

# FIREWISE TANZANIA

TRAINING MANUAL FOR FIRE AWARENESS  
AND EDUCATION AT COMMUNITY LEVEL



United Republic of Tanzania



## **Tanzania Forest Services (TFS)**

For reference: TFS 2013. A Training Manual on Fire Awareness and Education: Training at the village level in Tanzania. Dar es Salaam, pg 64.



## PREFACE

Tanzania has been adapting the Participatory Forest Management (PFM) approaches since 1990s by broadening and improving strategies to involve stakeholders in achieving sustainable forest management. Community Based Fire Management (CBFiM) is one the PFM strategies that are being developed in ensuring Sustainable Forest Management (SFM) and sustainable land management in the country in collaboration with key stakeholders. In this regard, the active involvement of local communities into fire management is crucial for successful community based natural resources management.

In recent years, the Tanzania Forest Services (TFS) Agency has realised that a broader and more comprehensive approach is needed to reinforce PFM efforts by developing Integrated Fire Management (IFM) approaches in achieving sustainable land management in the country. IFM approaches include collection of information, prevention, preparedness and suppression.

The Ministry of Natural Resources and Tourism has been facilitating different training events on forest management and conservation particularly on PFM including demonstrating its success in various stages of designing and implementation. Despite the gained experiences and demonstrated success stories of PFM in the country approaches, aspects of CBFiM have not yet been well developed and applied to communities adjacent to forests.

The designing and implementation of CBFiM in terms of determining fire frequency, intensity and distribution in the forest and savannah woodlands in Tanzania reveals that local communities have an important role and influence on the management of fires. The importance of local community's participation is also influenced by the country's vastness and its limited accessibility and infrastructure. As such, CBFiM recognises the positive, potential role that local communities can play in fire management including decision-making about the role, application and control of fire.

This manual on "FireWise Communities" has been developed to address key aspects of local community's involvement on the management of fires. It was developed and prepared through a participatory approach in cooperation with key stakeholders coming from the various land management sectors including Departments of Agriculture, Livestock, Wildlife and others considering the different laws and policies of the country.

Generally, the manual covers the first aspect of "Community Based Fire Management" and has influence in: Creating sensitivity, awareness and knowledge about fire and the use of fire to improve natural resources income;

Bringing forward ideas for fire free income possibilities to sustain livelihood;

Enabling communities to manage fire for their own benefits and minimize the negative impacts of fire; and Supporting communities to develop, regulate and enforce village fire regulations, and to suppress unwanted fires through participatory community fire plans and programmes.

The development of this training manual was part of the Tanzania-South Africa Fire Management Trilateral Coordination Project funded by the German government and implemented by the Tanzania Forest Services (TFS) Agency. The manual is therefore meant for extension personnel of the various land management sectors conducting participatory natural resource management trainings at the village level.

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## ACKNOWLEDGEMENTS

This Guideline has been prepared by Tanzania Forest Services under Ministry of Natural Resources and Tourism. Financial and technical support for the preparation of this Guideline was provided by the German government through the Trilateral Cooperation Project on Integrated Fire Management (IFM) in Tanzania.

Sincere gratitude is given to Anja Hoffmann (GIZ consultant) and Hein Krause (FireWise South Africa) for their input and patience during the preparation of this guideline. Many thanks go also to Charles Ng'atigwa the TFS Coordinator of the Project, to Fidelis Mwanalikungu (Sao Hill Forest Plantation), Feruzi Kiula (TFS Eastern Zone), Theresia Massao (Kilombero Nature Reserve) as well as to the Forest Training Institute (FTI) in Olmotonyi for the editing and structuring of this guideline. In addition gratitude is expressed to the participants of the training programme on FireWise at Olmotonyi comprising of professionals from Wildlife, Agriculture, Livestock and other sectors. Their contributions to this manual have enriched and broadened the concept of IFM in Tanzania.

We are also thankful to the community members of the following villages, Matanana, Mtili, Itimbo, Kitasengwa and Kihangwa of Mufindi District at Iringa Region and everybody who in one way or another has contributed to the preparation of this guideline.

## ABBREVIATIONS AND ACRONYMS

	English	Kiswahili
CBFiM	Community Based Fire Management	Usimamizi wa Moto wa Jamii (UMJ)
FTI	Forestry Training institute	Taasisi ya Mafunzo ya Misititu (TMM)
GIZ	Deutsche Gesellschaft fuer Internationale Zusammenarbeit	Shirika la Misaada ya Kimataifa la Ujerumani (SMKU)
IFM	Integrated Fire Management	Usimamizi Jumuishi wa Moto (UJM)
JFM	Joint Forest Management	Usimamizi wa Pamoja wa Misitu (UPM)
PFM	Participatory Forest Management	Usimamizi Shirikishi wa Misitu (USM)
SA	South Africa	Afrika ya Kusini (AK)
TFS	Tanzania Forest Service	Wakala wa Huduma za Misitu Tanzania (WHM)
FMP	Fire Management Plan	Mpango wa Usimamizi wa MotoJamii (MUM)

## TERMINOLOGIES AND DEFINITIONS

Fire Effects	Negative or positive impacts of fire on the environment
Fire Control	All activities concerned with controlling and extinguishing a fire following its detection (Synonym: Fire Suppression) Methods of suppression are: Direct Attack - A method whereby the fire is attacked immediately adjacent to the burning fuel. Parallel Attack - A method whereby a fireguard is constructed as close to the fire as heat and flame permit, and burning out the fuel between the fire and the fireguard. C Indirect Attack - A method whereby the control line is strategically located to take advantage of favourable terrain and natural breaks in advance of the fire perimeter, and the intervening strip is usually burned out or backfired. C Hot Spotting - A method to check the spread and intensity of a fire at those points that exhibit the most rapid spread or that otherwise pose some special threat to control of the situation. This is in contrast to systematically working all parts of the fire at the same time, or progressively in a step-by step manner. C Cold Trailing - A method of determining whether or not a fire is still burning, involving careful inspection and feeling with the hand, or by use of a hand-held infrared scanner, to detect any heat source. Mop-up - The act of extinguishing a fire after it has been brought under control.
Fire risk zones	Areas that are prone to fire
Fire Management	Fire management activities are concerned with the protection of people, property, forest and woodland areas from unwanted fires. It is also concerned with the safe use of fire as a land management tool.
Fire Triangle	An instructional aid in which the sides of an triangle represent the three factors necessary for combustion and flame production (i.e., oxygen, heat and fuel). When any one of these factors is removed, flame production is not possible or ceases.
Fire weather	Weather conditions which influence fire ignition, behaviour, and suppression.
Fuel	Any combustible material, including vegetation fuels.
Natural Resources committee	Committee established by the village general assembly and supervised by the village
Prescribed or Controlled Fire	Any fire ignited by management actions to meet specific land management objectives.
Safety zones	An area used for escape in the event the fireline is overrun or outflanked, or in case a spot fire causes fuels outside the control line to render the fireline unsafe
Stakeholders	These are people and different institutions which are involved in various fire management activities
Wildfire or uncontrolled fire	An unplanned, unwanted wildland fire including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other Wildland
Wildland fire	Any non-structure fire that occurs in the wildland. Three distinct types of wildland fire have been defined and include wildfire, wildland fire use, and prescribed fire.



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## Fire History in Tanzania

Fire has been used in Tanzania for hundreds of years for preparing land for agricultural and pasture management purposes as well as for hunting, pest control and for various other land management reasons. Fires set by local people have contributed to the creating and maintaining of ecosystems and biodiversity across the African savannah and miombo forest ecosystem. Fire is a tool to achieve wildlife and conservation management targets. For rural people fire is a viable economical tool for the attainment of various land management objectives. Local communities often have traditional knowledge on how to manage and prevent fire. However, the intricate balance between people, fire and the natural environment has been difficult to attain due to the changing demographics, land management practices and a breakdown in relay channels of indigenous knowledge used in natural resource management. There is growing concern over the fate of the perceived rise in the number of fires and associated negative impacts on forests and woodlands resources, and human livelihoods under the ongoing climate change.

Recent studies based on satellite image data reveal that an average of 11 million ha burn annually in Tanzania. Most of the burning occurs in the west and southern highland regions particularly Rukwa, Tabora Kigoma and Mbeya, while in the south-eastern part Lindi region is mostly affected by fire. The land cover types most affected are woodland and shrub land comprising of about 70 % of Tanzania's average annual burned area or 6.8 million ha. Most burning occurs in protected areas, with an annual average of 3.7 million ha in forest reserves, 3.3 million ha in Game Reserves and 1.46 million ha in National Parks, totalling close to 8.5 million ha or 77 % of the annual average burned area of Tanzania.

