



FACT SHEET

RADIO PRODUCTION GUIDE

OUTREACH GUIDE

POLLUTION

SOUTH AFRICA

INTRODUCTION

What is pollution?

Materials or substances that are harmful to the environment are called pollutants. Pollution is what happens when pollutants build up or are introduced into the environment. There are three main types of pollution: water pollution, land pollution and air pollution.

Air pollution causes roughly 7 million deaths every year. People are dying from strokes, chronic respiratory diseases, lung cancer and heart attacks (UNEP). Pollution also contributes to global warming and the increasing food insecurity around the world. Pollution is not a new problem! Already in 1972, the Stockholm Declaration was signed at the UN Conference on the Human Environment. This declaration recognised the impact of pollution on water, air, earth and animals. There have been many

meetings held and declarations signed since then, but there is still a long way to go to protect our environment. Our land is important to us. We need a healthy environment for the air that we breathe, the water that we drink and the soil that we grow our food in. When these resources are polluted, our land and our lives are threatened.

How does pollution spread?

In nature, everything is connected. When one part of the system is polluted, other parts of the system are also affected. Winds and water currents can pick up pollutants and carry them to places far from where the pollution is produced. The effects of pollution in one place can be felt far from where the pollution is happening. Pollution knows no boundaries!

DEFINITIONS

Acid Mine Drainage (AMD):

AMD pollutes the rivers and streams that are near coal mines. Miners need to use acid to remove coal from the rocks. The acid they use then washes into streams and rivers. When it comes into contact with rocks and sand, it releases chemical sulphur from the rocks and sand, which results in the river water being rich in sulphuric acid. Rivers that are polluted become acidic and are not safe for drinking. Sulphuric acid is toxic for plants and people.

Acid rain

When pollutants such as nitrogen oxide and sulfur dioxide mix with moisture, they change into acids. This acid then falls back onto earth as acid rain. The wind can carry acid rain far from the pollution source. Acid rain damages trees, lakes and other water points. Extreme acid rain has created thousands of "dead zones", where fish no

longer live, because they cannot survive in acidic conditions. Acid rain also wears away marble and stone. Acid rain has erased the words on gravestones and damaged many historic buildings and monuments.

Light Pollution:

Light pollution (also called photopollution) happens in urban areas where there is too much light. Having too much light disrupts ecosystems because animals become confused about whether it is day or night. Animals that are only active at night, might be forced to go out in the day because it never gets dark. Animals that are only active in the day, might be active throughout the night, because it doesn't get dark. There is a growing movement called the "dark-sky movement" that has a campaign to reduce light pollution so that people and animals can enjoy the darkness of the night (National Geographic).

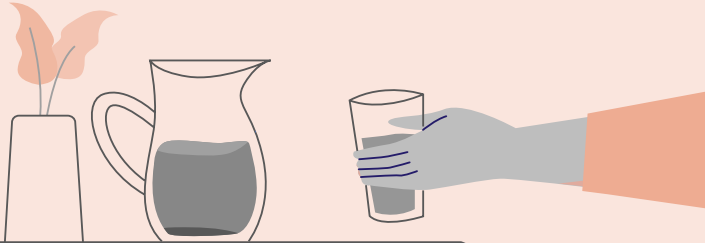
Noise Pollution:

Noise pollution happens when there is a constant loud, disruptive noise in an area. This often happens close to an airport or nearby a big construction area. Noise pollution is unpleasant and can also disrupt

animal and human life. Some birds struggle to communicate or find food because of the noise. The sound waves caused by noise pollution can also affect communication for marine life ([National Geographic](#)).

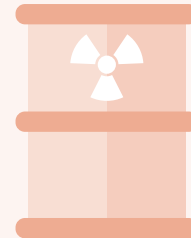
DID YOU KNOW? (GLOBAL)

The United Nations estimates that 4,000 children die every day from drinking dirty water



(National Geographic)

25 million farm workers worldwide experience unintentional pesticide poisoning each year



(UNEP)

4.3 million deaths are caused by indoor air pollution from cooking practices using polluting stoves paired with solid fuels and kerosene, mostly in low-income countries



(UNEP), (WHO)

Only 6% of children in Africa live in areas where air pollution is reliably measured at the ground-level (compared to 72% in Europe and North America). In many African countries, there is not adequate infrastructure to measure the levels of pollutants that people are exposed to. In many of these places, there is also not enough easily accessible data on health indicators. This makes it difficult to know how pollution is affecting people's health in some countries

(UNICEF)

According to a study by researchers at NASA, air pollution causes about 780,000 premature deaths per year in Africa

(JGR Atmospheres 2019)

Air pollution causes 1 in 9 deaths worldwide. It is the most important environmental risk of our time



(UNEP)

DID YOU KNOW? (SOUTH AFRICA)

There are 136 monitoring stations monitoring air quality in South Africa.

