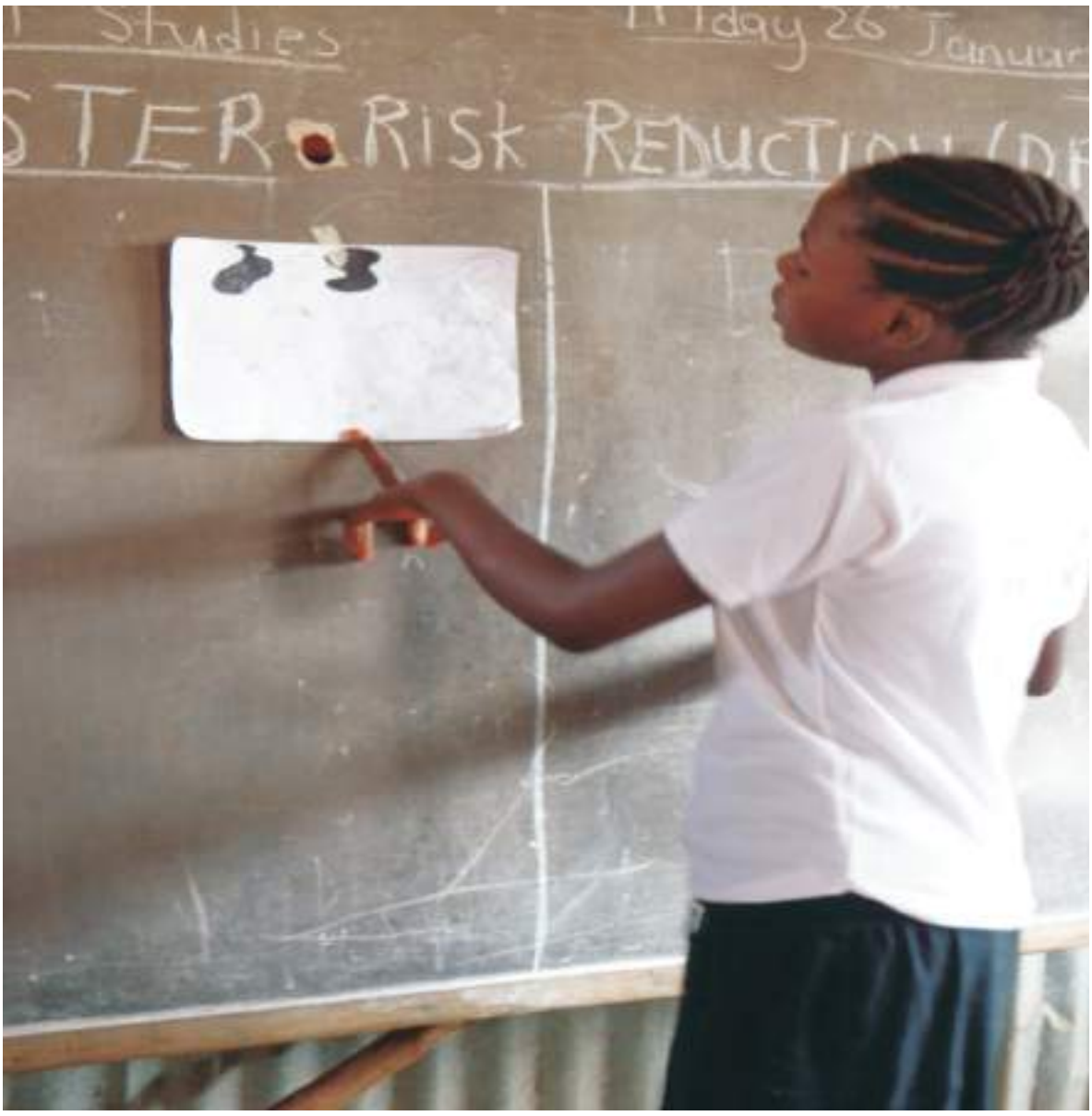
SCHOOL DISASTER RISK REDUCTION TEACHING GUIDELINES



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National Disaster Management Agency (NDMA)
in Partnership with the Ministry of Basic and Senior Secondary Education (MBSSE)

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FOREWORD

The Government of Sierra Leone (GoSL) through the National Disaster Management Agency (NDMA) and its development partners particularly the United Nations Development Programme (UNDP) saw the urgent need for the development and introduction of the Schools Disaster Risks Reduction teaching guidelines(SDRRTG) for schools. The SDRRTG teaching and learning materials will be embedded in the curriculum across certain subject syllabuses. This shows the high level of Government's commitment to creating a resilience learning environment for every learner in Sierra Leone.

The SDRRTG manual is designed to guide school heads, teachers, learners and by extension communities to ensure school safety, particularly in facilitating the protection of children against disasters. In Sierra Leone, many disasters occur while children are in schools; and most of the vulnerable groups among learners who are faced with natural or man-made hazards are children, especially infants and Children with Disabilities (CWDs). Moreover, disasters deprive children of their right to a continuous and quality basic education in a resilience environment. Disasters equally threaten the lives of children, their families, and education personnel. Therefore this is a bold step taking by the Ministry of Basic and Senior Secondary Education (MBSSE) and its development partners on behalf of the Government of Sierra Leone.

The teaching and learning materials on schools disaster risk reduction and management is clear and straightforward for teachers and learners to understand how to mitigate or avoid disasters. Furthermore, it brings to the attention of our learners, teachers and the general audience; early warning signs of multi disaster events and some rescue and mitigation measures for the protection of our schools and communities. The teaching and learning material also contains methods of preparation of alternative learning centers to ensure an uninterrupted teaching and learning within the communities.

Jacob Jusu Saffa

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Chief Minister
Sierra Leone Government

Contents

Acronymns

CEO	Chief Executive Officer
CWDs	Children with Disabilities
DRR	Disaster Risk Reduction
DRRM	Disaster Risk Reduction Manual
EMIS	Education Management Information System
GoSL	Government of Sierra Leone
IOM	International Organization for Migration
JICA	Japanese International Cooperation Agency
NDMA	National Disaster Management Agency
MBSSE	Ministry of Basic and Secondary School Education
ONS	Office of National Security
SDRRTG	School Disaster Risk Reduction Teaching Guidelines
UNDP	United Nations Development Programme
UNISDR	United Nations International Strategy for Disaster Reduction

Acknowledgment

We want to thank God for giving us the strength for putting together this valuable teaching and learning materials for the children of Sierra Leone. We acknowledge all those who in diverse ways have contributed to the development of this guidelines. Thanks to International Organisation for Migration (IOM), Office of National Security (ONS) and the Japanese International Cooperation Agency (JICA) for initiating the development of a Disaster Risks Reduction Management (DRRM) manual, which have served as a baisis for the development of the SDRR Teachging Guidelines.

We couldn't have gotten to this point without the requisite financial supports and for this we say many thanks to leadership of the UNDP, Pa Lamin Beyai, Madam Tanzila Sankoh for leading the UNDP team in the process and Mrs. Margaret Dauda for her coordinating roles.

Thanks to the Minister of MBSSE, Dr. David M Sengeh for his leadership roles; the Chief Education Officer (CEO), Professor Yatta Kanu for leading the technical team; the Director of Curriculum and Research, Mr. Osman Kamara; and the Deputy Director of Education Management Information System (EMIS), Mr. John K Ansumana for their technical contributions to the development of the teaching and learning guidelines, which now serves as the foundation for its inclusion into the school curriculum.

Special thanks to the National Disaster Management Agency (NDMA) Director General, Lt Gen. (Rtd) Brima Sesay and the Deputy Director General, Mr. John V. Rogers for their leadership and tremendious efforts in guiding the entire process of the development of the SDRRTG. We appreciate the NDMA Director of Disaster Risk Reduction and Preparedness, Mr. Thomas Lebbie for his supervisory and technical roles throughout the development of the SDRR Teaching Guidelines.