### 1.1 Concept of Integrated Fire Management

Though vegetation fires have become of much concern in recent times due to their direct negative impacts on the environment and human livelihoods, the impacts of fires have not been uniformly negative, because not all fires are disastrous. Thus, sustaining and maintaining ecosystems and the related land management and livelihoods goals through appropriate fire management practices need to consider both the beneficial and damaging effects of fires. The concept of Integrated Fire Management (IFM) offers a holistic framework for managing fires in fire-dependent ecosystems such as the savannah ecosystems while providing associated co-benefits for local communities as well as sustaining ecosystem services. Integrated Fire Management consists of five elements namely Prevention (Risk Reduction), Preparedness (Readiness), and Suppression (Response), Restoration (through rehabilitation), data collection and analysis (Research). These elements entail various subthemes and activities considering environmental, social, economic and political-administrative aspects. Also equally important is involving various stakeholders on the basis of interagency cooperation for the implementation of the necessary technical, logistical, operational and social programs striving to balance between developing and conserving natural resources and managing unwanted fires while at the same time promoting the safe use of beneficial fires.



## 1.2 Concept of FireWise as part of Community based Fire Management

Within the framework of the German International Cooperation (GIZ) supported Trilateral Tanzania – South African Fire Management Coordination Project support has been provided to enhance integrated fire management at national and local level in Tanzania in order to mitigate the negative impacts of the unwanted fire incidents, while at the same time educating selected communities in the use of fire as a tool for natural resource management. Based on experiences drawn from the successful South African “Working on Fire” and FireWise Programme different activities and training measures suited to raising awareness and increasing fire management skills were identified and carried out. In particular the project focused on the introduction of and training in the concept “FireWise” and the development of an adapted and modified FireWise curriculum suiting the socio-economic and cultural conditions of fire use in Tanzania’s rural areas.

The FireWise concept originally developed in Northern America, is a community-based fire management element that works to create awareness of the dangers of wildfire and train community members on fire management and prevention skills. FireWise’ priority is to protect life, livelihoods and the environment before a fire starts and to help communities develop a fire management plan in case of fire occurrence. A key aspect of the FireWise concept is that the initiative is community-based and community-driven, focussing on improving cooperation and coordination around fire management. To be effective, FireWise requires a genuine participatory process from the first step. In 2006 the “Working on Fire” program of South Africa adopted the US American FireWise model.

The Trilateral Cooperation Fire Management Project introduced FireWise South Africa (SA) by carrying out several training packages as well as assessing the SA FireWise model for application in the Tanzania socio-economic context and environment within a reiterative process involving stakeholder from various land management agencies. Besides the curriculum development supporting graphical extension material was created to accompany the curriculum and assist FireWise extension workers to engage with community members on fire issues in an interactive way.



## How to Use the Guideline

This guideline is designed to empower different stakeholders who need to facilitate the training about community fires at the village level. Many sessions in this manual have been prepared in a way to enable participants to acquire the skills and understanding about the Community Based Fire Management. The facilitator who uses this guideline should have a good understanding of Community Based Fire Management, as well as to be able to teach using participatory approaches.

Arrangement of many sessions in this guideline has been prepared based on the principles of adult education so as experience of all participants can create a new lesson. These sessions have the power to build the capacity of various village committees, village councils and other groups if they will be used properly. In that sense, this guideline can be used in different situations depending on the purpose, time, type of the participants and the available resources. The sessions of this manual have been prepared for conducting two days training which will include essential aspects in Controlling Forest Fires

The sessions in this manual have been arranged to build a meaningful flow. However, it is not necessarily to follow this sequence from the beginning to the end during training. This guideline is designed to show the way and has proposed sessions that cover the topics that are in good order to lead you in different respectively working flow like exercises and handout. You are encouraged to use it as it is or to change it as required. Sessions that are outlined in this manual identify different examples and also by using your creativity, will help you to prepare good training.

Challenges may arise while using this guideline, for instance, in the process of translating English words to Kiswahili, some words may lose their meaning, and therefore it is important to consult the professionals who are experienced with Community Based Fire Management. Also there are some things which can be used as they are or changed so as to suit the particular situation or place like exercises, ice breakers and the rest.

This manual is divided into four main parts:

1. The first part provides the instructions on how to use this manual,
2. The second part contains the lessons about fire and how to use and control fire
3. The third part involves feedback and evaluation
4. The fourth chapter provides the important appendices such as the handouts for the participants and other material for the training.

## 2.1 Preparation for the training

To use this guideline effectively in different contexts, it is important to consider the following:

- Clarity about the objectives of the training
- The Facilitator who uses this manual must be sure to have clear goals, which are realistic; clarity will help participants understand what is expected of them.
- Contributing ideas without contradiction
- The facilitator must encourage participants to use the training methods outlined in this guideline also provide an opportunity for the discussion about the relevant topic. The facilitator's role is to give challenges to the participants which will make them to learn more.

### Location of the training

Although training can be done anywhere, it is good to understand the basic things which will help to achieve good training for facilitators and participants. The important thing is to be willing to change according to the environment. As long as most of the time, the participants will be moving inside the hall, the facilitator should get the area for training which is comfortable with enough space to allow transfer of furniture such as tables and chairs. Similarly, it is possible to arrange chairs under the shade of a tree if it is not possible to find a place with enough space.

### Training materials and diary

According to the sessions described in this guide, the facilitator will need the training tools/aids and Diary such as a stand for flip chart, flip chart, marker pen, metre cards, name tags, A4 papers, beach ball, masking tapes, note books and pencils to facilitate the whole processes of learning to participants.

## 2.2 Keeping records of training

### Taking records during training

As the training activities are never perfect when are held for the first time, the facilitator needs to keep on improving them in the process. The best way to improve is to write and take notice of things which are happening. The facilitator can do so during breaks and in the evening time or ask someone else

(e.g. a co-facilitator) to help him/her with this assignment. Often most, good ideas come up during the events, so it is important to do this as quickly as possible.

## **Keeping records of the results**

All the things related to brainstorming, contributing, daily feedback and other exercises, create results which participants would want to go back with them when they return home. Writing in flip chart is cumbersome, though it is important in training.

Both types of recording can be done in different ways by different people. It is important to think about what, how and who to keep records.

## **Time**

Before conducting training, the facilitator should consider the seasons of the year. This will help participants get convenient location for practical training, as well as to not interfere with different social activities. Also, it is recommended to conduct training for six hours a day in order to give participants time to do other community or personal activities.

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## **2.3 View Location of Training for Risk Assessment Session**

In order to carry out the training session on risk assessment, the trainers should arrive in time (e.g. one day before training start) at the training location to identify examples for the risk assessment session. During the session these areas should be visited with the participants of the training and discussed with regard to fire risks and fire prevention interventions. These areas can comprise of nearby agriculture fields, charcoal making places, bee hives and others.



## Overview of Training Sessions

This section describes the 10 Sessions of training that are organized in a single module. Each session is accompanied by handouts for the participants (Annex 1) and cartoons on A2 cardboards.

### 3.1 Objectives of Training and Schedule

FireWise training involves different stakeholders to introduce the sustainable programme of the proper use of fire, managing and suppressing fire by using proper methods at a given community.

Learning objectives:

- The participants will be able to describe Community Based Fire Management.
- The participants also will be able to prepare and to implement the programme of community based fire management and control.

Every day a short wrap up of today's learning topic and feedback session will be held in the afternoon.

The training is designed to take place within four days as they shown on the table below:

Time	Day 1	Day 2	Day 3
Morning	Opening Session: Introduction and Objectives (1 ½ hour) Session 1: Positive and negative Impacts of Fire (2 hours)	Review of Day 1 (Q&A, ½ hour) Session 3: Community and the use of fire (2 hours) Session 4: Community Participation in Fire Management (2 hours)	Review of Day 2 (Q&A, ½ hour) Session 6: Development of Fire Management Plan (2 ½ hours) Session 7: Identification of fire risk areas (outdoor exercise up to 2 hours)
Afternoon	Session 2: Fire Triangle (2 hours) Wrap up Day 1 and Feedback (1 hour)	Session 5: Responsibility of Communities in Fire Management (2 hours) Wrap up Day 2 and Feedback (1/2 hour)	Session 7 continues with practise in the area of the training location and finalisation of the fire management plan Evaluation and conclusion

A short feedback session should be conducted at the end of each day, on the last day the final training evaluation will be conducted.