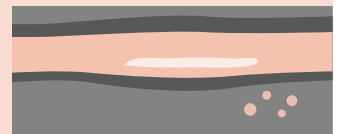


The three areas that are most affected by poor air quality are the Vaal Triangle, Mpumalanga and Limpopo. More specifically, Three Rivers, Sharpeville and Zamelela in the Vaal Triangle; Standerton, Delmas, Emalahleni and Middelburg in Mpumalanga and Lephalale, Thabazimbi, Mokopane and Ermilo in Limpopo

Coal-fired power stations are the main cause of pollution in South Africa, killing more than 2200 people per year

(CER.ORG.ZA)

Mining is a big source of pollution in South Africa



South Africa is not a member of the CCAC

(Climate and Clean Air Coalition)



UNDERSTANDING AIR POLLUTION

Sometimes we can see when air is polluted: we can see the smoke coming out of a car's exhaust or from the chimneys of big factories, but sometimes, when air has become polluted, we cannot see that it is polluted. This is what makes air pollution a 'silent killer'. Even when we can't see the pollution, it can be dangerous for our health. Air pollution affects people throughout their lifetime. Air pollution affects children's brain development and lung functioning. In adults it can lead to cancer, chronic lung disease, heart disease and strokes.

It is not only outdoor air pollution that can be a problem, pollution can also happen inside our homes. If we cook indoors using

wood, coal, dung, kerosene or paraffin, we are exposed to what is called household air pollution (WHO). Nearly half of the world's population (3.6 billion people) were exposed to household air pollution in 2017 (State of Global Air 2019 Report). Women and children are often the ones who are exposed to these health damaging pollutants, especially if homes are not well ventilated. Nearly a million children die from pneumonia each year. Half of these deaths are linked to air pollution (WHO).

UNDERSTANDING WATER POLLUTION

Just like with air, sometimes you can tell when water is polluted: it looks dirty, has things floating in it or it smells bad. But sometimes polluted water can look clean, even when it has become polluted with harmful chemicals. When water is polluted, it can make you sick if you drink it. Sometimes, if you eat fish that has been in polluted water, you can also get sick.

Most of the water pollution that happens is connected to different industries. Mining is one of the main causes of water pollution, caused by Acid Mine Drainage (AMD). Oil spills, radioactive waste from nuclear power plants, chemicals from factories, fertilizer from large-scale agriculture and untreated sewage are also sources of water pollution. Plastic waste also contributes to water pollution. Pollutants that flow into rivers can

make the rivers toxic for the creatures that live in the water and can make the water dangerous for people to drink or use for other needs. When rivers become toxic and fish start dying, this affects the livelihoods of fishermen and food security of the people who live in that area.

UNDERSTANDING LAND POLLUTION

Many of the pollutants that contaminate water and air, also pollute the land. Mining can often pollute the soil with dangerous chemicals. Pesticides and fertilizers from farms are blown by the wind. Some fruits and vegetables absorb the pesticides that help them grow. When we eat these fruits and vegetables, the pesticides can enter our bodies and be dangerous for our health. Some pesticides can cause cancer and other diseases. Farmworkers who are exposed to pesticides can suffer from pesticide

poisoning. Mismanagement, especially in the mining industry, can impact on large areas of land. Contaminated soil can lead to contaminated crops, which then can have a negative impact on people's health (UNEP).

PREVENTING POLLUTION

Governments and industries are responsible for taking necessary precautions to prevent pollution. Some of the ways that pollution can be prevented are:

- Improving waste management systems
- Using energy efficient and renewable energy-based power generation
- Reducing agriculture waste and pesticide use
- Providing access to clean and affordable fuels and alternatives for cooking, heating and lighting to reduce indoor air pollution
- Building safe and affordable public transport systems, to reduce emissions.

WHAT SHOULD COMMUNITIES AND INDIVIDUALS KNOW IF THEY WANT TO REDUCE / PREVENT POLLUTION?