Executive Summary

Floods and Landslides, though not always as destructive, are among the deadliest and costliest of hazards in Sierra Leone, especially in Freetown, the capital. The most terrible consequences are enormous losses in human life, materials belongings, infrastructure including the educational facilities and endanger the rights of children.

Children, especially infants and the disabled, form one of the most vulnerable social groups when faced with a natural or man-made hazard. Many disasters occur while children are in school, exercising their right to education. Disasters deprive children of their right to a continuous, quality, basic education in a safe environment. They threaten the lives of children, their families, and education personnel. Children have a right to live in safety - it is the duty of national and local governments, of national and international communities, of institutions, families and schools to provide them with adequate protection. They are the children of today, the youths of tomorrow and the adult population of the future.

This School Disaster Risk Reduction and Management (SDRRTG) Manual is designed to guide school heads and teachers in facilitating the protection of children against the potential disaster risk within Sierra Leone.

This training guide, as a supplement of learning materials already available in schools, is aimed at children at fundamental levels especially in grades 1 - 6. It is designed for a 2-week programme containing 4 modules with 2 lessons per module. The first module presents the basic concepts of disaster risk reduction while the three remaining modules cover the three main common potential hazards (Flood, Mudslides and Fire) within Sierra Leone, especially in Freetown.

Some practical activities, teaching methods and tools have been proposed in each module in order to strengthen the capacity of the children to be efficient in terms of management of disaster risk before, during and after. However, teachers are not required to limit themselves only on the proposed approach. Neither on the target pupils depending on the needs and demands of each school or on the duration of the programme due to pupils' level of understanding of each module. They might develop their own pedagogical activities adapted to the reality of their classrooms.

Learning Objectives and expected outcomes of the training Sessions:

By the end of the training sessions, children will be able to:

- Understand, state and explain the main concepts of Disaster Risk Reduction
- Explain the relationship between risk, vulnerability, hazard and disaster
- Identify and demonstrate key actions to reduce disaster risks within their community
- Identify and discuss warning signs of the potential hazards
- Recognize flooding prone areas in their community and identify them on a map.
- Demonstrate some actions to be taken before**,** during and after in terms of management of disaster
- Identify and describe landslides prone areas within their community
- Understand and demonstrate how to develop a home fire escape plan and explain why this is important
- Sensitise your parents, friends and communities on DRR with knowledge gained from the sessions as change agents of your society

Module I: Basic Concepts of School Disaster Risk Reduction

Module Plan

Objectives

By the end of this module, the pupils will be able to:

- Understand and explain the main concepts of Disaster Risk Reduction
- List, explain and describe the relationship between disaster, hazard, risk and vulnerability
- Identify and discuss key actions to reduce disaster risks within their community

Key message: Understanding, discussing and demonstrating how the main concepts of SDRR allows better risk analysis and support the pupils in the development of their emergency family plan

Teaching Time: This SDRRTG module will be taught along with selected subjects in which the module would be embedded. Teachers will be trained on how to teach the SDRRTG module to particularly young children including Children with Disabilities (CWDs)

Learning materials: The required learning resources include, but not limited to papers, crayons, pen, pencils, chalks, flashcards, vanguards and markers, photos, pictures, maps, lighter, fire, ruler, charts, tables, videos, disaster management officer, disaster victims, Tins, strings, cello-tapes, Mobile Phone, building, farms, trees, whistles, internet, life jacket, reflectors, torchlight, sticks, stones, sand bags, buckets with sand, nature corners, e.t.c

Lesson	Learning objectives	Pedagogy or Teaching Style	Assessment	Learning materials	Lesson Evaluation
Hazard Disaster Vulnerability Risk and their inter-relationship	At the end of the lesson, pupils will be able to: Understand, and explain the meanings of hazard and disaster, Discuss risk and vulnerability and their relationship	Brainstorming: groups discussions about a disaster that hit their community some time ago and group leaders make their presentations. Role play	Short questions on: Dates, Actors, Victims, Causes, Damage Estimations,	Papers, pencils, pens, vanguards, markers, photos, pictures, site visits and maps	

Lesson	Learning objectives	Pedagogy or Teaching Style	Assessment	Learning materials	Lesson Evaluation
Disaster prevention and mitigation Phases of disaster risk management	At the end of the lesson, pupils will be able to: Learn, understand and explain ways to reduce /mitigate disaster risk within their community Know and demonstrate why this is important	Make pupils to use the outputs of the previous activities to draw a picture showing a disaster that happened in their community and what they could do to make them and their community less vulnerable to this disaster.	Draw a disaster picture Allow children to explain a disaster that happened in their community	Papers, pencils, pens, vanguards, markers, photos, field trips, pictures and maps	

Teacher's Guide

A. Introduce the lesson by asking the following questions to arouse the learner's interests:

1. Have you heard about disaster?

    - In case any one answers 'yes', then proceed to the second question to help that learner or learners to explain what they know about disaster

    - If none of them answered 'yes', then try to combine question 2 and question 5 to provide a simple definition for the children to gain knowledge on disaster for the first time. This does not mean when you reach question 5 you will not explain the concept of disaster and give definitions of key word

2. What do you know about disaster?

    - After their explanations, write key ideas on the board, to remind them about more clear issues on disaster.

3. Ask children if their communities have been affected by a disaster?

    - Ask them when did it happen?

    - What was destroyed?

    - How many people were affected?

    - Did any body die? If yes, how many?

4. What would you do if a disaster happen in your community?

    - Allow the children to explain before you teach them how to respond

5. Orally explain the concept of disaster and then write on the board the definition of disaster as mentioned in the manual and state examples.

    - Explain all the key words in the definition.

6. Introduce the term hazard and orally explain the concept of hazards with examples

    - Ask the children – 'what is a hazard?'
    - Encourage them to list some hazards
    - Write the definition of hazard on the board as mentioned in the manual
    - Explain all key words in the definition

7. Present the types of hazard

    - Encourage children to list some hazards they know
    - Write the identified hazards on the board and discuss them

8. Introduce the term vulnerability

    - Orally explain the concept of vulnerability before writing the definition of vulnerability on the board as stated in the manual.
    - Explain all the key words in the definition such as Vulnerability, hazard, etc.
    - Encourage them to list, based on the definition, some vulnerability situations within their community such as: people living close to the river, close to mountains, etc.
    - Encourage children to state and explain some actions that might increase the vulnerability of their community; such as deforestation, building homes in high-risk places, dumping rubbish in canals/river, etc.

9. Introduce the term risk and explain the concept of risk, before writing on the board the definition of disaster risk as mentioned in the manual.

    - Explain all the key words in the definition such as vulnerability, hazards, etc.
    - List similar words to the key words to let pupils match them E.g Hazard-Danger etc
    - Help the students to clearly understand and be able to discuss the relationship between Hazards, vulnerability and risk.
    - Let children make sentences using the key words in the sessions
    - Draw a picture on the board to help explain in detail the relationship between hazards, vulnerability, risk & disaster (see an example of picture below). All children to discuss what they see on the photo drawn on the board.

B. Activity:

1. After the presentation, divide the children into different groups and let them discuss a disaster that hit their community some time ago and give feedback on the outcome in the form of presentations. Assist them to answer the following key questions during their discussion:

    - Why did the disaster happen?
    - When did the disaster happen?
    - How did the disaster happen?
    - How many people were affected (killed, injured and lost their properties)?
    - What did the people do?

    a) To prevent the disaster
    b) To report the matter
    c) To protect lives and properties

    - What did you do as children?
    - What kind of risk exist in your communities that might cause a disaster?
    - How can they reduce the disaster risks within their community?

2. At the end of the lesson, summerise all the work on the board and conduct an oral evaluation for better understanding.

Teacher's Guide

A. Recap of previous lessons

- Review with pupils the things they learnt during the previous day. During the review, encourage each child to tell the class what he/she learnt. As this session aims at teaching pupils, we must always help them to recall what they have already learnt.