## Introduction and Objectives

### Opening Session : Introduction to each other and training content

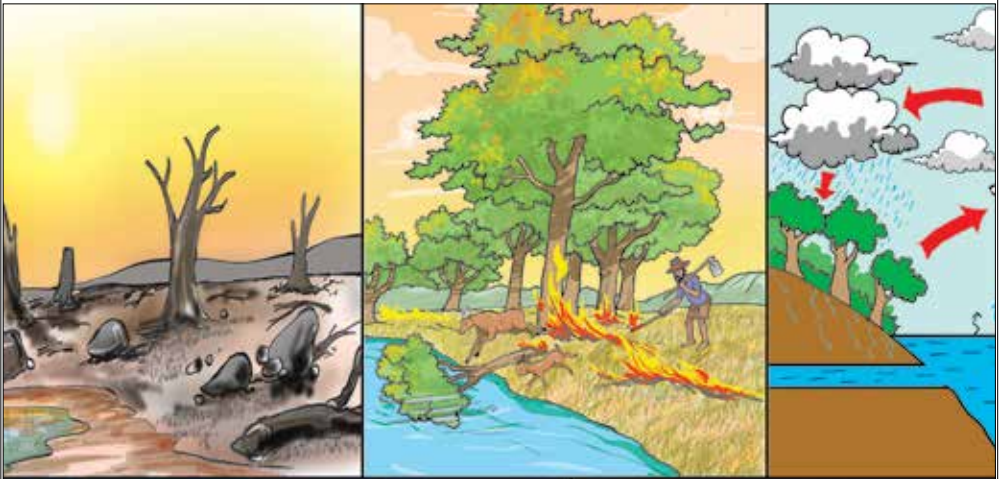
<b>OBJECTIVES</b>	<p>After this session the participants will be able to:-</p> <ol style="list-style-type: none"> <li>1. To know all administrative and logistical arrangements</li> <li>2. To know each other and the trainers</li> <li>3. To understand the objectives of the training which is to create awareness and skills to the community on bush fires (uncontrolled fires) so as to reduce the impacts from that fire and to emphasize on the best use of fire.</li> <li>4. To agree with principles and procedures for training</li> </ol>
<b>MATERIALS</b>	<ul style="list-style-type: none"> <li>• Flip chart</li> <li>• Marker</li> <li>• Masking tapes</li> <li>• Name tags</li> <li>• Handout (Learning objectives, Training schedule and agenda).</li> <li>• Objectives and training schedule on Flip chart paper written</li> </ul>
<b>TIME</b>	<p>1 1/2 hours</p>
<b>STEPS</b>	<ol style="list-style-type: none"> <li>1. The leader of a respective area should invite the chief facilitator to introduce himself/herself and the panel of facilitators</li> <li>2. The facilitator should ask the participants to introduce themselves by mentioning their names, positions and activities they do.</li> <li>3. The facilitator should provide the name tags to the participants and each participant should write down his/her name and put it in front of his/her table or on the chest.</li> <li>4. Facilitator should clarify the goals and the training schedule by using flip chart.</li> <li>5. The facilitator should provide training materials to participants such as exercise books, pens, handouts and training agenda.</li> <li>6. The Facilitator should guide the participants on developing the rules which will be used during the training.</li> <li>7. The facilitator should write the rules which agreed on the flip chart.</li> <li>8. The facilitator should ask some members to volunteer to form two teams, which are team of service and entertainment team which will work interchangeably.</li> <li>9. The facilitator should identify the responsibilities of each team.</li> <li>10. The facilitator should explain briefly how the training will be conducted.</li> <li>11. The facilitator should explain that in this training, participants will have the opportunity to contribute by providing their opinions, suggestions and their experiences so as the knowledge which will be obtained from the training will be applicable in practice into their respective areas.</li> <li>12. In this training, each session is related to the past and the next. So it is recommended that participants attend all sessions without missing to get a good flow of the training</li> <li>13. The facilitator should end up the session by encouraging the participants to give out their views as much as they can.</li> </ol>
<b>VIEWS</b>	<ol style="list-style-type: none"> <li>1. Participants who will be late should have space to introduce themselves</li> <li>2. The possible rules/principles which can be proposed are:-</li> <li>3. Keep your phone in silence or vibration.</li> <li>4. Each participant's idea should be respected.</li> <li>5. The participants must observe time.</li> <li>6. Each participant should participate fully and actively</li> <li>7. The time keeper should be selected from the service team</li> <li>8. There should be feedback of the past lesson after every new day of training</li> </ol>



## Positive and Negative Impacts of Fire

Session 1: Positive and Negative Impacts of Fire	
OBJECTIVES	The session should reveal the knowledge of the participants about fire and the impact of fire in their environment. It should also touch on local and traditional knowledge, how fire is positively used and where fire is a threat to them. At the end of the lesson, the participants will be able to understand the negative and positive impacts of fire.
MATERIALS	<ul style="list-style-type: none"><li>• Flip chart</li><li>• Marker pen</li><li>• Masking tapes.</li><li>• Meter card.</li><li>• Handout: Impacts of fire</li></ul>
TIME	2 hours
STEPS	<ol style="list-style-type: none"><li>1. The facilitator should start the session by explaining, that during this session we will discuss the positive and negative effects of fire in their rural context.</li><li>2. The facilitator should ask the participants about their experiences with the positive and negative impacts of fire affecting our lives and the environment.</li><li>3. The facilitator should divide the participants into four groups with five number of participants or more in each group in the order of counting numbers 1-4, those who counted number one will create a group number one, number two will be a second group likewise to three, four and five.</li><li>4. Both groups will use 30 minutes for discussion and write at least three positive and negative effects of fire on the flip chart.</li><li>5. At the end, the facilitator should tell each group to select one representative to come and present the effects of fire that have been discussed in the group. After the first group, the facilitator will invite the next group to present without repeating what has been presented with their fellow participants,</li><li>6. After each group presentation, the facilitator should add other effects which have not been mentioned and provide feedback (e.g. impact of fire on forest and water cycle if forest is lost). He/she will end the session by explaining on how the effects of fire relate to our daily life and say that we must manage fire so as to reduce its negative effects.</li></ol>
VIEWS	

MATERIAL  
USED



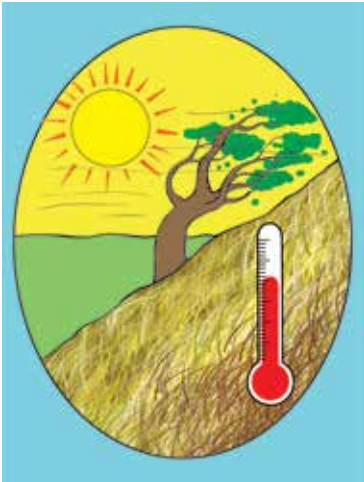
MATERIAL  
USED

Here we need cartoons of positive effects e.g. green pastures, fuel reduction, patch mosaic burning





## Fire Triangle

Session 2: Fire Triangle	
OBJECTIVES	At the end of the session participants will be able to describe the triangle of fire.
MATERIALS	<ul style="list-style-type: none"><li>• Marker pen.</li><li>• Flip chart</li><li>• Masking tapes</li><li>• Handout: Fire triangle</li></ul>
TIME	2 hours
STEPS	<ol style="list-style-type: none"><li>1. The facilitator should briefly remind the participants about what they learned in the session before.</li><li>2. The facilitator should explain the objectives of the lesson.</li><li>3. Facilitator should ask the participants to give three (3) examples which describe the fire triangle</li><li>4. The facilitator should assist the participants to divide themselves into three (3) groups.</li><li>5. The facilitator should explain to the participants the elements of fire and the fire triangle (what is needed to start and maintain a fire such as heat, oxygen and fuel)</li><li>6. The facilitator should ask the participants to discuss the attempt of fire prevention using the fire triangle</li><li>7. The facilitator should assist the first (1) group to discuss an attempt to remove oxygen, the second (2) group to discuss an attempt to remove heat and the third (3) group to discuss an attempt to remove fuel. The facilitator should give 15 minutes for the discussion.</li><li>8. The facilitator should ask for one volunteer from each group to explain the experiments and wrote the important things to be considered on the flip chart during that exercise.</li><li>9. The facilitator should encourage the participants to focus on the most important things during fire management.</li><li>10. The facilitator should wind up the lesson by distributing the handouts to the participants</li></ol>
MATERIAL USED	