At a local level:

- Use cleaner or safer burning fuels for cooking indoors, where possible.
- Explore the possibility of switching to an improved cooking stove.
- Switch from kerosene lamps to cleaner lighting technologies, like solar lamps.
- Walk, cycle and use public transport instead of using private single-use cars.
- Do not burn waste in the open.
- Reduce waste by reusing, recycling: simple acts like refusing straws and using fabric instead of plastic bags for shopping are simple ways to produce less waste.
- Recycling means we create less waste: Reusing items means that less materials need to be mined to create more and more new products.
- Separate batteries and electronic waste for correct disposal.
- Use lead-free paint and unleaded petrol.
- People and businesses that illegally dump pollutants into the land, water, and air should be held to account. We can support activists and campaigns that are holding these individuals and businesses to account!

EXAMPLES OF WHAT COMMUNITIES/MOVEMENTS HAVE DONE GLOBALLY TO FIGHT POLLUTION AND PROTECT THEIR LAND:

1. Inga project, DRC

Inga 3 is a big hydroelectric project that was announced in 2013 with the support of the World Bank. The project was intended to generate power for mines in the DRC and for exportation to South Africa. Considering the potential negative impact of the project, not only on the environment, but also on the Congolese people, civil society organizations (CSOs) stood up against the development of the project.

These CSOs have advocated internationally, mobilising people to prevent the project from taking off, especially given that the project will not provide electricity to the Congolese population, 85% of whom still do not have access to electricity. Although there have been many effective actions, the fight is not yet over. People have been fighting for discussions in relation to the project to be open for national debate, to explore how the rights and needs of the Congolese people can be protected. Dissemination of information is key for a campaign of this size to work. The local radio stations in the DRC are important role players. Youth reporters on the ground have been exploring the power of radio to raise the awareness of youth and communities about their rights, and to foster a culture of community participation and accountability at a local level. It is important to share accurate information, as well as people's personal stories, to highlight the impact and mobilise people to engage in constructive dialogue and collective action to prevent the project from happening in a way where their rights and needs are not protected!

Xolobeni, South Africa

Xolobeni is a coastal region in the Eastern Cape, South Africa. The area is rich in Titanium. In 2007 an Australian mining company applied for a licence to mine in Xolobeni. The community has been fighting for over 20 years to stop mining companies' from mining on their ancestral land. Nonhle Mbuthuma is one of the leaders of the Amadiba Crisis Committee (ACC), one of the leading groups protecting the land. When she speaks of their struggle she says: "Us and the land, we are connected. If you separate us from the land, you are killing some part (of us)." It has been a long and hard fought struggle. The head of the ACC was assassinated in 2016 and many of their leaders have received threats. They have not given up! Through the continued activism of the ACC, they have managed to not only chase the mining company away from their land, but they actually managed to have a court certify that they, as a community, have the right to say no to mining companies invading their land. This is a landmark decision that will shape struggles against mining companies in South Africa and beyond. Even though they won the case, the South African Government intends to appeal the judgment. Roadworks that were meant to be cancelled have begun in the area, an indication that there may be battles still to come.

RESOURCES

- Meet Natsai Audrey Chieza – environmentally friendly dyes to tackle pollution in the textile industry:
<https://www.bizcommunity.com/Article/196/415/201142.html>

- Reducing Pollution with solar taxis in Ivory Coast:
<https://www.dw.com/en/reducing-pollution-with-solar-taxis/av-47129317>

- What is an improved cooking stove?
https://energypedia.info/wiki/Improved_Cookstoves_and_Energy_Saving_Cooking_Equipment

- Promoting Improved Cooking Stoves in Uganda:
<https://www.youtube.com/watch?v=Wy47OMboQsY>

- Cleaner cooking stoves improve health:
https://www.youtube.com/watch?v=Yu5SdH2_OJU

- How to make an earth stove:
<https://www.youtube.com/watch?v=oz2SUqstheQ>

- Mobile phone waste recycling project in Ivory Coast:
<https://www.bbc.com/news/business-29840110>

- Xolobeni and the right to say no!
<https://www.rosalux.de/en/news/id/41593/xolobeni-the-right-to-say-no/>

- Young activists fighting lead pollution in Zambia:
<https://www.hrw.org/news/2019/11/18/young-activists-fighting-lead-pollution-zambia>

- Breathe Life 2030:
<https://breathelife2030.org/>



ANGLES

DIFFERENT WAYS TO TALK ABOUT POLLUTION:

- How does water pollution affect you and your community? How do you know if the water in your area is clean to drink?
- How does air pollution affect you and your community? How do you know if the air in your area is clean?
- What industries are active in your area? What steps are they taking to protect the environment and prevent pollution?
- What ideas do you have for preventing pollution from spreading in your area?