B. Introduce the term prevention by asking the following questions to arouse learner's interests:

- What does prevention mean?
- Explain the meaning of prevention and write the related definition on the board
- Explain all the key words in the definition
- Ask pupils to list some prevention measures such as planting of trees (activities against deforestation), preventing erosion and mudslides, avoid throwing of garbage in drainages, stopping sand and stone mining (removal of sand and stones), moving away/evacuating from disaster-prone areas, DRR awareness campaign within their communities to help forstall or prevent the occurrence of any disaster related event in their communities.

C. Introduce the term Mitigation by asking the following questions:

- Explain the meaning of mitigation and then write the related definition on the board
- What does mitigation mean?
- Explain all the key words
- Encourage learners to state and explain some disaster mitigation measures such as safe house construction, proper disposal of garbage, cleaning canals, protect and conserve the environment, afforestation, cleaning drainges, land reclamation, demarcation of disaster prone areas etc.

D. Present to pupils the different phases of disaster risk management as stated below.

B. Activity

1) Divide learners into different groups and let them draw a picture showing a disaster that hit their community

2) Encourage them to clearly identify some key vulnerability elements which contributed to increasing the disaster's impact such as unsafe house constructions, people living in high-risk areas, dumping, etc. (see an example of related picture below)

3) Assist the working group to come with the desired results including but not limited to:

   a. How the disaster happened?
   b. What did people do to help the situation?
   c. What did the children do? etc.

4) Encourage children to use the outputs of the previous activity in day one.

5) At the end, ask each group to display and briefly explain their diagram. (come in the front of the classroom to show and explain their picture.)

6) Conclude the activity by oral evaluation to obtain feedbacks

7) Conclude the module session by giving a short test to the pupils. See below a model of short test.

Source: Learning about disaster prevention, UNICEF &UNISDR

Sample: Short Test

Select the most appropriate WORD form the multiple choices of (a) to (e) for each of the following questions below:

1. A crisis situation which people are unable to deal with, is called?
    a) Vulnerability
    b) Hazard
    c) Disaster
    d) Risk
    e) Injured

2. The power or ability a community has to cope with a disaster is called?
    a) Mitigation
    b) Aid
    c) Victims
    d) Capacity
    e) Losses

3. Exposure to risk is also called?
    a) Vulnerability
    b) Hazard
    c) Dsaster
    d) Rsik
    e) Injured

4. Reducing the impact of disaster is called?
    a) Aid
    b) Victims
    c) Capacity
    d) Mitigation
    e) Losses

5. People who suffer from injury and displacement during disaster are called?
    a) Aid
    b) Victims
    c) Capacity
    d) Mitigation
    e) Losses

6. When the hazard and vulnerability come together they form?
    a) Mitigation
    b) Losses
    c) Dsaster
    d) Rsik
    e) Injured

7. People who are hurt or wounded are called?
    a) Vulnerability
    b) Hazard
    c) Dsaster
    d) Rsik
    e) Injured

8. To give support or help in their time of need is?
    a) Aid
    b) Victims
    c) Capacity
    d) Mitigation
e) Losses

Answer Key: 1(c); 2(d); 3(a); 4(d); 5(b); 6(c); 7(e); and 8(a)

Basic Terminology

Hazard : A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.

Vulnerabilit : The characteristics and circumstances of a community and asset that make it susceptible to the damaging effects of a hazard

Capacity: The combination of all the strengths, attributes and resources available within a community, society or organization that can be used to achieve agreed goals.

Disaster: A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources (UNISDR 2009). Disaster plays a role in the functioning of the risk. This is the result of the alliance of the hazard with conditions of vulnerability and the insufficient capacity to prevent potential negative consequences of this risk. A disaster is the result of a hazard that struck a group or a vulnerable community whose capacities are overwhelmed by the negative effects (Disaster Preparedness Center of Philippines).

Risk: The combination of the probability of an event and its negative consequences (UNISDR 2009). Risk is the result of the coexistence of hazards and vulnerability at a given time in a given location. Risk is the expression of the likelihood that a disaster occurs;

Risk Characteristics

Risk :

a) is dynamic and changing (a consequence of the interaction of hazards and vulnerability).
b) is differentiated.
c) has a social dimension (a result of the continuous interaction between human beings and the environment).
d) is not perceived the same way by all members of society.

Conditions that create disasters

A disaster takes place when the following three conditions occur at the same time:

1. When people live in hazardous places like, for example, on unstable slopes where landslides are likely to happen, or close to rivers which could flood. ***This can be called Vulnerability***

2. When a hazardous event occurs, be it natural or human-made. Otherwise there existence of a ***hazard***

3. When the event also causes a lot of damage, especially where no preventive measures have been taken. Otherwise the ***low capacity*** of the affected area to respond to hazard

OXFAM defines disaster as follow:

Hazard + Vulnerability = Disaster

Can We Prevent Disasters?

We can't stop natural disasters from happening. But we can make them less damaging if we understand better why they happen, and be able to respond in time; then we can mitigate them.

Since people are partly responsible for disasters happening, we have to change what we are doing wrong: such as sand mining, blocking drainages, tree cutting, stone mining etc; in order to avoid or reduce the impact of natural disasters.

Every community must get to know its own characteristics and surroundings: the natural environments as well as those built by human beings. This is the only way for a community to manage the hazards that surround it and to reduce its own vulnerability to these hazards.

Don't be scared, be prepared!

What is a hazard?

A hazard is a process, either natural or human made, that can endanger a group of people, their belongings and their environments, if they do not take precautions.

There are different types of hazards. Some are natural while others are man made: such as so-called industrial or technological hazards (explosions, fires, toxic chemical spillages). Wars and terrorism are also hazards caused by human beings. Among various natural hazards, we can identify:

Floods: The building up of large quantities of water, generally caused by heavy rains which the soil is unable to absorb.

Mudslides: Soil, rocks and debris that move suddenly or slowly down a slope. They mainly happen during the rainy season or during times of seismic activity.

Wildfires: Destructive fires in forests and other areas covered by vegetation. These fires can get out of control and easily spread over vast areas of land.

Epidemics: Widespread occurrence of an infectious disease in a community at a particular time.

Hurricanes: Strong winds that start over the sea, rotating in big whirling circles, and bringing rain with them. They are also known as tropical cyclones.

Droughts: A period of time (months or years) during which a part of the land suffers from lack of rain, causing severe damage to the soil, crops, animals, and even people, sometimes Causing death.

What does Vulnerability mean?

Vulnerability is the inability to resist a hazard or to respond when a disaster has occurred. For instance, people who live on plains are more vulnerable to floods than people who live higher grounds.

In actual fact, vulnerability depends on several factors, such as people's age and state of health, local environmental and sanitary conditions, as well as on the quality and state of local buildings and their location with respect to any hazards.

Families with low incomes often live in high-risk areas around cities, because they can't afford to live in safer and more expensive places. This is what we call **economic vulnerability**.

Similarly, a wooden house may be more vulnerable in the event of a fire or a hurricane. This is what we call **physical vulnerability**.

What human actions can increase our vulnerability?

There are several situations that can increase our vulnerability to disasters. One example is when people cut down too many trees at a faster pace than nature can replace them. This is what we call deforestation. It increases the vulnerability of many communities to rain which, when they fall on unprotected soil, cause mudslides, landslides, floods and avalanches.

Building homes in high-risk places makes us more vulnerable. For instance, if you live too close to a river and people have been throwing garbage into it, so that the water cannot flow on through, you will be more vulnerable to floods.

A well-informed and well-organized community, that meets to talk about what they are going to do about the natural hazards, is less vulnerable than a community that is unaware of them.