## Community and the Use of Fire

### Session 3: Community and the Use of Fire.

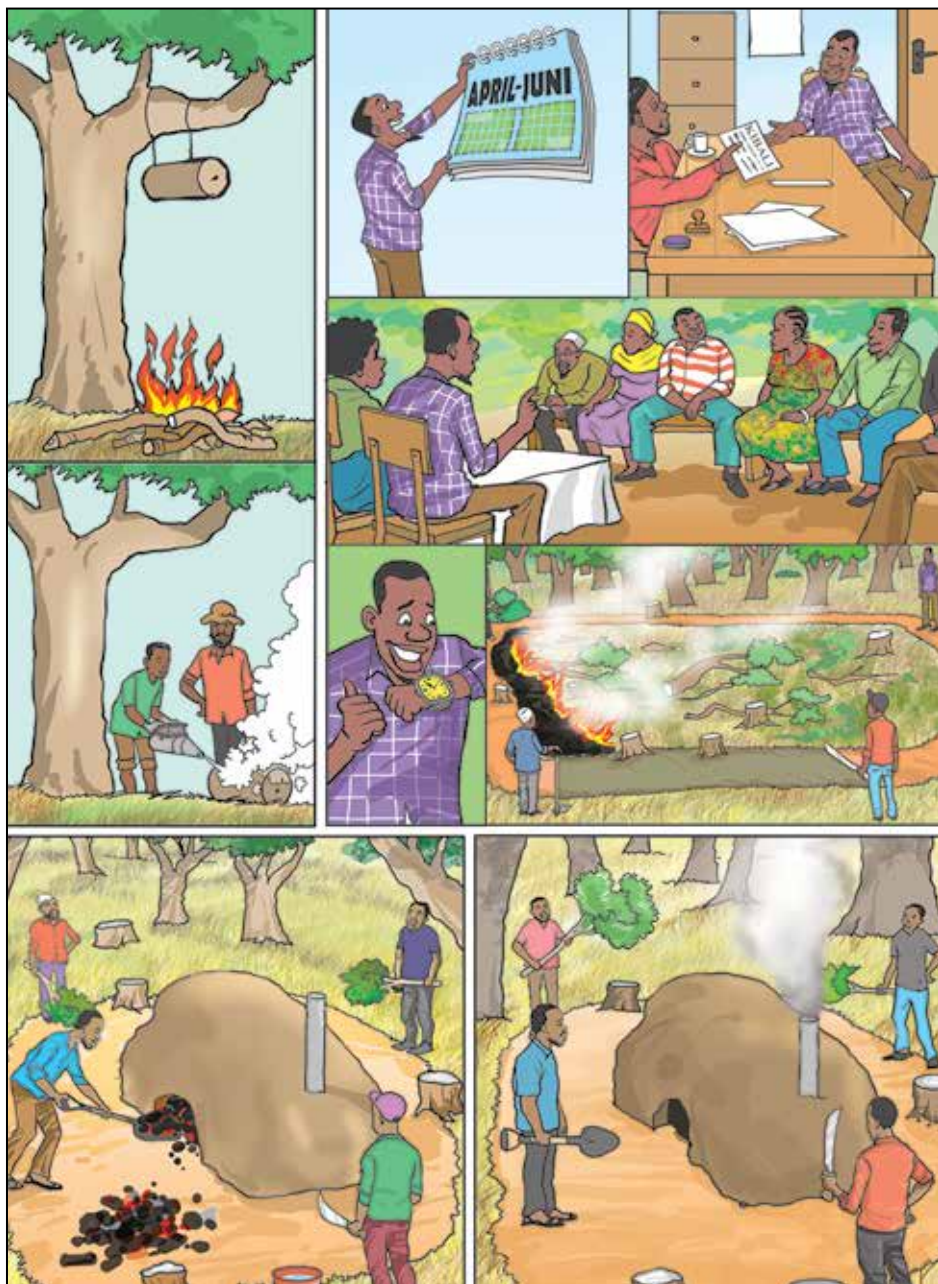
OBJECTIVES	At the end of the session, participants will have reviewed how they use fire in their daily lives, how they traditionally have managed fire in the past and how they manage it today. They learn about safe use of fire for sustaining livelihoods and protecting the environment.
MATERIALS	<ul style="list-style-type: none"> <li>• Flip chart (prepare a set of questions based on the use of fire)</li> <li>• Marker pens</li> <li>• Masking tapes</li> <li>• Handout</li> </ul>
TIME	3 hours
STEPS	<ol style="list-style-type: none"> <li>1. The Facilitator should explain to the participants about the topics which will be discussed.</li> <li>2. The facilitator should ask the participants to arrange themselves into two circles with equal numbers of participants (One circle should be inside the other). The circles should be arranged in a way that each participant from one circle will be facing a participant from the other circle.</li> <li>3. The facilitator should ask questions that will be discussed by two participants facing one another.             <ol style="list-style-type: none"> <li>a. For what purposes is fire being used in the community</li> <li>b. How do the community members use fire?</li> <li>c. How do community members control fire?</li> <li>d. Are there traditional ways of how fire is being used</li> </ol> </li> <li>4. After 5 minutes the outer circle should move three steps to the right and continue to discuss the new question with another participant.</li> <li>5. After another 5 minutes the inside circle should move five steps to the right and continue to discuss another question in the same manner.</li> <li>6. Facilitator should pass around the participants to see how the discussions proceed</li> </ol>
VIEWS	<p>The discussion method should be applied carefully because sometimes it interferes with the traditional system (It is difficult for the father or mother to face there in laws)</p> <p>During the discussion, they should talk louder for the facilitator to hear and to monitor the discussion.</p> <p>If there are few participants the facilitator may use another system which he/she thinks better fits the situation</p>



## Community Participation in Fire Management

Session 4: Community Participation in Fire Management	
OBJECTIVES	At the end of the session each participant will be able to explain who is a member of the community and what is community participation in fire management from participants' perspective
MATERIALS	<ul style="list-style-type: none"> <li>• Flip chart</li> <li>• Marker pen,</li> <li>• Masking tapes</li> <li>• Meter card,</li> <li>• Handout: Community participation on fire management.</li> </ul>
TIME	2 hours
STEPS	<ol style="list-style-type: none"> <li>1. The facilitator should explain to the participants that before discussing in details about community participation on fire management, we will discuss in detail the meaning of a community (e.g. who belongs to a community) and their roles in the daily community life.</li> <li>2. The facilitator should tell the participants that the "community" and "participation" are interdependent in fire management.</li> <li>3. He/She should ask the participants to divide themselves into four groups by counting from number 1 up to 4. Those who count number 1 will be in the same group etc.</li> <li>4. The facilitator should explain the roles of each group:             <ol style="list-style-type: none"> <li>a. Group 1 &amp; 3 will be discussing of what are the benefits for a community of being involved in fire management.</li> <li>b. Group 2 &amp; 4 will be working on how to involve the community in fire management (by mentioning the available committees in their village and identifying the committee which is suitable for addressing fire management, those committees should be formed in relation with the government system)</li> <li>c. The facilitator should give 45 minutes for discussion and tell them to write each answer on their meta plan card.</li> </ol> </li> <li>5. At the end of the given time, the facilitator should ask every group to present the group work for the whole class,</li> <li>6. They should begin with group 1 and 3, followed by discussion and advice from other groups then they will have to agree with the recommendations listed about the benefits of community participation on fire management.</li> <li>7. Group 2 and 4 will follow the same sequence as group 1 and 3. The facilitator can add what the participants have forgotten to list about the benefits of community participation and how the community can be involved in fire management.</li> <li>8. All the meta plan cards should be fixed on the flip chart.</li> <li>9. The facilitator should summarize what have been presented by the groups.</li> <li>10. The facilitator should provide the handouts which contain examples that show Community Participation On Fire Management</li> <li>11. The facilitator should conclude the lesson by explaining that different people may have different perspectives about the benefits of fire management. If you need to control fire, community must be well prepared as it will be discussed in the next session.</li> </ol>

Material used



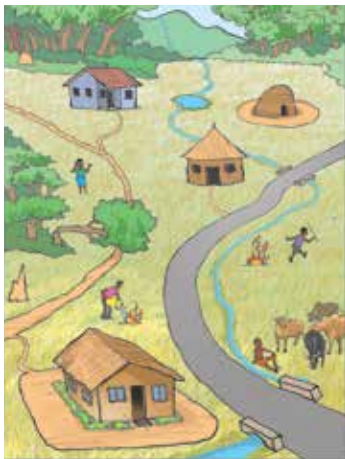


# Responsibilities of Communities in Fire Management

Session 5: Responsibilities of Communities in Fire Management	
OBJECTIVES	At the end of the lesson, the participants will be able to understand the responsibilities of the community in fire management
MATERIALS	<ul style="list-style-type: none"> <li>• Flip chart</li> <li>• Marker pen</li> <li>• Masking tapes</li> <li>• Handout: Responsibilities of the community in fire management</li> </ul>
TIME	2 hours
STEPS	<ol style="list-style-type: none"> <li>1. The facilitator should ask the participants to remind themselves by mentioning the advantages and how to involve the community on fire management as they have been discussed in the past session by asking one after another to mention the advantages and how to involve the community on fire management regardless of the order.</li> <li>2. The facilitator should explain that if we need to protect our forests and properties, then we have to organize ourselves to control fire threats.</li> <li>3. The facilitator should tell the participants to identify different roles of the community in their area for fire management.</li> <li>4. The facilitator should invite the participants so as to identify what they can do so as to fight the unwanted fires and their properties. By divide into small groups according to the number of tasks identified in step number 3.</li> <li>5. Each group should specify how they will accomplish the tasks given to them.</li> <li>6. After 10 minutes, the facilitator should ask the groups to discuss together the roles of the community on fire management.</li> <li>7. The facilitator should quote the ideas from each group on a flip chat. He/she may ask questions if there is a need to do so.</li> <li>8. After all groups participated on discussing the results, the facilitator should summarize and ask if they agree with what they said they will do to control fire.</li> <li>9. The facilitator should conclude by encouraging the participants to work hard to fulfil the responsibilities that are identified above. Then he/she should explain to the participants about the future of the community and the proper use of fire.</li> </ol>
MATERIAL USED	