CHOOSE AN ANGLE

- What are some of the ways that you can prevent pollution in your home?

FORMATS



VOX POPS



Vox pop aim

To get many opinions on one topic.



Who do you talk to?

Anybody from the community.



Question

What are some of the ways you are preventing pollution in your home?



AUDIO COMMENTARY



Audio commentary aim

To get people's opinion about a topic that they care deeply about.



Who do you talk to?

- An elder
- A young person
- A parent
- A community health worker

Questions for your interview with an elder, young person, parent or community health worker:

- If you live near a river, have you noticed any changes in the health of the river? What can we as a community do to protect the river from becoming polluted?
- What have you noticed about air quality in our area? What can we do to prevent air pollution in our area?
- What have you noticed about waste management in our area? What can we do to prevent waste pollution in our area (waste running into rivers, fumes from waste that is burnt, toxic substances seeping into the soil from pesticides and chemicals)?
- What advice would you give to young people about the steps they can take to prevent pollution and protect the environment?



PUBLIC SERVICE ANNOUNCEMENT (PSA)



The aim of a PSA

To create a public awareness message. Create a PSA that encourages people to prevent pollution.



Voice 1: Did you know that of all the things that contribute to people getting sick and dying, air pollution is number 5 on the list?

Voice 2: Air pollution, really? I didn't know that! I mean, I know polluted air is bad for our health, but I didn't realise it was that bad.

Voice 1: It's true - and it is not only the fumes from cars and factories that we breathe in when we are outside, it is also the fumes from cooking indoors, if we are cooking with wood, paraffin or coal.

Voice 2: Hmm... I wonder what we can do about it?

Voice 1: I think we should find out more about cleaner cooking stoves. Apparently they reduce the impact of household pollution on people's health.

Voice 2: Yes, that is a good idea - let's see what we can find out about safer **and** more efficient stoves.

Slogan: Clean air is a human right!



AUDIO PROFILE AIM



Audio profile aim:

To get a first person account of someone's experience, passion or journey. Audio profiles often aim to inspire.



Who do you talk to?

- A local farmer
- A community member



Questions

- How is pollution impacting our communities health?
- How is pollution impacting our community's food security?
- How is pollution impacting our community's livelihood?
- As a farmer, how do you deal with issues regarding the use of pesticides or fertilizers? How do you make sure these substances don't land up in the water, food or soil?
- What ideas can you share with us of ways to keep our community pollution-free?

Please see interview questions in "How to present your show"



HOW TO PRESENT YOUR SHOW

Use your produced radio features, your research and the suggested script and questions to write your own script.

[INTRO:]

Host 1: It's just gone [TIME] and you're just in time for the [NAME OF SHOW] on [RADIO STATION]. My name is [NAME].

Host 2: That's right! And my name is [NAME], and today's show is about pollution. We all know how important it is that we have clean air to breathe, safe water to drink and healthy soil for our food to grow in.

Host 1: Yes, pollution is not a new problem, and it's only getting worse. Let's see what we can learn together today about how to protect the environment from becoming polluted.

Host 2: Yes, this is a really important topic. It affects all of us. If our air, water and soil becomes polluted, our lives and our land are in danger.

Host 1: That's true. Well, let's get started!
[PRESENT WHO IS BEING INTERVIEWED]
[PLAY THE INTERVIEW]