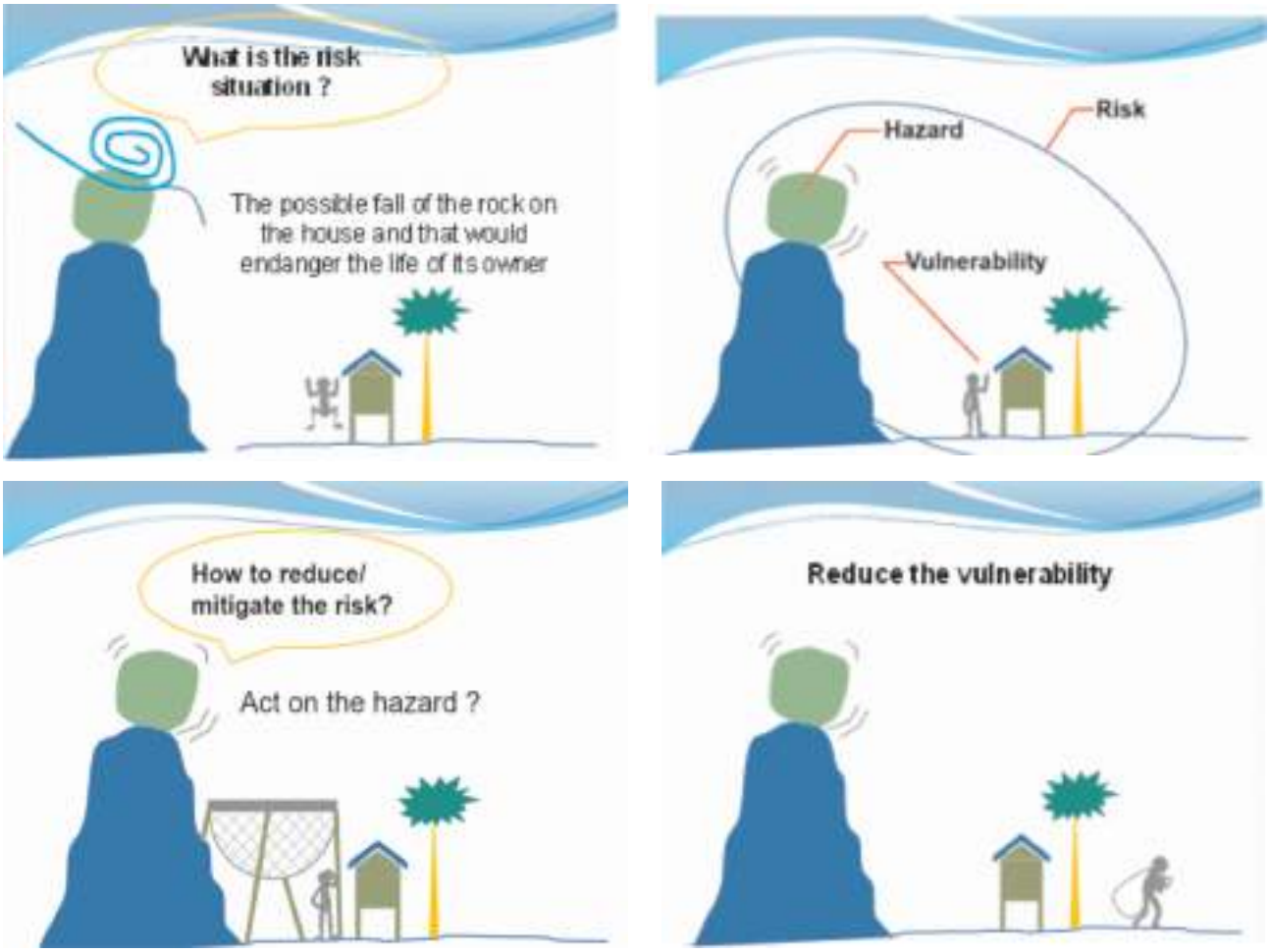
What is Risk?

Risk is the probability that a hazard will turn into a disaster. Vulnerability and hazards are not dangerous if taken separately. But if they come together, they become a risk or, in other words, the probability that a disaster will happen;

Nevertheless, risks can be reduced or managed. If we are careful about how we treat the environment, and if we are aware of our weaknesses and vulnerabilities to existing hazards, then we can take measures to make sure that hazards do not turn into disasters.

Risk management doesn't just help us prevent disasters. It also helps us to put into practice what is known as sustainable development. Development is sustainable when people can make a good living and be healthy and happy without damaging the environment or other people in the long term.

For instance, you can make a living for a while by cutting down trees and selling the wood, but if you don't plant more trees than you cut down, soon there will be no trees and will no longer have the means to make a living. So, it isn't sustainable.



What is Disaster Prevention and Mitigation?

Prevention and mitigation are all those actions we can take to make sure that a disaster doesn't happen or, if it does happen, that it doesn't cause as much harm as it could. We can't stop most natural phenomena from happening but we can reduce the damage caused by an earthquake if we build stronger houses and on solid grounds.

What is prevention?

Taking measures in order to avoid an event turning into a disaster. Planting trees, for example, prevents erosion and landslides. It can also prevent drought.

What is mitigation?

Measures that reduce vulnerability to certain hazards. For instance, there are building techniques that ensure that our houses, schools or hospitals will not be knocked down by an earthquake or a hurricane.

Prevention and mitigation begin with:

a) Knowing which hazards and risks we are exposed to in our community.

b) Getting together with our family and our neighbours and making plans to reduce those Hazards and risks and to avoid them harming us.

c) Actually doing what we planned to do in order to reduce our vulnerability.

d) Taking action, not just talking.

Phases in Disaster Risk Management

Before the event	***Prevention*** : all measures to prevent major damage at the time of the disaster ***Mitigation:*** All measures to mitigate or reduce the impact of the disaster
	Preparation: *It includes* training and exercise, early warning systems, etc.
During the event	***Response***: Rapid action taken at the time of a disaster in order to save lives, reduce hardship and damage that could be made on assets and property of people.
After the event	***Recovery*** including restoration of infrastructures & services, reconstruction

Module II: Flood hazard

Module Plan

Objectives

By the end of this lesson, the pupils will be able to:

a) Understand, define and explain what flood hazard and its causes are

b) Identify and respond to warning signs of flood hazard.

c) Create a home plan to prepare for a flood disaster

d) Recognize flooding prone areas in their community and identify them on a map.

e) Familiarize themselves with flood disaster prevention measures

f) Discuss and put in to practice some appropriate measures to take before, during and after flood

Teaching Time: This SDRRTG module will be taught along with selected subjects in which the module would be embedded. Teachers will be trained on how to teach the SDRRTG module to particularly young children and Children with Disabilities (CWDs)

Learning materials: The required learning resources include, but not limited to papers, crayons, pen, pencils, chalks, flashcards, vanguards and markers, photos, pictures, maps, lighter, fire, ruler, charts, tables, videos, disaster management officer, disaster victims, Tins, strings, cello-tapes, Mobile Phone, building, farms, trees, whistles, internet, life jacket, reflectors, torchlight, sticks, stones, sand bags, buckets with sand, nature corners, e.t.c.

Lesson	Learning objectives	Activity	Assessment	Learning materials	Lesson Evaluation
Introduction to flood Preparation for flood -	At the end of the Lesson, pupils will be able to: - Understand, define and discuss flood hazard - Demonstrate how to use their experiences to prepare for an upcoming flood disaster - Create a home plan to prepare for a flood disaster.	Make pupils write / tell a short story about a community facing a flood disaster. Teacher cites issues around flood Divide pupils in small groups and make them draw a diagram of a flood affected community.	Teacher asks pupils to: - Define flood hazard - Dramatise their preparation for upcoming disaster - Create a home plan in preparation for flood disaster	Papers, crayons, pen, pencils, chalks, flashcards, vanguards and markers, photos, pictures, maps, lighter, fire, ruler,	
What to do during and after a flood disaster. Introduction to community map.	At the end of this lesson pupils will be able to: -Identify safe and disaster prone areas within their community and on a map. - Call emergency response teams - Put measures in place to forestall /prevent a flood disaster in their communities.	- Teacher teaches how to identify safe and disaster prone areas and call emergency telephone lines during and after disaster - Teacher helps pupils to brainstorm on measures to take to prevent a flood disaster.	- Teacher asks pupils to respond to questions around measures to prevent flood disaster in their communities -Ask questions around identifying and describing of safe and disaster prone areas in their	Charts, tables, videos, disaster management officer, disaster victims, Tins, strings, cello-tapes, Mobile Phone, building, farms, trees, whistles, internet, life jacket,	

LESSON 1

A. Introduce the lesson by explaining the concept of flooding and then asking the following questions to arouse the leaners interests: Begin this day to talk to pupils about flooding to give clue to learners. After the explanation, you may ask the following questions:

1. What is a flood?

   - To encourage the participation of pupils,
   - Encourage pupils to tell how floods can occur.
   - Write key ideas on the board and explain to pupils.

