

Upendo Conservation Area

Basic Snake Awareness Training Script for Peer Trainers

A Note About Time: if you do this entire program and allow time for questions and to finish exercises, it may take up to 2 hours. **There are some sections that are essential**, and I have these marked so that you do not leave them out.

Introduction (essential) - Hello everyone, and thanks for being here today. My name is _____ and I am a trainer from _____ [location]. We are partnering with an organization known as the Upendo Conservation Area to bring you this Snake Awareness and Snakebite Prevention training program. Our goal is to educate as many people as possible in our communities about snakes and snakebite to save lives.

Why are we here? (essential) - We are here because we live in a place where we are under the constant threat of being bitten by a venomous snake, such as the puff adder or black mamba. We can encounter snakes in our homes, while farming and herding, and while walking from one place to another. Many of our people live a long way from a hospital or clinic, and it is costly to get transportation to one of these facilities. Treatment for a snakebite is expensive and sometimes there is no antivenom available. Because of these things, we sometimes rely on traditional healing methods, but these are not effective against a venomous snakebite - they cannot destroy (neutralize) the venom once it is inside the body.

Because of all these things, we need to practice methods that prevent a snakebite from ever occurring. We must learn to identify dangerous snakes, practice good habits to avoid and prevent snakebite at home, at play, and at work, and know what to do in case of a snakebite - first aid). Our goal is to save lives by giving you practical suggestions to help you develop good habits that will reduce the risk of snakebite and keep you safe.

At the same time, we need to recognize that snakes are not our enemy and they are not evil. Snakes are special creatures that God has made, and he declared that everything he made was good. It was Satan who took what God meant for good and used it for evil, just like people often do. We must learn to respect snakes and find ways to live together with them peacefully while keeping our distance.

Important characteristics and behaviors of snakes

So what are some important characteristics that snakes have?

- Snakes are **reptiles** and they have an **internal skeleton** (bones)
- Snakes are **covered with scales made out of the same material as your fingernails** (keratin) - they can appear smooth or rough (keeled)
- Snakes **regularly shed their skin and scales** when their body outgrows them
- Snakes produce body heat from life processes, but they cannot keep it. As a result, snakes have to **move back and forth from sun to shade** to change their body temperature

- Most snakes have **poor eyesight** and rely on other senses more strongly
- Snakes have a **good sense of smell and taste** - they use their forked tongue to **pick up chemical cues** from their environment which are interpreted by an organ in the roof of their mouth.
- Some snakes, like pythons, have thermal sensors that allow them to detect the heat of their prey when there is little to no light.
- Snakes can be **active day or night** and the **shape of their pupils** indicates which (round = day; vertical = night)
- Snakes can make use of a **variety of habitats**, including trees (arboreal), water (aquatic), on the ground (terrestrial), in the ground (fossorial).
- Some snakes are **generalists** meaning they eat a variety of foods (rodents, birds, frogs, other snakes, etc). Other snakes are **specialists** that focus on one type of food, such as egg eaters.

(For kids you can use the “Understanding Snakes for Kids” slides instead of the list above).

Now that we know these characteristics and behaviors, how does that keep us from having dangerous encounters with snakes?

- We can **keep our distance when we see a shedding snake**, knowing that it is more vulnerable and perhaps aggressive during that time
- We can use the knowledge that snakes are sensitive to vibrations to **walk with heavy footsteps** when out on a trail or in the bush - this might make them move away from us

- If we know when snakes are active (day or night, wet season/dry season) we can **be more cautious during their active times** and take actions to avoid them during those periods.
- Snakes become more active and visible during periods of heavy rain because **their burrows get flooded and they are unable to stay underground**. So we must take caution during those times, especially at night.
- If we know that some snakes, like puff adders, conceal themselves along a path where prey is likely to travel (they are ambush predators), then we can be very observant when walking in places where they might be concealed (tall grasses), and **use a stick to probe the ground in front and alongside us**.
- If we know snakes are often found in certain types of habitats, we can be more aware and practice good prevention skills when in those habitats.
- On hot days, we can **be particularly careful in shady areas**, because snakes may go there to cool down after basking in the sun
- Because we know snake habitat is shrinking, we can understand that **snakes may be driven toward human settlements by human activities** and be observant as we carry out our daily activities in those settlements.
- We can work with our communities to **protect snake habitat** (for snakes and other wildlife) so they are less likely to move into human settlements.