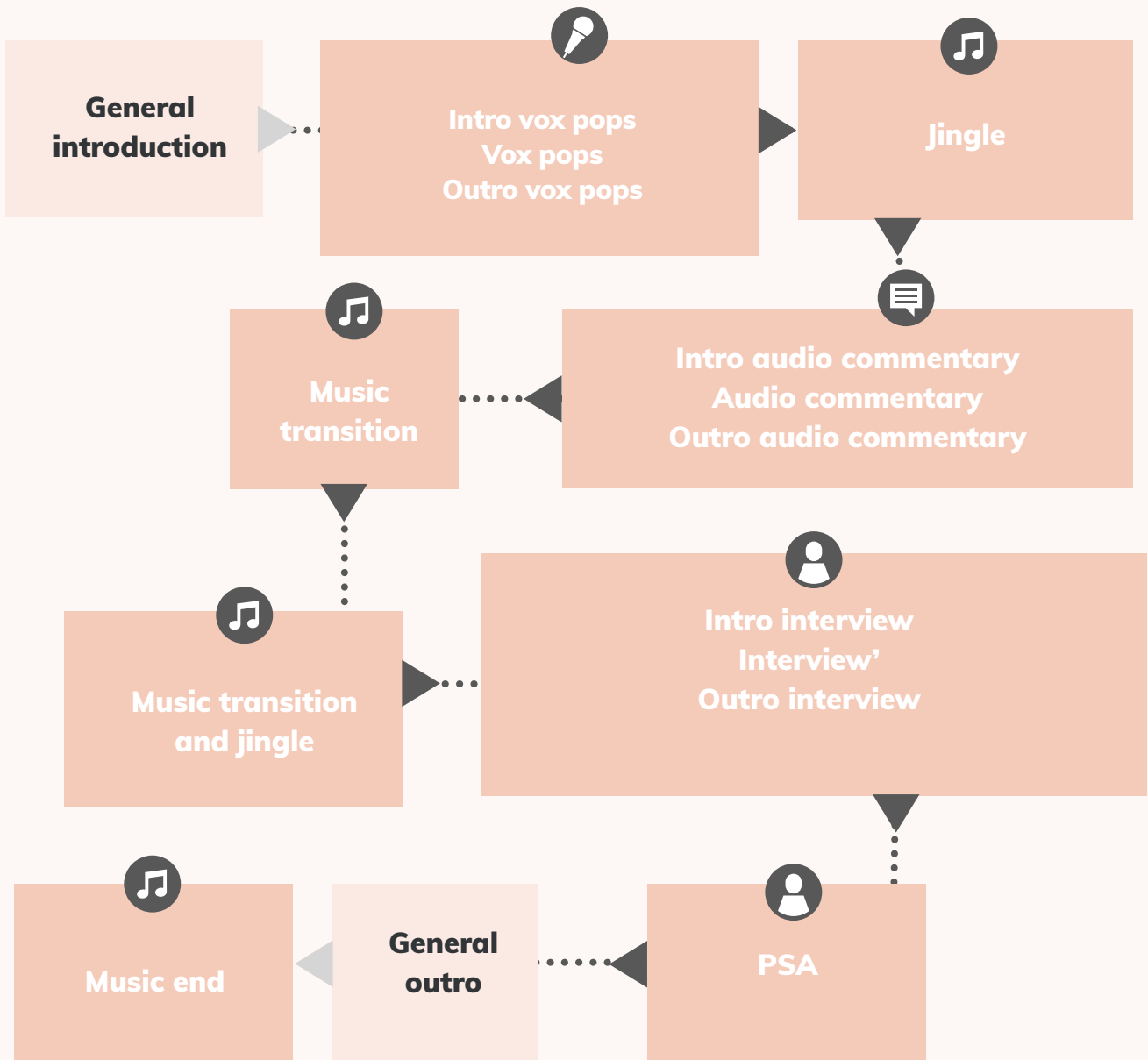
[OUTRO:]

Host 1: Today, we've learnt so much about the challenges of pollution in South Africa! We have also learnt about some important steps that we can take to protect ourselves and our environment.

Host 2: Yes, I have learnt so much from the show. Pollution is a real issue affecting all our lives. We all need to do what we can.

Host 1: Next week on [DAY] at [TIME] we'll be talking all about [NEXT WEEK'S SHOW TOPIC]. Until then, it's bye from us!