## Development of a Fire Management Plan

Session 6: Development of a Fire Management Plan	
OBJECTIVES	Participants have learned and discussed by now the pros and cons of fire, how they use fire in their daily life's, how they can use fire safely, how village committees dealing with fire management can be established. Now they can think of how to develop a fire management plan for their village or community area by identifying risk areas and collective action to prevent but also suppress unwanted fires.
MATERIALS	<ul style="list-style-type: none"> <li>• Flip chart.</li> <li>• Marker pen.</li> <li>• Masking tapes</li> <li>• Handout: Fire management plan</li> </ul>
TIME	2 hours
STEPS	<ol style="list-style-type: none"> <li>1. The facilitator should explain to the participants the benefits of having a Fire Management Plan by involving the participants to brainstorm on the previous lesson and how they can use the knowledge to structure activities concerned with fire into a management plan.</li> <li>2. The facilitator should explain to them the meaning of Fire Management Plan (FMP):</li> <li>3. If questions arise from the participants, the facilitator should provide further elaboration / answers</li> <li>4. The facilitator should tell the participants to form three groups by counting numbers from 1 to 3. The Participants who will count number 1 will form a group number 1, etc.</li> <li>5. The facilitator should provide to each participant a flip chart and a marker pen.</li> <li>6. Each group should discussed in detail for 10 minutes and write down their thoughts on a flip chart, "Who has the responsibility of preparing FMP, factors to consider in creating community awareness about fire management"</li> <li>7. The facilitator should ask for one volunteer from each group to present what has been discussed.</li> <li>8. Facilitator should allow discussion and clarification from the presentation.</li> <li>9. The facilitator should explain the structure of FMP and then concludes by providing the handouts to the participants.</li> </ol>
VIEWS	The facilitator should have enough knowledge about a fire management plan
MATERIAL USED	



## Identification of Fire Risk Areas

### Session 7: Identification of fire risk areas.

OBJECTIVES	Identifying Fire Risk areas of the village area is part of the Fire Management plan. At the end of the lesson, the participants will be able to: <ol style="list-style-type: none"> <li>To distinguish between protected areas and areas which are at fire risk.</li> <li>Assessing fire risk areas</li> </ol>	
MATERIALS	<ul style="list-style-type: none"> <li>Flip chart written "lessons learned"</li> <li>Maker pen</li> <li>Masking tapes</li> <li>Handout: Identification of fire risk zones.</li> </ul>	
TIME	Up to 3 hours	
STEPS	<ol style="list-style-type: none"> <li>The facilitator should involve the participants to brainstorm on the causes of fire</li> <li>The facilitator should explain that going against urban plans make an area to be at fire risk.</li> <li>The facilitator should explain the meaning of fire risk areas and how to adjust them not to be at fire risk.</li> <li>If questions arise from the participants, the facilitator should provide further elaborations / answers</li> <li>The facilitator should ask the participants to form three groups by counting from number 1 to number 3. Participants counted number 1 will form a group number 1, etc.</li> <li>The facilitator should provide each group with a maker pen and a flip chart</li> <li>Each group should discuss in details for 20 minutes and write down their thoughts on a flip chart," How to identify high-fire risk area and sensitization for fire management"</li> <li>The facilitator should prepare a table as shown below and post it on the wall/flip chart stand</li> </ol>	
	Causes of fire risk area	Ways to adjust
STEPS	<ol style="list-style-type: none"> <li>The facilitator should ask one volunteer from each group to present what have been discussed</li> <li>The facilitator should allow discussion and elaboration from the presentation.</li> <li>After the conclusion of the first topic, the facilitator should explain how to make assessment of fire risk areas.</li> <li>The facilitator should distribute the handouts to the participants and clarify important things that are in the notes in comparison with what have been discussed.</li> <li>The facilitator should conclude the lesson by encouraging the participants to minimize the causes of fire risk areas.</li> </ol>	
VIEWS	The facilitator must have sufficient knowledge about the various ways to minimize the fire risk areas	



## Feedback Session of Every Day

Session 8: Feedback		
OBJECTIVES	The Feedback Session should be done every day at the end. It can be short but it will help to understand: 1. The understanding of the participants towards the topic being presented. 2. How did the participants understand the topic of the day	
MATERIALS	<ul style="list-style-type: none"><li>• Flip chart written "lessons learned"</li><li>• Marker pen</li><li>• Masking tapes</li><li>• Meter card</li><li>• A flip chart drawn diagrams showing the state of "happy, normal and unhappy"</li></ul>	
TIME	30 minutes	
STEPS	<ol style="list-style-type: none"><li>1. The facilitator should provide an introduction of the topic,</li><li>2. The facilitator should make a flip chart divided into three parts which are drawn different faces (a happy, normal and sadness)</li><li>3. The facilitator should outline in brief what they learned.</li><li>4. The facilitator should ask the participants how they feel about that day. Each participant will write a reason on a card and fix it below the face which represents the state he/she feels that day.</li><li>5. The facilitator should tell the participants to write at least one thing which he/she learned on the second card and fix it on the flip chart which has been written "things we have learned"</li><li>6. The facilitator should read the cards which have been fixed on the flip chart which shows the states felt by the participants and things they have learned and record them ready to submit them to the participants the next day.</li><li>7. The facilitator should give out the results the next day.</li></ol>	
J	K	L
Happy	Normal	Unhappy
Why?		





## Evaluation and Conclusion

Session 9: Evaluation and conclusion	
OBJECTIVES	<p>A the end of the training the facilitator will be able to:-</p> <ol style="list-style-type: none"> <li>To know whether the participants have understood the topic given during the training.</li> <li>Has found the opinions of the participants that will enhance improvement on the training of the same kind.</li> </ol>
MATERIALS	<ul style="list-style-type: none"> <li>Flip chart</li> <li>4 suggested questions which have been written on the flip chart.</li> </ul>
TIME	1 hour
STEPS	<ol style="list-style-type: none"> <li>The facilitator should introduce the purpose of making assessment using the "Fish Bowl"</li> <li>The facilitator should explain how the "fish bowl" method can be applied.</li> <li>The facilitator should ask the participants to stand up and arrange the chairs in cycles (inner and outer) the number of chairs of the inner cycle will be ¼ of all participants and one extra chair.</li> <li>The facilitator will need ¼ of the participants to sit on the chairs of the inner circle to represent Fish. One chair should remain open where ¾ of the rest participants will sit on chairs of the outer cycle representing the Humans.</li> <li>The facilitator should tell the participants that while this activity continues the fish can speak out loud when humans are not allowed to speak, but they should listen carefully.</li> <li>The facilitator will mention the first question and will need the Fish to discuss it carefully. Anyone from the chairs of the outer cycle who needs to contribute his or her ideas will have to sit on the open chair and become a fish, after contribution he or she will have to move and leave the chair open.</li> <li>The facilitator will need the Fish to discuss for 10 minutes to answer the question provided.</li> <li>While the Fish are discussing, the facilitator should write the important things from the discussion on the flip chart so as everyone can see.</li> <li>After 10 minutes the facilitator will invite humans to volunteer to be new Fishes and repeat the same sequence from step 5-8 while they discuss the second question until all 4 questions are finished.</li> <li>The facilitator will emphasize on the most important things written on the flip chart according to the discussion and gives elaboration if possible.</li> <li>The facilitator should conclude and thank the participants for their attentive participation.</li> </ol>
VIEWS	<p>The facilitator may change the questions as much as it is required to do so.</p> <p>Suggested questions for the "Fish Bowl"</p> <ol style="list-style-type: none"> <li>What do you understand about FIRE?</li> <li>Why is fire prevention and control important to you?</li> <li>How can you get involved in fire prevention and control?</li> <li>What should we do to improve this training</li> </ol>

# Appendix 1

## Session Handouts for the Participants

Note: These handouts should be printed before the training and given to the participants

### Handout Session 1: Positive and Negative Impacts of Fire

What are the possible negative impacts of fire?

- Burn crops, houses and properties thus increases poverty by destroying properties and money
- Destroy natural vegetation such as forests and woodlands
- Loss of life of the organism (humans, animals, plants, insects, etc.)
- Environmental destruction (water sources, soil, biodiversity, landscape, climate change, etc.)
- Increase conflict and hatred between communities
- Smoke causes road accidents



GIZ/ Anja A. Hoffmann

Figure 1: Fire damaged field and surrounding environment

## What are the possible positive effects of fire if applied correctly?

- Removal of unpalatable grass and stimulation of green pasture growth
- Removal of fuel loads/ vegetation material to reduce fire hazards in the peak fire season
- Tool to clear agriculture fields in preparation for crop planting



Figure 2: Fire for pasture management

## Handout Session 2: Fire Triangle

For fire to start burning there must be three important things in common.

1. Oxygen, that is one of the natural gas that forms the air and it is on air, the quantity of oxygen can be induced by wind speed
2. Temperature (Heat): Heat may cause fire due to the lightning of matches, throwing of smoking pieces without being extinguished, the fire for preparation of fields, domestic fire, smoking the fish, honey harvesting and hunting animals.



Figure 3: Fire Triangle

3. Flammable material (fuel) There are three main types of objects which are flammable (i) items which are not heavy and well broken by one hand, are quickly get burned example, dry grass, leaves etc. (ii) middle objects which are broken by using two hands, they are not quickly get burned like things which are not heavy such as small trees, tree branches, etc. (iii) Heavy items also take time to get burned and they get burned slowly e.g., logging, stumps etc.