Why are snakes important? (essential) - Most people from Kenya would say that the only good snake is a dead snake. But that is simply not true. It is not necessary to kill most snakes

because those that you see most often, the harmless snakes, are not life threatening.

Every animal is designed to be able to capture its own food and to defend itself. There are hundreds of animals that use venom or poison for defense, but we don't consider all of them evil. Bees sting with venom, but we don't consider them evil - we find them to be useful because they make honey that we can eat. Snakes are useful for other reasons.

One of the biggest reasons is that they play a very important role in the ecosystem. They are predators, and as such, they help to control the populations of many smaller organisms, such as rodents, frogs, insects (as juveniles), birds, and fish. Snakes often prey on organisms that can affect humans themselves, such as rats that spread diseases and get into our food supplies. This is an important service they provide to humans. Snakes are also food for many other creatures.

Also, snake venom is now being used to create medicines that are very important for patients with heart problems and diabetes. Some components of snake venom are used to thin the blood and keep it from clotting, or to alter the heart rate of a person with an abnormal heartbeat.

Talk about snake encounters from the group (not essential but recommended) - To get us started, raise your hand if you have ever encountered a snake in an unexpected place. Now raise your hand if you have been bitten by a snake. And how many of you know someone in your family or friends that was bitten by a snake?

We have time for one or two people to share a quick story about someone that had to deal with a snakebite. Would anyone like to share?

Myths and Misconceptions

Use the poster associated with this section: Myths and Misconceptions About Snakes

In our culture, we have many beliefs about snakes, some of which are true, and some of which are not. For example, many people believe that all snakes are venomous or poisonous, and all can kill you. That is **FALSE**. **Out of the 140 types of snakes in Kenya, only 29 are venomous, and only about 10 are deadly.**

Ask: Can one or two people share something they were taught by their parents about snakes?

Review the poster with the participants. You can use the material below to help you with the appropriate sections.

Here are a few other myths and misconceptions that we have about snakes in our area:

Myth: Snakes chase people

Truth: Snakes would much rather get away from you as quickly as possible. If you are standing in their escape route, they might try to get past you, or maybe come toward you to strike, but they will not chase after you if you run away.

Myth: You can get rid of snakes by pouring oil or chemicals on the ground around your home, or by burning tires

Truth: There are no chemicals you can use to repel or keep snakes away. Burning tires will not keep them away either. And the chemicals will do more damage to the environment and possibly to your health, particularly if they get into your water supply.

Myth: If you are bitten by a snake, drink milk (or swallow paraffin) and suck the poison out of the wound

Truth: Neither milk nor paraffin can render venom ineffective. Sucking venom from a wound is ineffective because the venom is already in the blood stream flowing through your body. Sucking venom from the wound by another person can be dangerous to them if they have any cuts or open wounds in the mouth - it can get into their bloodstream and they will suffer symptoms as a result.

Myth: A black stone or charcoal can help with a venomous snakebite

Truth: Neither black stones nor charcoal are effective treatments for a venomous snakebite. They are applied on the outside of the body on the wound, but the venom is already flowing throughout your body so they are not rendering the venom harmless. If using the black stone keeps you calm, and you are on your way to the hospital, then use it but it will not be sufficient - you need antivenom if you were bitten by a venomous snake.

Myth: Once a snake bites you it leaves its teeth in your flesh

Truth: Snakes can lose one or more teeth when they bite you, and these are easily replaced. Sometimes a tooth is left

behind in the wound and can be removed. But not the entire set of teeth.

Myth: Snakes are evil and anyone who works with them is a witch

Truth: When God created all things, he said everything he made is good, and that includes snakes. Satan and some people can use snakes for evil purposes, such as witchcraft, but that does not make the snake itself evil. In fact, it is often the person that is evil, and not the animal.

There are many other myths that are passed on in our cultures and communities. Sometimes they can be based on truth, but most of the time, they have been shown to be false with scientific evidence. If there are things you have learned that you are not sure about, ask me after the session and I will find out the answers for you from our training partners.