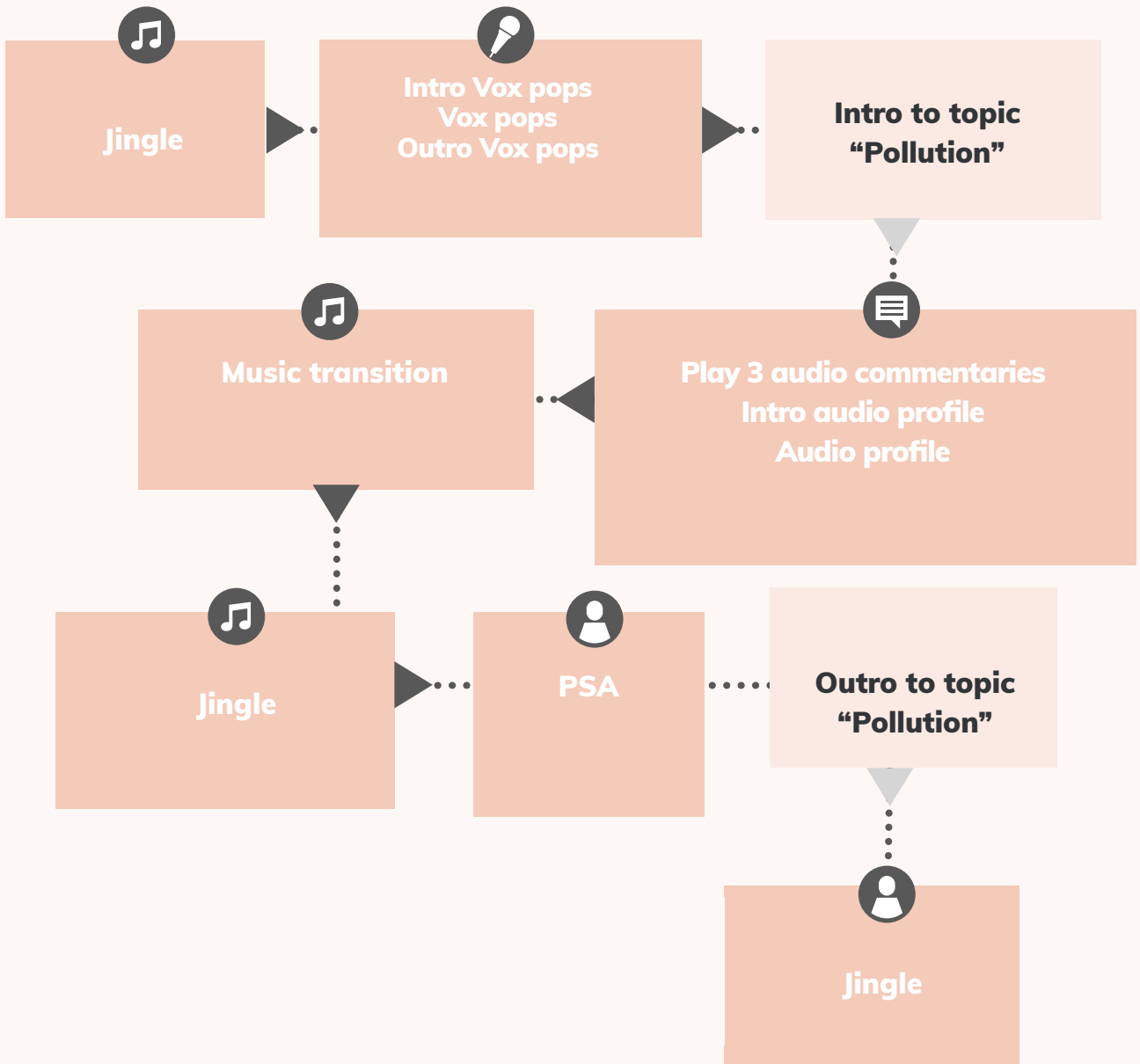
SHOW OUTLINE



ETHICS AND CONSENT

This may be a sensitive topic for some, so make sure you inform your audience to respect those who share personal stories in the space.

GREEN SEGMENT SHOW OUTLINE



ETHICS AND CONSENT

This may be a sensitive topic for some, so make sure you inform your audience to respect those who share personal stories in the space.



ANGLES

DIFFERENT WAYS TO TALK ABOUT POLLUTION:

- How does water pollution affect you and your community? How do you know if the water in your area is clean to drink?
- How does air pollution affect you and your community? How do you know if the air in your area is clean?
- What industries are active in your area? What steps are they taking to protect the environment and prevent pollution?
- What ideas do you have for preventing pollution from spreading in your area?

CHOOSE AN ANGLE

- What are some of the ways that you can prevent pollution in your home?

OUTREACH FORMATS



GUEST SPEAKER



Guest speaker aim

A guest speaker is someone who can share expert knowledge about the impact statement or tell a personal story related to the impact statement. You can speak to someone who is involved with preventing pollution in your community, someone who works for the city, someone who is involved in a creative recycling or environmental protection project in your area.

Some questions for the guest speaker to think about ahead of time:

- What is the relationship between pollution and climate change?
- What is the relationship between pollution and people's health?
- How can young people get involved with protecting the environment and preventing pollution in your area?
- What steps can young South Africans take to prevent and reduce pollution?



INTERVIEW



Interview aim

An interview is a one on one conversation where questions are asked by the interviewer and answers are given by the interviewee.