2. Do you remember a flood disaster that happened in your country?
   - Allow pupils to describe the related flood event.

3. What are the warning signs of flooding?
   - Severe rainfall
   - Streams and River overflow
   - Ocean overflow etc

4. Where are flood prone areas in your community?
   - Near coastal areas
   - Near river banks
   - Near drainage,
   - Lowland or swamp areas
   - Valley areas etc

5. What did your families do during the flood?
   - How did they react?
   - Did the neighbors help each other?
   - Did your parents ask for help?
   - Did you help other people?
   - Was the disaster response team contacted?
   - How did you contact the disaster response team? – Ask More

B. How can pupils and families prepare for floods?

   - Assist pupils to make a plan by asking them the following questions:
   - Which areas are higher areas in your community?
   - If you need to leave home without knowing when to come back, what should be the 6 (six) things at least to take with you?
   - If you can not go home due to flooding, have you identified a safe area where you and your family can meet?
   - Put all important papers in plastic bags that can be closed tightly and let family members know where they are kept.
     - **Passport**
     - **Birth certificate**
     - **Land documents**
     - **ID Cards, etc.**

- If a flood is about to occur.
  - Turn off gas
  - Unplug all electrical devices, put the plug in high places, and do not let it down.
  - Move electrical devices in an area above. If you cannot install the appliance in a high place, put it on blocks to raise it off the ground.

C. Activity: After the discussion with pupils, ask them to write a short story about a community working together during a flood. Assist them so that they can highlight the following points in the story :

- What are the causes of the flooding?
- How did it happen? For example, if the flooding was due to heavy rains or due to water overflowing, etc.
- Why was this flooding a disaster?
- What did the people do to minimize hazards?
- What did the children do to minimize hazards?
- Were the community members well prepared for the flooding?
- What should they do to better prepare for future flooding?

* Pupils could make a drama based on the stories to let them understand the events more.

LESSON 11

A. Recap of Lesson I

- Review with pupils the things they learned during the previous day. During the review, encourage each child to tell the class what he/she learnt. As this session aims at teaching pupils, we must always help pupils to recall what they have already learnt.

B. What to do if there's a flood

- Do not try to cross any stream, river or heavily strong moving water
- Do not go to areas where there are electric poles or wires.
- Go to the highest point in your homes. If you have a balcony in your house, go there in order to facilitate the authorities to rescue you if need arise
- Call the emergency toll free line – 1199.
- Inform your neighbours about the flooding

C. What to do if you need to leave home
Remember the plan

- Go to the areas where your family has reserved as safe area for the household
- Protect properties that are most valuable to you. Including important documents in a sealed plastic bag.

Good to know: *Elderly people, disabled people and children are often the most vulnerable in an emergency. Once knowing that your family is safe, remember to help neighbors who may need special assistance.*

D. What to do after a flood

- Make sure that all items in the house before the flood remain in place and throw away all damaged properties.
- Open windows and doors.
- Do not plug-in electric sockets without verifying the electric installation.
- Use disinfectant to clean your house after flooding

1. Start planning for next time

- What we could do differently?
- Re-evaluate what we can put in our emergency kit.
- Coordinate with local disaster authorities to see if there are more things you would need to plan for any upcoming flood disaster.

E. Activity: Divide pupils in different groups and support each group to create a simple risk map for the community around their school. The risk map should highlight the safer areas as well as the high risk areas within the community around their school (Remind pupils about the key elements of a community risk map as mentioned in the training manual).

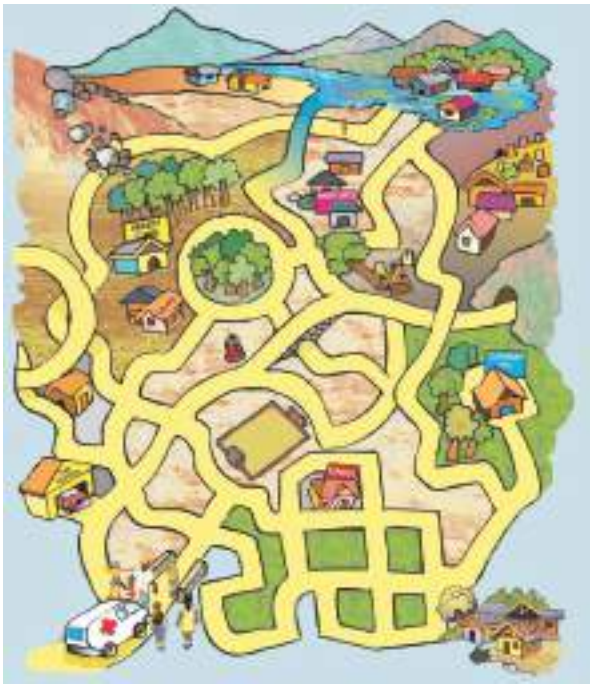
This is a good opportunity for the teacher to organise a walk around the school community so that pupils can take their time to spot the threats, vulnerabilities, capacities, resources, risks and to pratically apply what they have learnt.

F. Conclude the module session by giving pupils a short quiz on what they have learned this week

(See below an example of simple quiz)

1. How will you help a rescue team to come to the aid of a community that is affected by flooding**?** Help the rescue team to find the right route to assist the population affected by the flood.

2. Identify at least six institutions that can help before, during and after an emergency.
Write down what each institution does.



Source: Let's learn to prevent disasters, fun ways for kids to join in Risk reduction:

1……	2……	3……
4……	5……	6……

Flood

What is flood?

The building up of large quantities of water, generally caused by heavy rains which the soil is unable to absorb

Source: ONS Photo showing a flooded community (NDMA)

Ways floods can Occur:

1. **River overflow**
   When rivers overflow the common channel and space invade the surrounding areas. This phenomenon occurs mainly in the rainy season.

2. **Flash flood**
   High water unexpectedly invaded an area where there is not necessary rain fall. This phenomenon produces flooding suddenly.

3. **Flooding due to rainfall.**
   When there are heavy rains or having rainfall for a long period. This flooding often cause significant damage such as devastated fields, destroyed houses, killed people, etc.

4. **Flooding near the coast**
   When the tide is rising because of strong winds blowing over the ocean, the waves rise and invade all areas on the sea coast. This flooding does not happen often. It happens especially when there's tsunami or strong winds blowing over the ocean.

Some actions that might increase flooding severity:

- Poor agricultural practices in the mountains
- Deforestation
- Building houses in the flooding prone areas such as along river sides.
- Filling the drainage canals with gabages, etc.

Some consequences flooding might have:

- Physical damage including homes, schools, roads and damage or distrcution of other infrastructures.
- Damage in agricultural sector including erosion, field break, death of animals, etc.
- Human lost or/and injured;
- Damage to the industrial sector including closures of factory and shops, tourism activity is blocked, etc.
- Health issues including the widespread of some disease such as malaria, cholera, typhoid, etc.