Snake identification - What we want to do next is to teach you how to identify some of the dangerous snakes within your area of Kenya, and we will also show you a few of the harmless snakes so you won't feel like you have to kill them when you see them.

Before we start, for many of the exercises during this training session, you will need a training partner. Find someone that you can work together with for today. If you are planning to be part of the training team for your church, you should find someone you can work with consistently in the future as you need to practice your training skills. Once you have a partner, please sit together to facilitate the work we need to do here today.

As we get into identification, let's keep in mind that there are two types of snakes. Some are absolutely harmless, so if they bite you out of fear, it might hurt but it is not going to kill or even make you sick. There are bacteria in their mouths, so just keep the wound clean and you will be ok.

However, there are several kinds of snakes that have a chemical mixture called venom that can be injected deep beneath your skin using sharp fangs in the snake's mouth. These chemicals can cause you pain or make you really sick. In some snakes the venom is so powerful that it can kill you if you do not get treatment soon enough.

If you are bitten by a harmless snake and you go to the traditional healer, it may seem like whatever treatment they give you works like a miracle cure - but that is because there was no venom there to make you sick or die in the first place. It was the bite of a harmless snake.

On the other hand, if you are bitten by a venomous snake, such as a cobra, mamba, or puff adder and instead of going directly to the hospital you go to the traditional healer, you are taking an **unnecessary risk** and **wasting precious time**. There is **no treatment** that a traditional healer can give you that will destroy or neutralize or render ineffective the venom in your body. You will have wasted time that might cost you your life, particularly for a **black mamba bite which can take your life in as little as 30 minutes**.

So, if you know how to identify the dangerous snakes, and you know the symptoms that you will feel when bitten by a venomous snake, you can save time by going directly to the hospital to get **treatment with antivenom**, a special medicine that can destroy

the venom inside you. The doctors will determine if antivenom treatment is necessary based on your symptoms.

So then, which snakes are dangerous? In western Kenya,, the snakes that are the most dangerous and that require immediate medical attention are:

- Puff adder
- Non-spitting cobras - Egyptian and **brown forest cobras**
- Black mamba
- Black-necked spitting cobra
- Boomslang
- Blanding's tree snake
- Variable burrowing asp

Two highly venomous snakes that are currently only known from the Kakamega Forest are the **Gaboon viper** and **Rhinoceros viper**. Due to their limited distribution, we will not be covering those here.

There are some mildly venomous snakes that have venom that can cause pain and swelling, but these can be treated based on symptoms and do not require antivenom. These are:

- Rhombic night adder
- Eastern garter snake
- Bush vipers

Harmless snakes include:

- Battersby's green snake (not all green snakes are mambas)
- Brown house snake
- Egg eating snakes
- Sand snakes
- Blind and worm snakes

To do the identification below, you may need to use one of the following posters if you don't have access to snake identification cards:

- Venomous snakes of Kenya
- Venomous snakes of western Kenya
- Common snakes of Kenya that are harmless to humans

[Note: If you have snake identification cards, you can use the script below. If you only have the posters, the trainers will show you snake photos and you can use the posters to try and identify the snakes instead of the ID cards]

We are going to be learning from some snake identification cards that look like this:



Each card has the name of the snake in the lower right corner (point to it), the characteristics of the snake along the left hand side, some arrows pointing to key characteristics, and how dangerous the snake is in the lower right corner.

[For the trainer] - below is one way that you can teach the participants how to identify the snakes. If you have a different method that works for you, stick with that method.

I am going to spread out some of these snake ID cards in this area of the room. I need one person from each pair to come up and select a couple of cards and I want each pair to learn the names of each snake, and the characteristics pointed to by the red arrows. Be able to tell me how dangerous this snake is. When you feel like you have those learned, join with another group of two and teach them how to recognize your snakes. When finished, replace the cards up here and take a couple more. Keep this going until you have gone through all of the cards.

[Trainer - alternatively you can pass these out to each team, and have them exchange their cards with another team when finished with them]

[When all cards have been looked at]: I am going to show you some of these cards with the names covered up. Raise your hand if you think you can tell me the name of the snake I show you.