Here are some suggested interview questions:

- If you live near a river, have you noticed any changes in the health of the river? What can we as a community do to protect the river from becoming polluted?
- What have you noticed about air quality in our area? What can we do to prevent air pollution in our area?
- What have you noticed about waste management in our area? What can we do to prevent waste pollution in our area (waste running into rivers, fumes from waste that is burnt, toxic substances seeping into the soil from pesticides and chemicals)?
- What advice would you give to young people about the steps they can take to prevent pollution and protect the environment?



IMPACT JINGLE



Impact jingle aim

A jingle is a short song or tune that is easy to sing along to and remember, it has a clear message.

OUTREACH FORMATS



ROLEPLAY



Roleplay aim

To provide a scenario that allows the audience to “act out” a point about the impact statement.

Decide how many characters are needed and set the scene for the ‘actors’ to play out the statement. It is really an improvisation, and the audience ‘actors’ make it up as they go along.

Characters

Firdous and Toni

Scenario

Firdous and Toni are best friends. They love spending time at the beach. On the weekend, they love getting fish and chips from the market. They heard on the radio that the fish at the harbour is not safe to eat anymore. They are wondering what has happened to the water where the fish are caught.



PANEL DISCUSSION



Panel discussion aim

A panel discussion involves a group of people discussing one topic in front of an audience. There is usually time for questions from the audience afterwards.



Who is on the panel

A farmer, a young person, a community health worker, a teacher and a concerned mother

OUTREACH FORMATS



QUIZ



Quiz aim

To test and reward your audience's knowledge on the topic

Things you need for this activity

- Prepared quiz questions and answers
- Small prizes

Process

Present some quiz questions and hand out prizes to those who answer correctly. From the fact-sheet, we created the following quizzes for you to broadcast in your shows. Once you are done with these two, feel free to create more to put your listeners to the test!

Quiz 1:

Question: Air pollution causes _ in 9 deaths.

- A. 1
- B. 5
- C. 8

Correct answer is A

Quiz 2:

Question: Air pollution causes how many million deaths per year?

- A. 1
- B. 3
- C. 7

Correct answer is C



HOW TO PRESENT YOUR OUTREACH

Use your outreach formats and your research to write your own script. Here is an example of part of a script. Use it as a guide to create your own script for your outreach activity.

[INTRO:]

Host 1: It's just gone [TIME] and you're just in time for the [NAME OF SHOW] on [RADIO STATION]. My name is [NAME].

Host 2: That's right! And my name is [NAME], and today's show is about pollution. We all know how important it is that we have clean air to breathe, safe water to drink and healthy soil for our food to grow in.

Host 1: Yes, pollution is not a new problem, and it's only getting worse. Let's see what we can learn together today about how to protect the environment from becoming polluted.

Host 2: Yes, this is a really important topic. It affects all of us. If our air, water and soil becomes polluted, our lives and our land are in danger.

Host 1: That's true. Well, let's get started! What do you think is the main source of pollution here where we live?

[CHOOSE SOMEONE FROM THE AUDIENCE TO RESPOND]

Host 1: Would anyone else like to add their comment?

[GIVE AUDIENCE MEMBER A CHANCE TO RESPOND]

Host 2: Thank you for your feedback. We're going to call on you all throughout the hour to question us, give feedback and share your insights on this topic. Pollution is a serious issue! As young people, we need to think about what we can do about it – which is why we wanted to talk about it today – so let's dive in and get started!

Host 2: I'm ready! In this conversation we'll also be talking about pollution and the impact this is having on our health and the environment. In some areas, pollution has meant that rivers

are so acidic that fish no longer live there. The rivers are also too contaminated for people to swim in or to drink from. In South Africa, air and water pollution are a problem. In our area, it is important to identify areas that have become polluted and explore ways that we can reduce or prevent further pollution from happening.

Host 1: Let's hear more on what people think about pollution in our communities. What do you think we should be doing to reduce and prevent pollution?