Actions to do in case of flooding	
Before	• Tie your livestocks away from flooding areas • Cut power, turn off gas and put all the bags that might cause fire in a safe place. • Put all important papers in a plastic bag and store it somewhere water cannot reach • Seal all areas water can pass to enter your homes • Keep food, clean water, flashlight, radio and batteries, medicine in the household emergency kits • Listen to all the news and instructions local authorities provide in radio. • Predict a way to move to safer areas if you're living in flooding areas.
At the time	• Do not cross rivers and streams during heavy downpour of rain. • Do not remain under power lines • Don't work in the ground water where electric wires have broken off • Stay at home when there is heavy wind and do not have any emergency to go out • Move to a safer area if there's a flood alert • Do not pass over flooded roads neither on foot, or by car • Listen to news on the radio to find out how the situation is and listen to instructions of local authorities.
After	• Open doors and windows of houses to let air come inside • Use disinfectant to wash houses • Reconnect power after verifying there's no installation matter • Do not eat animals killed by the water flow • Support local authorities to rescue affected people including the elderly, children and people with disabilities • Support local authorities in the finding of missing persons.

Risk Map

The risk map is a tool, just like a hammer or saw for a carpenter. It is like holding up a mirror to show the risks facing the community or school at the time when it was made. That is why it is important to keep it up to date.

The "risk map" is a tool used by a group of people or community to identify risks, threats for those who want to avoid risk and reduce disasters, showing them where the threats come from and who and what is vulnerable to damage. The risk map allows the community to define a risk prevention plan and to prepare their responses in the event of disaster.

Identify the risk and take action!

You can use everything you have learned in social studies, history, geography and science to help identify the threats facing your community and school. This will help you analyse and prevent risk.

PUPILS OF ST. JOSEPH CONVENT SECONDARY SCHOOL PARTICIPATE IN AN EXERCISE TO MAP HAZARDS AROUND THEIR SCHOOL

Map making is a very useful resource in risk analysis. A map can include a great deal of information in a single plan, you can show how threats relate to vulnerability and form risks in the event of a physical phenomenon.

A risk map is like a photograph - it refers to one particular time and place. You can make one in the form of a picture or a model.

Lesson III: Mudslide Hazard

Module Plan

Objectives

By the end of this lesson, the pupils will be able to:

- Identify and discuss warning signs of mudslide Hazard
- Identify and discuss mudslides prone areas within their community
- State and discuss actions to be taken before, during and after a mudslide.

Teaching Time: This SDRRTG module will be taught along with selected subjects in which the module would be embedded. Teachers will be trained on how to teach the SDRRTG module to particularly young children and Children with Disabilities (CWDs)

Learning materials: The required learning resources include, but not limited to papers, crayons, pen, pencils, chalks, flashcards, vanguards and markers, photos, pictures, maps, lighter, fire, ruler, charts, tables, videos, disaster management officer, disaster victims, Tins, strings, cello-tapes, Mobile Phone, building, farms, trees, whistles, internet, life jacket, reflectors, torchlight, sticks, stones, sand bags, buckets with sand, nature corners, e.t.c

Lesson	Learning objectives	Activity	Assessment	Learning materials	Lesson Evaluation
Introduction to mudslide Typology of mudslides Mudslides prone areas	At the end of this lesson, pupils will be able to: Define and explain what a mudslide is. Identify and visit mudslides prone areas within their communities	Teacher leads pupils to write a short story about a community facing a mudslide disaster -Teacher allows pupils to draw a diagram of a mudslide affected area in their communities.	Teacher asks pupils to: -Define and explain what a mudslide is -list and discuss the types of mudslide Describe mudslide prone areas	Papers, pencils and pens. reflectors, torchlight, sticks, stones, sand bags, buckets with sand, nature corners,	
What to do before, during and after a mudslide or debris flow	At the end of this lesson, pupils will be able to: State and discuss key actions to be taken before, during and after a mudslide incident - Identify key actions to do before, during and after a mudslide.	-Teacher econcurages pupils to answer questions orally on the actions to be taken before, during and after a mudslide incident.	Teacher asks pupils to: Discuss key actions to be taken before, during and after a mudslide incidence	Papers, pencils and pens. reflectors, torchlight, sticks, stones, sand bags, buckets with sand, nature corners,	

LESSON 1

A. What is a mudslide?
   - Introduce the definition of mudslide as stated in the manual below
   - To encourage the participation of pupils, write key ideas on the board.
   - Encourage pupils to tell how mudslide can occur

B. Present the different types of mudslide as stated below in the manual
   - Encourage pupils to discuss about some types of mudslides incidents that occure in Sierra Leone especially the recent one that happened on August 15th, 2017.
   - Ask them what are the main causes of the August 15th, 2017 Hazard? Some causes might be for example intense rainfall often leave land surfaces saturated. Flooding results and water overflowing its channels often wipe out land surfaces to cause mudflows, etc.

Present to pupils some areas that are generally prone to mudslide hazard, as below:

Location:

Slopes, the bottom of slopes, at the base or top of a steep cut slope, in or at the base of minor drainage hollows and canyons are examples of locations that may be prone to mudslides and mudflows. Areas with high rainfall amounts and slopes are also great conditions for mudslides.

Human activity

Human activities such as mining, building, and road constructions have often exposed the land and slopes to mudslides. When roads are cut through hills, or crops are farmed along slopes, there is always the risk of mudslides and mudflows. Wildfires and deforestation also make a location prone to mudslides

Frequency of mudslides event:

Any locality that has experienced mudlides before has the tendency to re-occur due to the prevailing circumstances. Chances are, it will happen again, because the conditions for it to happen may still be present.

Then, based on the above examples, let the pupils discuss some areas in their communities that are prone to mudslide incidents.

B. Activity: After the discussion with pupils, ask them to write a short story about a mudslide disaster that has occurred in any of their communities. Assist them to highlight the following points in the story :
   - How did the mudslide happen?
   - Why this mudslide was a disaster?
   - What did the people do?
   - What did they do as children?
   - Were the community members well prepared for the mudslide?
   - What should they do to get themselves better prepared for an upcoming mudslide?

LESSON 11.

A. **Recap of day I**

B. Present to pupils the table below in the manual relating to actions to be taken before, during and after a landslide.

C. Activity: Give a short exam to pupils

(See below an example)

Arrange the following letters in the right order and you will discover something that increases the vulnerability of many communities:

D	T	O	F	I
O	S	N	E	
E	R	T	A	

What is a Mudslide?

In simple terms, a mudslide is a massive movement of rock, soil, debris or earth material downwards along a hill or slope due to the force of gravity. The movement may be flowing, spreading, falling, toppling, sliding and so on. This can be dry debris movement or water saturated (muddy) earth material.

A mudslide (also known as mudflows or mudslides) on the other hand, is a fast-moving landslide usually along a channel or canal. **Landslides event on August14th, 2017: Freetown, Sierra Leone**

When they occur, they may cover a very small area — uphill to downhill or may travel over several miles from their source. Depending on the volume and speed, it can wipe out anything in its path such as houses, cars, trees and electricity poles.

Types of Mudslides

The types of mudslides are usually differentiated by the nature of its movement and earth material involved. The materials may move by falling, toppling, sliding, spreading, or flowing.

Fall: These are usually influenced by gravity after large amount of mud detached and fall along steep slopes or cliffs.

- **Topple:** In a topple, the earth mass rotates forward about a pivot. The result is usually a tilt without collapse. It is usually caused by cracks or fracture in the bedrocks.