[Once you quiz them]: **It can take a long time to learn how to identify snakes**, so please **don't be discouraged** if you can't name them today. You can continue to practice with the materials we are leaving you, so **please don't give up**.

Encountering Snakes Outdoors (essential) - So the next thing we want to think about is where we might encounter snakes so that we can avoid them or be extra careful. First we will talk about

outdoor locations where we can encounter snakes, then we will talk about encountering them in your house.

We often encounter snakes because we want to enjoy the same spaces. For example, snakes often seek out houses because they can (1) get out of the sun and cool off, (2) find food (rodents), and (3) find water. We might encounter a snake under a tree because we both want to be in the shade.

One place we might encounter a snake is when we are walking along a path to get from one place to another, like in this poster:



Where in this poster might snakes be hiding? Where would you want to be extra careful?

Here are some things in this poster to help us take extra precautions to lower our risk of encountering a snake when walking from place to place:



Sometimes we need to be outside in the field tending to our crops. If you are growing vegetables in a garden or field, what are some things you might do to keep from an encounter with a snake?



There are also many people in our district who are involved with herding of cows, sheep, and goats. Where might snakes be hiding in this poster? What are some things you should keep in mind to avoid a deadly snake encounter?



There is one more outdoor area we should really think about, and that is your own compound. Snakes are often attracted to our compounds because of shelter, food, and water. Where might snakes be hiding in the compound of this poster? What could be done to make this compound safer?



Things we recommend for keeping your compound safe are:

- Keep grass cut short
- Trim branches of trees that overhang the house
- Keep woodpiles and water sources away from the house
- Clean up piles of construction materials, plastic, metal, and debris
- Keep storage areas neat and tidy
- Be careful when using the latrine (look inside and overhead)

- Keep animals away from house if possible
- Use a flashlight at night when going to relieve yourself



One more thing we should consider. If you see a snake, how do you know if it feels threatened and that it might strike at you. You want to look for a threat display. If the snake is just moving along on the ground, it is probably not too disturbed. But if you see a snake coiled up with its head up or hood spread, you need to be very careful and back away. Also look for hissing, scale rubbing, tongue flicking in and out, mouth open.



Encountering Snakes In The House (essential) - It would be a pretty frightening thing to find a snake, especially a dangerous one, inside your house. Remember, snakes enter your house because of shelter, food, and water. Snakes can be found on the floor, in the rafters overhead, and inside boxes. Let's look at some

specific rooms and see where snakes might be hiding. For each of these posters tell me how snakes can enter your house and where they might be hiding.



Now the point of this is not to scare you, but to help you take some positive actions to make sure snakes are not in your house. If they are inside, what should you do to avoid them or get them out? There are some places you should always check, especially in the morning when you get up and at night when you go to bed.

Check these things at night before you go to sleep and when you get up in the morning



Always look at the floor before you get down off of your bed or any furniture



When sitting on floor, look to see where you are sitting or standing first



They can be on the floor, so try not to sleep on the floor if possible



These are other things we recommend that you do to keep your house safe:

- Use a mosquito net and keep it tucked in under the mattress
- Look before you put your feet down on the floor from furniture
- Keep food in containers so it does not attract rodents
- Every night and every morning check under the bed, along walls, behind furniture, the rafters overhead for snakes
- Check your shoes before putting them on, or hang them on hooks/nails off the floor
- Don't accumulate piles of stuff/junk where snakes can hide
- Patch holes in the wall, floor, roof, and seal the spaces under doors
- Keep animals outside the house, especially during the dry season when snakes come looking for food and water