## What should be done so as to extinguish fire?

- Remove one of the three items above; e.g., remove oxygen by using branches of trees, sand, bags etc.

## How can you remove things which are burned?

- Remove by digging the fireline

## How can you remove Heat?

- Remove the heat by using water or sand

## Environment of fire

- Burning and spreading of fire may be influenced by different environmental factors such as weather condition and the structure of the Earth.

## Weather condition (Weather):

- Wind: It changes and cannot be predictable, great wind promotes fire, wind can cause sudden changes in the direction of fire and also increase the spread of fire, thus causing difficulties to control the fire.
- The level of Humidity: When the level of humidity increases or decreases in the air affects the fire behaviour, for example if the humidity decreases fire increases.
- Temperature: Increasing temperature increases dried organic material which is flammable and increases the outbreak of fire and its spread. Decreasing temperature decreases the outbreak of fire.

## The shape of the land/Earth (Terrain)

- Slopes: At the steep slope the speed of fire increases (if the fire starts from down the slope)
- Mountain: The outbreak of fire between two hills burns rapidly due to wind speed. Fire will burn more rapidly uphill than downhill
- Plains: Fire usually burns slowly on the plain areas if the wind is not strong.

## Handout Session 3: Community and the Use of Fire

The safe use of fire is essential for the sustainable use of resources, due to the fact that the community uses fire for different purposes such as agriculture, grazing areas, controlled burning in forest reserves, to burn waste disposal, beekeeping, camp fires and fish camps, charcoal production and the like. To achieve all these, the community needs to use fire in a safe way without bringing harm.

Thus, society should make great efforts to ensure that the life of the organism, forest and properties continues to exist and help the community. Community should make the best use of fire as follows:

### Preparing fields and grazing

- Considering time and the seasons of the year
- Request the permission to set fire from the Village Executive Officer
- To make fire lines or use live fence
- Inform your neighbours and other important villagers
- Having a fire suppression group
- Prepare fire suppression equipments just in case fire escapes
- The best time to set fire is in the evening
- Monitor burning ambers for three days



Figure 4: Unattended Fire



## Beekeeping

- Consider time and seasons for harvesting honey
- Request permission to harvest honey from the Village Executive Officer
- To make a fire line or use live fence around the Apiary.
- Do not use fire to harvest honey, but use a bee smoker
- Prepare fire suppression equipments just in case fire occurs.
- Harvesting should start before 10:00 am and after 1:00 pm
- Suppress fire as soon as possible it will occur near the Apiary.



GIZ/ Unknown Source

Figure 5: Bee smoker for honey harvesting



## Forest

- To consider time for early burning and seasons of the year, for example usually from April to July
- Request permission to set fire from the Village Executive Officer
- To make fire break to prevent fire or use live fence
- Having a fire prevention group

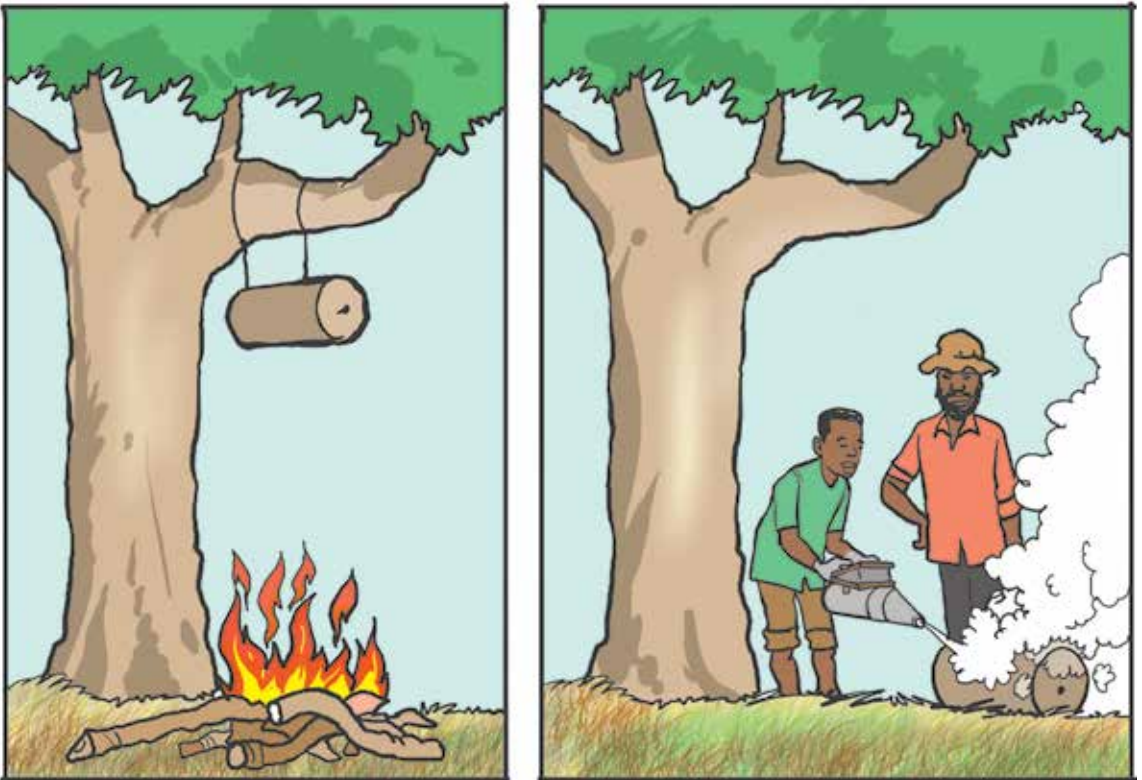


Figure 6: The wrong and the right way for smoking bees during honey harvesting

- Prepare fire suppression equipments just incase fire occurs.
- Identify sources of water to be used if fire gets out of hand.
- It is better to set fire during the evening
- Monitor ambers for three days

### **Burning of wastes**

- Consider time of the day and the seasons of the year
- Request permission to set fire from the Village Executive Officer
- Make fire break to prevent spreading of fire
- Organize a fire prevention group
- To ensure that someone is present all the time to monitor the fire.
- It is better to set fire in the evening
- Monitor and suppress the remaining amber for two days

### **Making Charcoal**

- Request permission to burn charcoal from the Village Executive Officer
- Making fire lines to prevent spreading of fire
- Use improved technology in burning charcoal
- Village Executive Officer should inform the members of the group and those who make charcoal so as to monitor the events around the charcoal kiln
- Prepare fire suppression tools and equipments when fire occurs (water, leaves, sword etc.)
- Suppress the remaining ambers during unearthing charcoal.



Figure 8: Unsafe Way of making charcoal

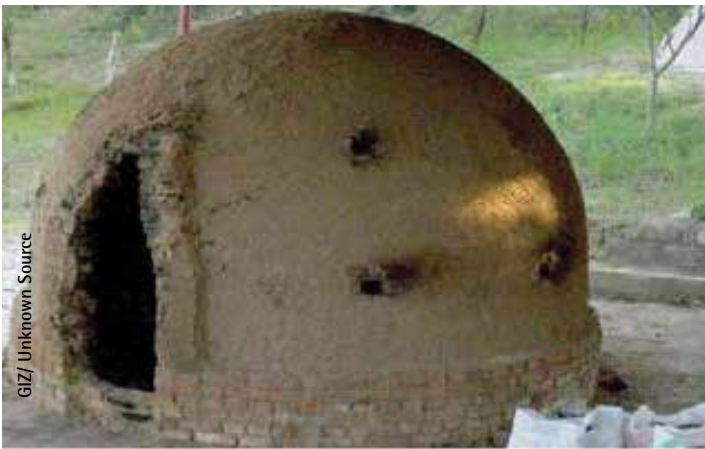


Figure 9: Safe way making charcoal

## Preparation of camping grounds and setting fire

- To request the permission for establishing camps (tourist camp, fishing, logging etc) from the legally authorized officer
- To request the permission for setting fire from the Village Executive officer
- To make fire breaks to prevent spreading the fire (fire break around the camp fire place, remove grass etc.)
- Preparing fire suppression equipment just in case fire is spreading (e.g. sand, water)
- Extinguish the ambers of the camp fire when leaving the camp with either water or sand.



Figure 10: Always put your camping/cooking fire out

# Handout Session 4 and 5: Community Participation and Responsibilities in Fire Management

## Who is the community?

Community is all people (children, youth, adults, farmers, workers, traders, herdsman, fishermen, religious leaders, etc.) who live in a specific area and all institutions; (different religious organizations, government offices, educational institutions, NGOs) that provide various services in that area. Those people are involved in ensuring that the life of the community and their property is safe and that the environment is protected.

