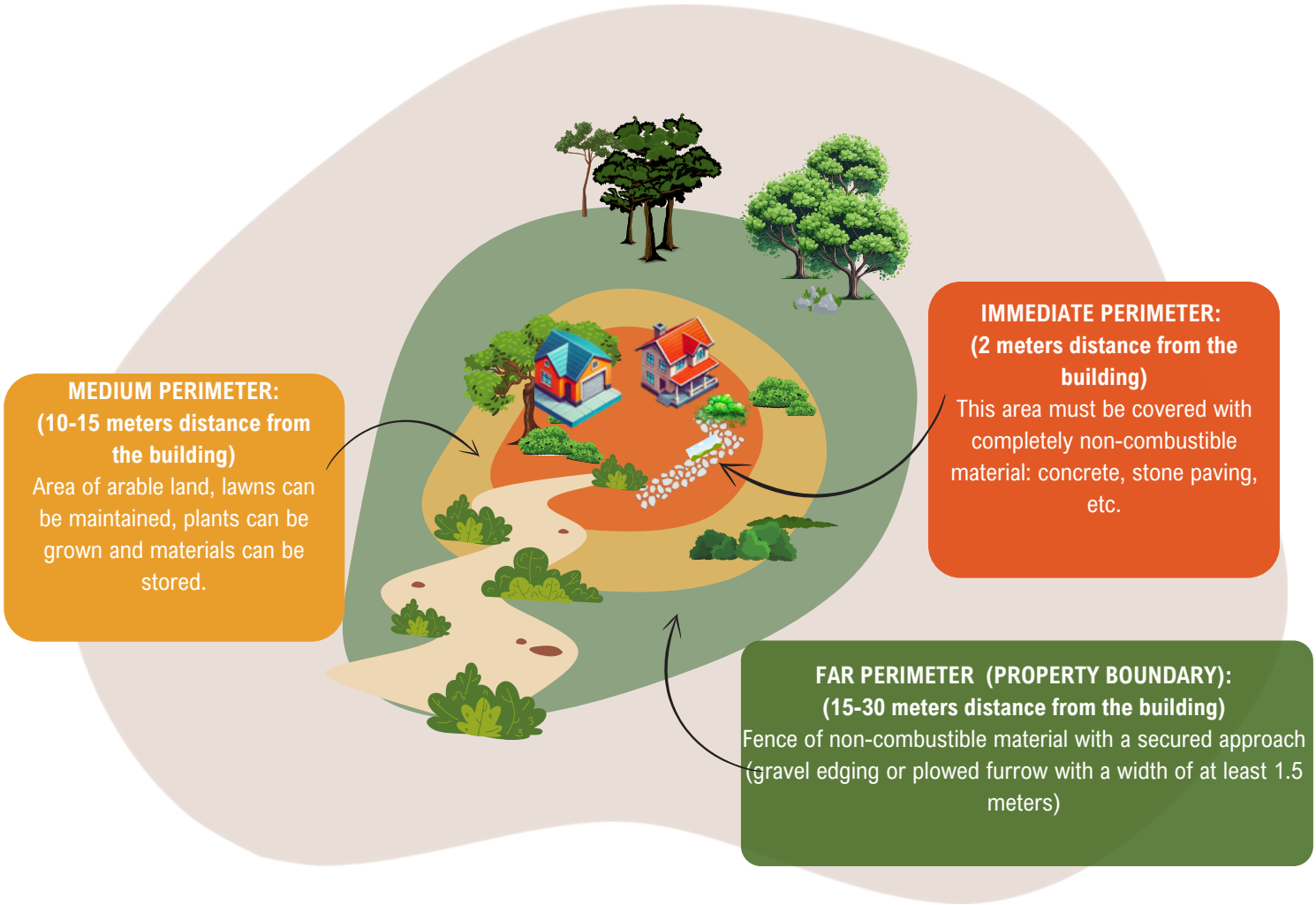
PREVENTIVE MEASURES

FIRE PROTECTION OF A PROPERTY IN THE FOREST
(HOUSE, COTTAGE, FARM)

BUILDING REQUIREMENTS: The building must be completed following the fire protection construction and technical standards for design and architecture. A reinforced concrete structure with masonry of non-combustible materials (bricks, stones) is recommended. Synthetic insulation materials are not recommended.



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What fire risk prevention techniques can farmers use?

- **Vegetation management** - Regularly mow and clear dry grass and shrubs around farms. Remove dead plants and debris that could cause a fire.

- **Creating protective zones -** Build fences and protective belts with fire-resistant plants to slow down the spread of the fire. Establish clear areas around important buildings and equipment.

- **Proper fuel storage** - Store fuels in specially designated, well-ventilated, and safe containers. Keep fuels away from flammable materials.

- **Building fire prevention systems** - Install fire hydrants and water tanks near the farm. Use automated irrigation systems to reduce fire risk. Install smoke and heat sensors.

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Action Protocol for a Forest Fire

1

Situation Assessment:
- Check for the presence of fire and the direction of the wind.
- Assess the spread of the fire and the safety of the area.

2

Notification:
- Contact local emergency services (police, fire department).
- Inform people nearby about the fire.

3

Exit and Safety:
- Identify a safe route for evacuation.
- Avoid roads that may be blocked by the fire.

4

Gathering Belongings:
- Take only the essentials (personal documents, medications, water).
- Avoid panic and move calmly.

5

Avoiding the Fire:
- Do not attempt to extinguish the fire unless you have experience and a safe method.
- If near the fire, cover your mouth and nose with a cloth to avoid inhaling smoke.

6

After Evacuation:
- Stay at a safe distance and monitor information from local authorities.
- Do not return to the fire zone until you are assured of its safety.

Incident Reporting:
- After the fire, inform authorities of any issues related to the aftermath

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Wildfires remain a significant threat, particularly in vulnerable regions like Greece.

Through this project, we have outlined crucial steps for prevention, preparation, and emergency response. Effective wildfire management requires collective efforts from individuals, communities, and government agencies.

- **Preparation:** Being informed about evacuation routes, assembling emergency kits, and educating communities on fire behavior are key to minimizing loss.
- **Emergency Response:** Rapid response and clear protocols save lives. Knowing how to assist those affected by smoke inhalation, burns, or fire exposure is critical.
- **Prevention:** Implementing fire-safe practices, raising awareness, and maintaining firebreaks can significantly reduce the risk of wildfires.

The fight against wildfires is ongoing, but by adopting the outlined measures, we can better protect our environment and communities from devastating fires.

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