[PLAY RE PRE RECORDED AUDIO]

[PLAY THE INTERVIEW]

[ENGAGE AUDIENCE BY ASKING QUESTIONS AND GIVING THEM A CHANCE TO SHARE THEIR THOUGHTS ABOUT WHAT THEY'VE HEARD]

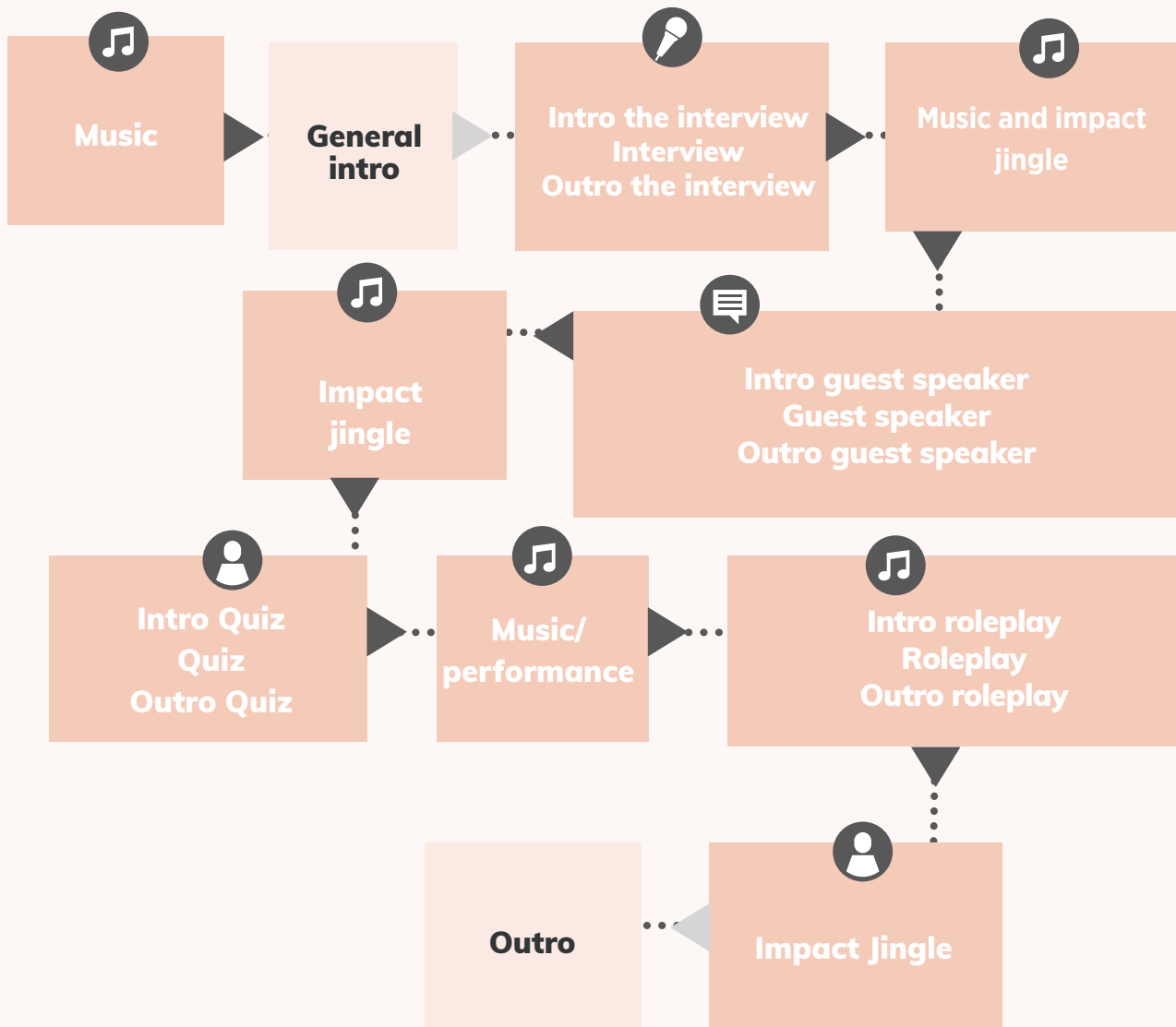
[OUTRO:]

Host 1: Today, we've learnt so much about pollution in South Africa and ways for all of us to protect our precious resources for present and future generations.

Host 2: Yes! Understanding the need to tackle pollution is important. As young people, we can do our bit to protect our environment.

Host 1: Catch you next time! Until then, listen out for our weekly show on [NAME OF RADIO STATION] at [TIME] we'll be talking all about [NEXT WEEK'S SHOW TOPIC]. Until then, it's bye from us!

OUTREACH OUTLINE



ETHICS AND CONSENT

This may be a sensitive topic for some, so make sure you inform your audience to respect those who share personal stories in this space.

1. If any incorrect information comes up in any of your formats like the quiz, roleplay or panel discussion, you must correct it. Don't let your audience leave with myths.
2. Once you've finalised your script, your performance artists, your outreach outline and prepared all your formats, it's time to start your live event!