## Participation

Each member is required to participate fully in development activities, including fire management based on the laws relating to environmental conservation. Community participation on fire management is required from the initial stage to the final stage of implementation. Involving the community on fire management is a process which requires the willingness and acceptance of the community in order to;

- Build community capacity to lead the process
- To increase transparency to the community.
- To reduce and control social conflicts over the available resources.
- Build community capacity for the sustainability of fire management plan.

## Community capacity building

Building community capacity is one of the basic principles of fire management where the community creates awareness, confidence and skills through training and ensures that environmental committees, groups of users of the environment, village leaders and individuals are using this training to execute their responsibilities on fire management.

## Satisfying the needs of the community

Community members who are entitled to customary tenure of the forest areas for example through Participatory Forest Management or Joint Forest Management should be given the opportunity to be sensitized so that they will realize the importance of managing fires and the benefits they can gain from such activity.

## **The formation of fire management groups**

To build a strong participation it is better for a community to have a leading group for fire management in the village level, this group will be working in cooperation with the environmental committees and the community at large. The number of the group members for the fire management group should not be more than ten (10).

## **Qualifications of members who form the leading group of fire management**

- There should be a combination of men and women
- There should be some people who are forest and environmental conservation activists.
- There should be a combination of different people who use fire in their activities, including farmers, hunters, herders, honey harvesting and other users of fire
- There should be representatives from every neighbourhood in the respective area.

## **The responsibilities of a leading group of fire management**

To the benefit of the life of people, animals, insects, forest and other resources that enable them to increase and being sustainable and reduce fire threats to biodiversity and resources, communities must be held accountable to control the fire. The community with its fire management group is responsible to prevent and control fire threats in the following ways:-

1. To reduce the use of fire during the preparation of the fields, honey harvesting and animal hunting.
  - a. Provision of education on the best use of fire for natural resource management
  - b. The community must obey the laws and the by-laws, as well as follow procedures to better use of fire.
  - c. Strengthening safety zone for fire between the bushes or forest and settlements.
2. To participate in creating, implementing and supervising the working plans.
3. Be ready for firefighting once it occurs.
4. To educate the community on the use and management of all fire activities.
5. To prepare a fire management plan for the community area
  - a. To involve the community in designing and implementation of the program on fire management
  - b. To coordinate all fire activities within the village according country and laws and regulations.

6. Keeping records of fire incidents and distribute it to all fire stakeholders.
7. To present different information on how to control fire in village meetings.
8. Identifying the available opportunities, challenges and the sources of uncontrolled fires.
9. Be ready to participate on fire fighting once it occurs.
10. Provide fire precautions to stakeholders, to those who are passing and to other village members for example posters.
11. To supervise the laws and regulations regarding the good use of fires.

## Handout Session 6: Fire Risk Assessment

Areas where the community lives may be at risk when they do not have the criteria which enable the fire management activities to be carried out easily and safe.

The following factors are highly contributing to the residential areas to be at high risk:-

1. With transport ways for entry and exit which are small (i.e. 1), narrow (less than 6 meters) and with poor road conditions all the time (it does not paved or gravel) are with big holes.
2. Do not have fire services and difficult to pass (the car cannot go reverse)
3. Do not have road signs or they exist but they do not shining enough to give precaution to the users.
4. With natural vegetation which is closed and easily to get burned.
5. Do not have area of fire defensive (i.e. 10 meters away from the property, e.g. forest and residential)
6. Do not have fireline
7. Dominated by natural altitudes
8. With the sources of fire risk such as; with frequent lighting events, electricity, tourism and tourist camps
9. With many roofing materials which can easily caught fire (example; glass))
10. With few water sources/lack of water (i.e. dry lands)
11. That which access to communication facilities is difficult (> 8km from the Facility)
12. With non equipment to discover the fire i.e., Tower / south / mount, mobile phone, day indicator for fire risk day )
13. With non experts or knowledgeable people on the aspects of fire (i.e., members of fire management association)

### Awareness about fire management

It is important to educate and sensitize the community about fire management.

It is also good to inform the community where will be a safety zone. A safety zone could be a football or games stadium, to the road or part of a place which has been burned. It is also good to inform the community about the communication means that will be used during the season of fire example, mobile phone, blowing a trumpet, a poster of fire etc. It is good to know where the firefighting equipments



available or kept. Fire suppressing equipments are like, branches of trees, water or sand buckets, hoes, slashes, swords etc.

For the sustainable outreach, it is the responsibility of the various stakeholders to build up the ability to control fire, it is good for various stakeholders to have rules and regulations for the use of fire and techniques for fire management.

## The responsibilities of Stakeholders in fire suppression

Stakeholder	Responsibility
The Ministry	Coordinate fire activities/provide equipment and experts
Regional/ District / Council	Coordinate fire activities/provide equipment and experts
Reserves/Tree plantation/Crops/Grazing	Coordinate and supervise fire activities/provide equipment and experts
Religious institutions/education/politics	Provide equipments, experts, policies and sensitization
Community	Participating in fire control

It is important to conduct an assessment for fire risk areas so as to build capacity to the community to evaluate risk areas which is difficult to manage during the outbreak of fire: the assessment can be done by a small group and deliver the assessment to the whole community so as to adjust the gaps which made a respective area to be a fire risk zone. It is better to educate the community on how to use fire risk area assessment form.

## **Handout Fire Management Plan at Community level**

A fire management plan is a plan for preventing and controlling bush fires which affects the lives of the people and their properties. The program aims to reduce the damage caused by not having enough attention on how to prevent and control fires. This program is an incentive for economic and social security in preserving life and properties. The benefit of Fire Management Plan at community level is giving sufficient opportunity for the community to control fire and ultimately minimize the negative impacts of fire.

### **Who is responsible for preparation of a Fire Management Plan**

In order to facilitate fire prevention and control activities the community is required to prepare an action plan that will be used in their daily activities. This plan will jointly be developed with the community FireWise and Fire Brigade group. After the leading groups preparing the action plan it will be presented to the village general assembly through the environmental committee to seek further intou and final approval.

### **Factors to consider during the preparation of Fire Management Plan**

Before preparing a fire management plan, it is necessary to make an assessment of the impacts of fire in a particular area. During fire assessment the following factors should be considered;

1. Identification of fire risk zones: use the fire risk zone assessment form; look on Session 7: Identification of Fire Risk Areas
2. Sources of water; it is important to identify sources of water available and if does not exist what step should be taken?
3. Fire Equipment, it is better to identify fire suppression equipment which are available within the area, along with a list of equipments which have been missing and are needed, also to know where the available equipments are kept
4. It is good to know the means used by the community to identify fire and the areas to look for fire.
5. Ways to reach the community; what should be done to ensure that the community areas are easily reached.
6. The quantity of flammable things. It is better to know the ways which will be used to reduce the flammable things in a respective area
7. Creation of awareness on fire control

It is important to have cooperation on managing fire within the community in order to create a catalyst for the community in terms of fire control. And it is better to educate the community on the importance of fire control association. It is also important for the community to know where the training is conducted.

### **Possible structure of a Village Fire Management Plan**

1. Introduction.
2. Village Information.
3. The aim of the plan.
4. Stakeholders in community fire management & responsibilities
5. Duration of the plan.
6. The assessment on the impacts of fire.
7. The role and activities of various stakeholders on fire prevention and control.
8. Awareness on the methods of fire prevention and control.
9. Monitoring and evaluation.
10. Appendices

# Appendix 2

## Fire Risk Assessment Form

The facilitator should explain how to use this form

Criteria	mark (Actual)	mark (Adjusted)	Explanations
Means of transportation at a particular area			
Entry and Exit at fire risk zone			
1 road or 2 inside or outside a particular area	0		
Entry and Exit at fire risk area	7		
The width of the road			
≥ 6 meters	0		
≥ 6 m and < 7 meters	2		
< 6 meta	4		
Road conditions through out of time			
< 5% pitch	0		
> 5% pitch	2		
< 5% pebbles/gravel	2		
> 5% pebbles /gravel	5		
Municipal Fire Brigade services and roads accessibility			
≤ 90m a car to go reverse	0		
> 90m a car to go reverse	2		
< 90m not going reverse	4		
≥ 90m Not going reverse	5		
Road signs			
Available 15c are shining	0		
Not available	5		
Natural vegetation			
Vegetation which is dominant all over / near the properties			
Light (light /medium/Heavy)	5		
Medium (short form of the savanna, pine blisters)	10		
Heavy (close trees which invade)	20		
Defensive fire area			

Criteria	mark (Actual)	mark (Adjusted)	Explanations
30m keeping vegetation away from properties	1		
21 – 30/Keeping vegetation away from properties	3		
11–20m Keeping vegetaton way from properties	10		
10m Keeping vegetation away from properties	25		
fire defensive road			
adequate	0		
non adequate	10		
None	25		
Dominant natural plateau 91.4m			
Slopes > 9 %	1		
Slopes 10% up to 20%	4		
Slopes 21up to 30%	7		
Slopes 31% up to 40%	8		
Slopes > 41%			
Extra measurement	0-5		
Distribution of Plateau and its effects (gullies / medium plateau)			
Fire risk sources			
Frequent lightning events	0-5		
Railway	0-5		
Mountain	0-5		
Electricity	0-5		
Tourism and tourist camps	0-5		
Fire risk areas	0-5		
The presence of fire occurrence			
<1 km to square 1	1		
2 – 4 to 2 square km	2		
5-7 square km	3		
7-10 square km	5		
> 10 square km	10		
The items which are commonly used for scratching houses			
Common items			
Roof which is not burned (metal sheet)	0		