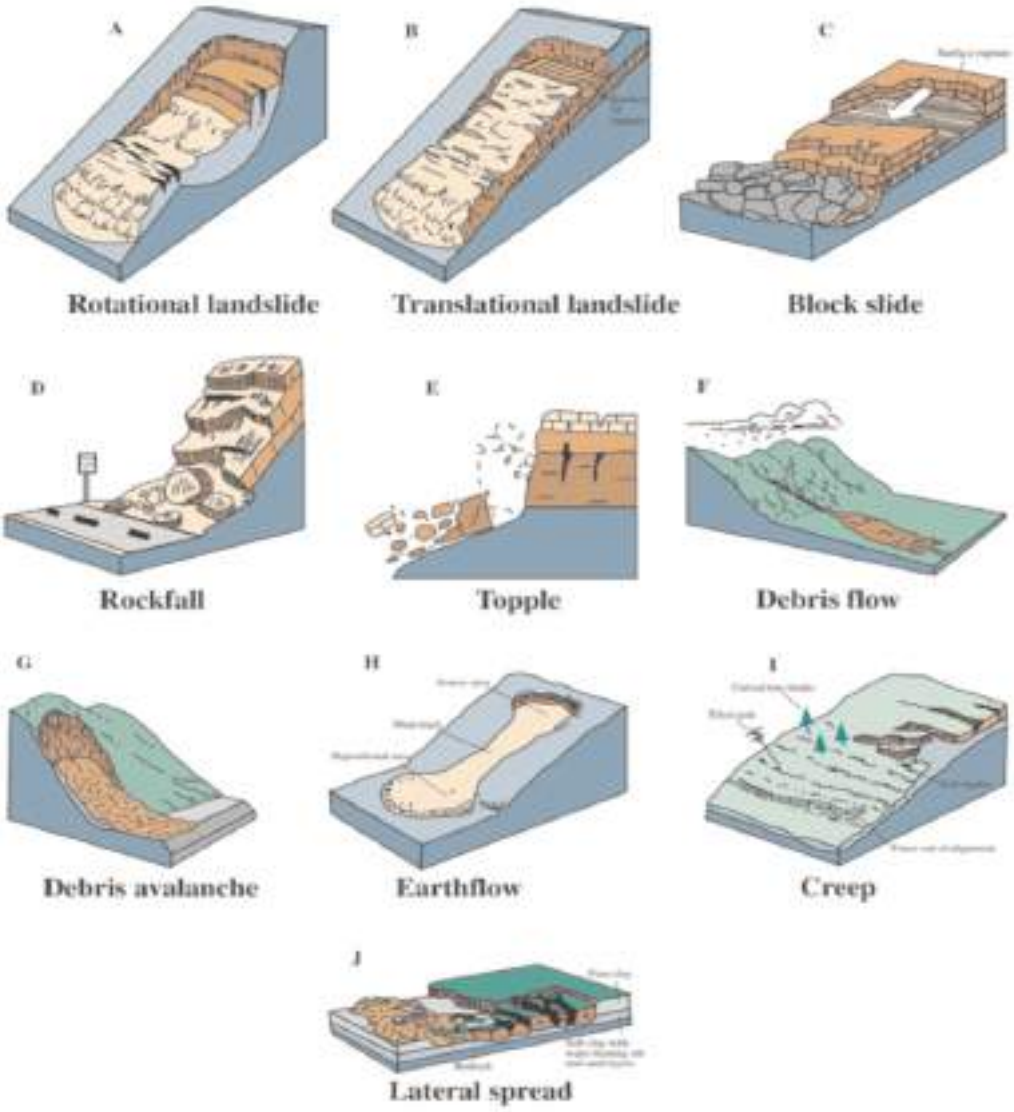
- **Slides:** These may be translational or rotational. In a translational slide, the earth mass is largely in place after it slides downhill on a plane surface. In a rotational slide, the movement of the earth material is rotational in nature. It is also known as Slump.

- **Flow:** Flows come in many types, such as Debris flow, Debris avalanche, Mudflow, Creep and Earth flow.

- **Flow:** Flows come in many types, such as Debris flow, Debris avalanche, Mudflow, Creep and Earth flow.

    - Debris flow involves the rapid downhill movement of loose earth material usually with water.
    - Debris avalanche is similar to Debris Flow but has a more rapid flow.
    - In an earth flow, the earth material is finer and is washed away leaving a depression bowl at the head.
    - Mudslides are made up of fine silt, sand and clay material saturated with water and flowing very rapidly.

- **Torrent:** These are a very sporadic discharge of water and debris, often along low-lying channels between highlands. Schematics illustrating the major types of mudslide movement.



Source: UNISDR, mudslides Hazard and Risk Assessment

	Actions to take /do in case of Mudslide
Before	• To begin preparing, you should build an emergency kit and make a family Communications plan. • Do not build near steep s lopes, close to mountain edges, near drainage ways, or natural erosion valleys. • Become familiar with the land around you. Learn whether mudslides have occurred in your area by contacting local officials. Slopes where mudslides have occurred in the past ar e likely to experience them in the future. • Watch the patterns of storm -water drainage near your home, and note the places where runoff water converges, increasing flow in channels. These are areas to avoid during a storm. • Minimize home hazards: - Plant ground cover on slopes and build retaining walls. - In mudflow areas, build channels or deflection walls to direct the flow around buildings. *Remember*: If you build walls to divert debris flow and the flow lands on a neighbor's property, you may be liable for damages.

During	• During heavy rainfall, stay alert and awake. Many deaths from mudslides occur while people are sleeping. • Listen to local news stations on a battery-powered radio for warnings of heavy Rainfall. Listen for any unusual sounds that might indicate moving debris, such as trees cracking or boulders knocking together. A trickle of flowing or falling mud or debris may precede larger mudslides. Moving debris can flow quickly and sometimes without warning. • If you are near a stream or channe l, be alert for any sudden increase or decrease in water flow and for a change from clear to muddy water. Such changes may indicate landslide activity upstream, so be prepared to move quickly. Don't delay! Save yourself, not your belongings. • Move away from the path of a mudslide or debris flow as quickly as possible. The danger from a mudflow increases near stream channels and with prolonged heavy rains. Mudflows can move faster than you can walk or run. Look upstream before Crossing a bridge and do not cross the bridge if a mudflow is approaching. • Avoid river valleys and low-lying areas. • Curl into a tight ball and protect your head if escape is not possible

Module IV: Fire Hazard

Module Plan

Objectives

By the end of this lesson, the pupils will be able to:

- Discuss warning signs of fire hazard
- State and discuss the reasons for developing a home fire escape plan.
- State and discuss the measures adopted before, during and after a fire disaster

Teaching Time: This SDRRTG module will be taught along with selected subjects in which the module would be embeded. Teachers will be trained on how to teach the SDRRTG module to particularly young children and Children with Disabilities (CWDs)

Learning materials: The required learning resources include, but not limited to papers, crayons, pen, pencils, chalks, flashcards, vanguards and markers, photos, pictures, maps, lighter, fire, ruler, charts, tables, videos, disaster management officer, disaster victims, Tins, strings, cello-tapes, Mobile Phone, building, farms, trees, whistles, internet, life jacket, reflectors, torchlight, sticks, stones, sand bags, buckets with sand, nature corners, e.t.c

Lesson	Learning objectives	Activity	Learning materials	Lesson Evaluation
Introduction to fire - Fire prevention	-Pupils will **narrate** how to prevent fire and how to act when there is fire.	Pupils, along with the support of teachers, will draw a fire escape plan for their classroom	Papers, pencils and pens.	
Simulation exercise	Pupils will be able to practice the fire escape plan developped for their classroom	Simulation exercise related to classroom fire escape plan	The previous plan developed.	

LESSON 1

A. What is a fire?

1. Introduce the definition of fire as stated in the manual below

2. Present the triangle of fire

3. Discuss with pupils about the different types of fires:

   - **Class A**: Fires involving common combustibles such as wood, paper, cloth, rubber, trash and plastics = Solid fire
   - **Class B**: Fires involving flammable liquids, solvents, oil, gasoline, paints, lacquers and other oil-based products = Liquid fire
   - **Class C**: Fires involving burning gases such natural gases methane = Gas fire
   - **Class D**: Fires involving combustibles metal such as magnesium, lithium, and titanium = Chemical/metal fire
   - **Class E:** Fires involving potentially energized electrical equipment such as wiring, controls, motors, machinery or appliance = Electric fire
   - **Class F**: Fires involving cooking oils and fats such as vegetable oil = kitchen fire

B. How to prevent fire disaster?

Give a sheet of paper to the children and let them write down how they think they can prevent fire disaster from occurring and then discuss with pupils about the following prevention measures:

- Children should not play with matches
- Unplug appliances that will not be used
- Do not overload electrical circuits
- Keep electrical equipment well maintained
- Obey smoking rules
- Prevent sparks from reaching flammable materials.
- Never abandon the kitchen whilest cooking.
- Make a fire disaster prevention plan with everyone in your household. Walk through your home and inspect all possible exits and escape routes
- Practice your home fire escape plan twice a year, making the drill as realistic as possible

C. What to do if there's fire out break?

Firstly, encourage pupils to give some ideas about what to do if there's fire outbreak and then discuss the fallowing actions with them:

- Before opening any door in a fire outbreak , feel it first. If it is hot, there may be fire on the other side. Try to get out through another way.
- Stay low to the floor when escaping a fire Identify a safe and easy-to-remember place outside the home to meet your family after you have got out.
- After you have got out, call any emergency number or the fire department
- Stay outside no matter what. Don't go back for anything!