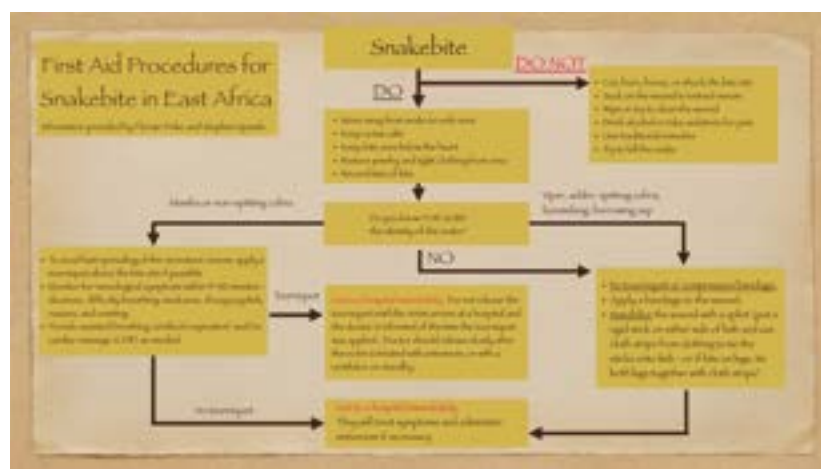
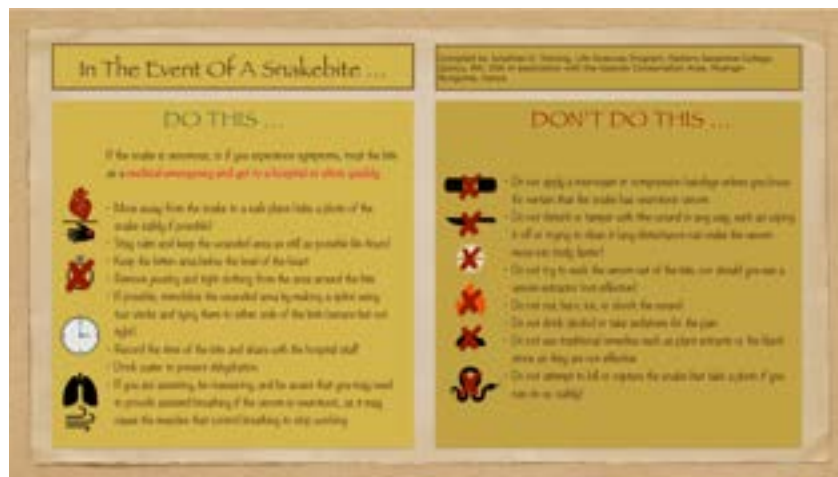
Now what if you encounter a snake in your house? What can you do?



Instead of putting a bucket over the snake, you can also use a blanket. These will keep the snake calm and in the same location until help arrives.

Remember to only use the methods above if you are certain that the snake is a harmless one. If it is a harmful one, call a snake removal person if there is one near you. If at all possible, try not to kill the snake unless it is actually a threat to your family.

In Case Of Snakebite! (essential) - Now what do we do if we encounter a snake and get bitten? There are things that we should do, and things we should not (use posters shown below to discuss do's and don'ts and first aid measures).



Review Questions (essential) - Ok, let's review what we've learned. I am going to ask you some questions, and I want everyone to try and answer at least one question. When I ask the question do not shout out the answer, but raise your hand please until I call on you.

1. [Show them a picture of a puff adder while covering the name]. Who can tell me the name of this snake?
2. [Show them a picture of a black mamba]. Who can tell me the name of this snake?
3. [Show them a picture of a green mamba and a Battersby's green snake]. Who can tell me which one of these is the green mamba?
4. [Show them a picture of a red spitting cobra]. Who can tell me the name of this snake?
5. [Show them a picture of a boomslang]. Who can tell me the name of this snake?
6. What are three reasons a snake seeks out human houses?
[Answer: food, water, shelter]
7. Why should you NOT go to the traditional healer after a bite from a venomous snake?
8. Tell me a place where you need to be careful not to encounter a snake when outside - where do they hide? (ask several times with a different person each time)
9. What does an angry or threatened snake look like? *[Answer: coiled with head up, hood for some, mouth open, tongue flicking, hissing]*
10. What is one place where a snake might be hiding in your house? (ask several times with a different person each time)
11. Tell me one thing you should do if you find a snake in your house. (ask several times with a different person each time)

12. If you need more questions, make them up from the information in this script, or get them to identify more of the snake photos.

Evaluation (not essential but recommended) - Ok, in closing, I want to ask you to tell me how you enjoyed this training. I want to ask you for answers to these four questions:

- What did you like about the training? What did you find useful?
- What would you like to learn more detail about? What could we have done better?
- What did you like or not like about the training materials?
- What did the trainer do well and how could she/he improve?