Criteria	mark (Actual)	mark (Adjusted)	Explanations
Roof which burns slowly (tiles)	5		
Roofs that are burned quickly (grass)	25		
Problems of construction of houses on the slopes 30% or more			
≥ 10m steep	1		
<10m steep	5		
The controlling of the existing fire			
The water sources of the respective area			
Cubic litters~ 2000 water sources	0		
Cubic litters ~1000 water sources	5		
There is shortage of water	10		
Availability of the communication centres			
≤ 8km From the centre	1		
> 8km From the centre	3		
Equipments for fire identification			
Tower/Anthill/Mountain	1		
A cell phone	2		
Indicator of the fire risk day (red flag)	4		
Satellite information	6		
None	10		
Membership of the fire control association			
Yes	0		
No	20		
TOTAL			

## Evaluation of the damage

Clarification	Total Marks
Small	<40
Average	40 - 64
Serious damage	65 - 109
Very serious damage	>109

# Appendix 3

## Facilitation Tools

### Ways to create Groups

There are different ways to create groups; some of them are as follows:

- The facilitator should bring together the participants who do not know each other.
- The facilitator should ask the participants to form the groups of people who do not know each other with the aim of sharing experience. The number of the groups will depend on the needs.
- The Sinking Boat: The facilitator should tell the participants that they are the passengers of the Titanic ship. They should quickly form the groups according to the number of people being mentioned. You should say "the boat is sinking create 6 groups".
- Groups of the same character: These are groups of people with the same interest or with the same knowledge. For example those who are interested in agriculture or wildlife issues.
- Things of the same type: Look at the things which are visible from the participants that can help you create group, e. g Black shoes or brown and other colours, T-shirts, shirts, blouses, with glasses, without glasses

### Ice Breakers

#### Animal game

The facilitator should make pieces of paper for each participant in a larger group. The facilitator should write the name of the animal on each piece of paper, and should use different animals with regard to the small groups that are required. Should give the participants those pieces of paper regardless of the order and tell them to mention aloud the name of the animal that everyone has so as the other with the same name could join him/her and form one small group.

#### Mixed fruit

The facilitator should divide the participants into groups of 3 or 4 of the fruit example such as Orange, Banana, Mango. Following the participants to sit on the chairs (no tables) in a circle one participant



should sit at the centre inside the circle. The facilitator should mention loudly the name of the fruit like an Orange! Those who are in an orange group should change their sitting place (without moving the chairs) one participant around the centre of the circle will be required to replace one among the chairs where by one participant will remain without a seat at the centre of the circle. The participant who remained without a seat should mention aloud the name of the other fruit and the game will continue so. When mixed fruit is mentioned that means all of the participants will exchange their seats.

### **Do not answer.**

The participants should stand in a circle, one person should go towards one participant and ask a simple question for instance what is the most disgusting thing to you? The participant who has been asked the question should not answer, but a person on his or her left should respond. The answers must not be true, they might be of the peer/age. The game will continue in the same way while the one who is asking questions keeps on asking different participants.

### **"Prrr" and "Pukutu"**

The facilitator should guide the participants to act like one of the bird between the two. One side should be called 'prrr' and the other should be called 'pukutu' all of that side should stand up with their finger toes and open their hands while folded like the wings of the bird. If you call 'pukutu', everyone in the group should quietly stand without touching his/her feathers.

### **Is there any changes?**

The participants should divide themselves into pairs. Everyone has to look on the other one and remind himself/herself how he/she is. Then one of them should turn back and make some changes to his appearance. eg to put the watch that he is wearing on another hand, to remove the glasses and folding the arms of his shirt.

Another participant should turn around and try to identify the changes made by his partner, the participants should exchange and do as the beginning.

# Appendix 4

## Example of Training Agenda

### Objectives of the training

- At the end of the training the participants understand the negative and positive impacts of fire and the safe use fire for livelihood purposes.
- At the end of the training the participants will be able understand community roles and responsibility in fire prevention and control. .

### Day 1

Time	Topic	Objectives	Activities
08:30-9:30:00	The opening of the training Introduction of the Training	At the end of the lesson; The participants will be able to know each other and agree on the rules and regulation of the training	Presentation Manila cards The whole group discussion
10:00 - 10:30	Tea break		
10:30 - 12:30	The positive & negative impacts of fire	At the end of the lesson; The participants will be able to explain the effects of fire on forests and the community properties	Discussions of the small groups
12:30 - 14:00	Lunch Time		
14:00 - 15:30	The Fire Triangle	At the end of the lesson; The participants will be able to explain the meaning of fire and the 3 elements that are needed to maintain a fire and how it's is put out by removing one of the three	Discussions of the small groups
15:30 - 16:00	Tea break		
16:00 - 16:30	Feedback	At the end of the lesson facilitator will be able to understand the feelings/mood of the participants concerned the lesson which has been taught. The facilitator will be able to know the extent to which the participants understood the past lessons.	Mood meter

## Day 2

Time	Topic	Objectives	Activities
08:00 - 10:00	Review of Day 1 The community and the use of fire	At the end of the lesson; The participants will be able to explain the proper use of fire	Manila cards A work from small groups The whole group discussion
10:00 -10:30	Tea break		
10:30 - 12:30	Community Participation on fire management	At the end of the lesson; The participants will be able to explain the meaning of the community and community participation on fire management	Group work
12:30 -14:00	Lunch		
14:00 - 16:30	Responsibilities of communities in fire management	At the end of the lesson; The participants will be able to identify the roles of the community on fire management	Presentation Manila card The whole group discussion
16:30 -17:00	Wrap up of Day 2		

## Day 3

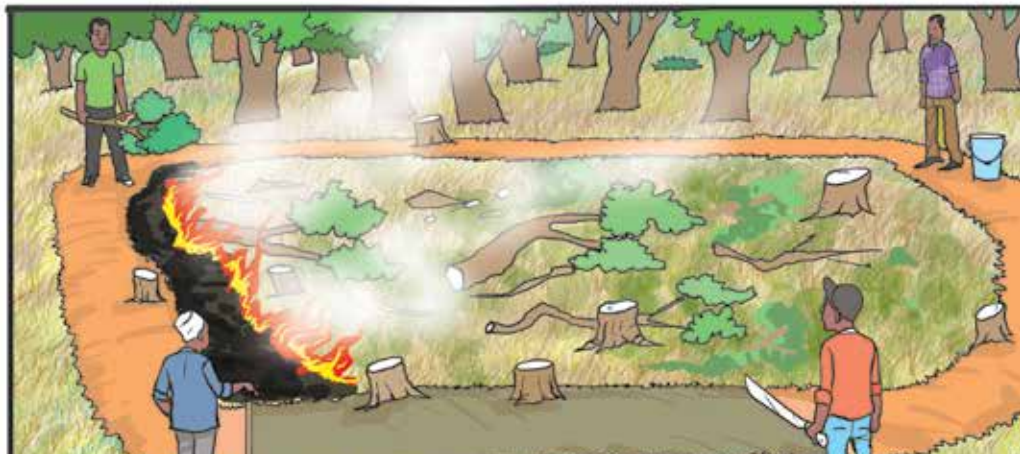
Time	Topic	Objectives	Activities
08:00 - 10:00	Review of Day 2 Development of Fire Management Plan	At the end of the lesson; The participants will be able to understand the usefulness of a fire management plan	Manila cards A work from small groups The whole group discussion
10:00 - 10:30	Tea break		
10:30 - 12:30	Identification of fire risk areas (outdoor exercise)	At the end of the lesson; The participants will be able to identify their fire risk areas in the village	Group work
12:30 - 14:00	Lunch		
14:00 - 16:30	Continues with practise in the area of the training location and finalisation of the fire management plan	At the end of the lesson; The participants will be able to identify their fire risk areas in the village	Presentation Manila card The whole group discussion
16:30-17:00	Evaluation and conclusion		

# Appendix 5

## Training Evaluation

1. What is the importance of the training which you received?
2. Which topic that impressed you most?
3. How did the training which you have received will help you in controlling fire?
4. Is there anything which you would like to learn more about fire?
5. What do you think about the quality of the Training manual used in this training?
6. It gives good guidance on achieving the goals of the training.
7. The information being given is important?
8. What should be improved in this guideline?
9. What is your advice about the methods used to deliver the message?
10. What method is important and which not? Give your opinions on how to improve the methods
11. Give your opinions on how to prepare the training;
12. Transport,
13. Food,
14. The importance of using two days for this training.
15. What do you think about learning more on the aspects of fire?
16. Did the training which you have received satisfy your needs?
17. Mention the weaknesses of the training being received.





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