D. Activity: Assist pupils to dramatize their classroom fire escape plan. And (then) let them develop a fire escape plan for their homes.

LESSON 11.

A. This is the last day of the module. Review with pupils the things they learnt during the previous days. During the review, encourage each child to tell the class what he / she learnt. As this session aims at teaching pupils, we must always help them recall what they have already learnt.

B. Instead of having a test, let pupils practice the fire escape plan developed in the previous day for their classroom. This approach will allow pupils to put in to practice how to react and where to go if there's a fire outbreak.

Fire

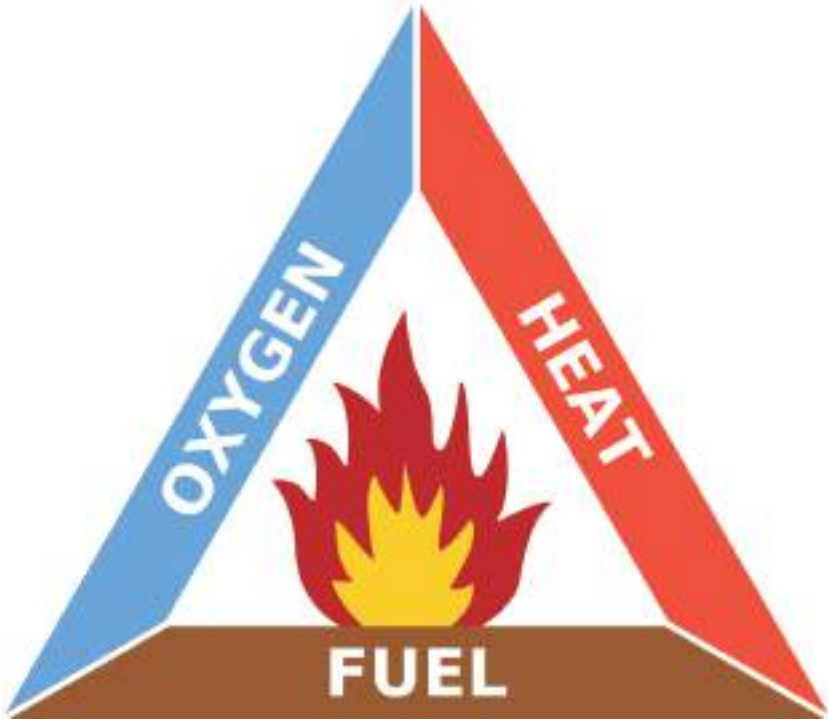
What is a fire?
Fire is a chemical reaction in which fuel and oxygen is chemically combined to produce a suitable heat. Three things must be present at the same time to produce fire:

- Suitable **Oxygen** to sustain combustion
- Suitable **Heat** to reach ignition temperature
- Suitable **Fuel** or combustible material

Together, they produce the **chemical reaction** that is fire.

Fire Triangle

These three elements (**Oxygen, Heat and Fuel**) constitute what is known as the **Fire triangle** shown below:



- **Sources of Fuel:** Gas cylinders, Oil and fuel containers, Piles of waste materials, such as paper, cardboard, etc., Stacks of timber, furniture and fittings, Soft furnishings such as curtains, carpets, etc.

- **Sources of Heat:** Matches and smoking materials, sparks from faulty electrical equipment, overheated machinery and equipment, hot surfaces, sparks from abrasive wheels, welding and cutting torches, electric heaters, tungsten light bulbs, catering equipment, etc.

- **Sources of oxygen:** The air around us is 21% oxygen, oxygen cylinders, some chemical substances are oxidizing by their nature, ex. Nitric, acid, hydrogen peroxide, etc.

❖ Fire might be erupted due to accidents, crime or natural effect:

❖ Fire erupted by accident when people are not cautious or due to any other technical problem such as electricals, gas, etc.

- Criminal offense is when people decide arson by wickedness

- Natural effect is when the fire erupted from a natural disaster such as wildfires, volcanic eruption or thunders, etc.

❖ **What to do in the event that a fire should occur:**

R= RESCUE anyone in immediate danger from the fire, as long as it does not put your life in danger

A = ALARM: Sound the alarm by yelling "FIRE FIRE FIRE: Dial any emergency number

C = CONFINE the fire by closing all doors and windows, restricts oxygen from fueling the fire

E = EXTINGUISH the fire with a fire extinguisher, or **EVACUATE**

	Actions to take/do in case of fire out break
Before	• Children should not play with matches • Unplug appliances that will not be used • Do not overload electrical circuits • Keep electrical equipment well maintained • Obey smoking rules • Prevent sparks from reaching flammable materials. • Never dissert the kitchen whilst cooking is in progress • Make a fire disaster plan with everyone in your household. Walk through your home and inspect all possible exits and escape routes • Try to find two ways out from every room in your home • The first way out should be a door. Every way nee ds to be planned and practiced with grown-ups. • Practice your home fire escape plan twice a year, making the drill as realistic as possible

Actions to take/do in case of fire out break	
During	If the fire breaks out at home: • Make everyone go out to avoid the risk of poisoning • Apply a wet cloth if po ssible against the face in order to filter the air and have time to evacuate • Before opening any door in a fire, feel it first. If it is hot, there may be fire on the other side. Try to get out through another way. • Stay low to the floor when escaping a fire outbreak • Identify a safe and easy-to-remember place outside the home to meet your family after you have got out • After you have got out, call any emergency number or the fire department • Stay outside no matter what. Don't go back for anything! If you are on fire: • Do not run to avoid increasing the flames. Stop, lie down on the floor and roll • Use a blanket and/or put on ground the person in fire.
After	• See a doctor if there are victims • If that was not too serious, open all doors and windows for smoke or remaining releases • Clean carefully the area the fire took place • Make sure there's no risk before living in the affected area • Conduct all necessary repairs

References

EWC III, Third International Conference on Early Warning
From Concept to action, 27 – 29 mars 2006, Bonn Germany: developing Early Warning Systems: A Checklist

Féderation Internationale des Sociétés de la Croix Rouge et du Croissant Rouge
Rapport sur les catastrophes dans le monde 2004

ISDR
Hyogo Framework for Action 2005 - 2015: Building the Resilience of nations and Communities to Disasters.

International Federation of Red Cross and Red Crescent Societies
Community Early Warning Systems: guiding principles, 2013.

Kalú institute - Master en coopération Internationale et aide humanitaire
Module "Les catastrophes et la gestion du risque" – unité 3 « les différents types de catastrophes »

Naik, A
2009 Migration and Natural Disasters, in: Assessing the Evidence …

Sierra Leone Disaster Management Policy, June 2006

Seck, E.S.
1996 *Désertification: effets, lutte et convention. Environnement et Développement du Tiers Monde,* (ENDA-TM), Dakar

United Nations 2009
2009 UNISDR Terminology on Disaster Risk Reduction

United Nations
Sendai Framework for Disaster Risk Reduction
2015 – 2030

World Health Organization 2015
Managing Disaster risk in Communities

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the People of Japan

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