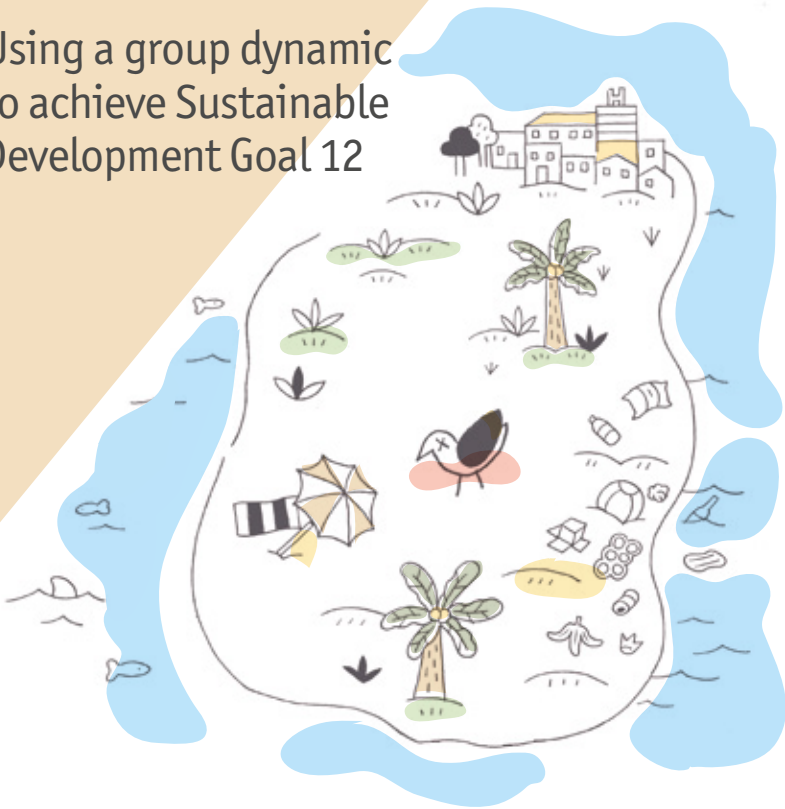


Role play about the circular economy: The case of waste management

Using a group dynamic
to achieve Sustainable
Development Goal 12



Circular Economy – CE – is a strategy that consists of establishing a continuous cycle of positive productive development, optimizing the use of resources and minimizing the risks inherent to the system. It does this by managing a finite quantity of renewable resources and flows. It also strengthens value chains and promotes local development. Sustainable Development Goal 12: responsible production and consumption, promotes circular economy.



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Information for trainers

Preparation for the session

- Make sure to read all the roles before the game so that you can answer players' doubts.
- Divide participants into groups of 5 people. If there is an odd number of players, you can allow one role to be played by 2 different people. It is recommended to use the role of the President of the Tourism Board or Mayor for roleplay in pairs (in this case, you can add the figure of deputy-mayor with the same agenda).
- Each group needs a separate table. Put pens on each table; the players will need them to take notes on their roles. Blank sheets of paper (A4) would also be useful.
- Put all 5 roles on each table.

Introduction

- In the plenary session, introduce the idea behind the game to all the participants. Briefly explain the 5 roles and ask whether anyone in each group wants to play a specific role.
- Give the participants 15-20 min to read the roles and prepare the negotiating strategy.
- Establish a time limit for the negotiation; around 60 min is advisable.
- Ask if there are any questions and talk to each person separately to answer any questions. The players must not know what instructions have been given to the other players.
- Make sure to mention that this is a game and that the main objective is to enjoy it and to play the role as well as possible. Players are allowed to act in ways in which they would probably not act in real life.

Course of the game

- Try to intervene as little as possible. If you see that a group is not advancing in the negotiation process, suggest that they could start to write down the basis for an agreement on a sheet of paper.

- You could also suggest that the players could start by controlling the budget and by making calculations to check whether their agreement would be feasible.
- Inform the players (once every 15 minutes) how much time they have left until the end of the game.

Possible doubts of the players

- There could be some confusion between the PR campaign (whose objective is to attract more tourists) and the sustainability campaign (which is a different project organised by an NGO).
- The budget of the Tourist Board is \$40,000. The total expenditure associated with all the agreements should not exceed the budget (which must cover buying products from the cooperative, investing in the PR campaign, investing in the sustainability campaign and participating in the cost of providing a landfill dump).

Debate after the game

After the game has finished, there should be a plenary debate based on the following questions (or on others that may arise spontaneously):

- **Which group has reached an agreement?**
- **Are the players satisfied with the agreement that has been reached?**
- **What was the key element that helped to reach the final agreement (in each group)?**
- **Do the players think that it would be easy to implement the negotiated agreement in reality?**
- **Are there any other important stakeholders who are missing from the roleplay?**
- **Which stakeholder had the strongest position? Why?**
- **What similarities are there between the roleplay and participant's local experiences?**
- **What position should the public administration take in a similar real-life situation?**

Role play about the circular economy: The case of waste management



Mayor

1.

Instructions for the role play

1. Read your role and prepare for the negotiation (25 - 30 minutes).
2. Start the role play by briefly presenting your character and interests.
3. Negotiate the best possible agreement for you.
4. During the game you can suggest any solution that is compatible with the instructions.
5. The role play ends with the drafting of a negotiated agreement accepted by all parties.

2.

The Challenge

High season has just ended on Bonito Island. It has been the busiest season to date, with over 20 000 tourists visiting the tiny island of 6 400 inhabitants. However it can hardly be seen as a success. The season ended with a viral social media video that has caused a scandal.

The video was made by one of the tourists. It shows the island's most famous beach filled with garbage and the image of a dead bird with plastic in its stomach has reached the international media. The video ends with a question "Is this the paradise you want to visit?". To deal with this difficult situation you have decided to create the Waste Crisis Think Thank and have invited four stakeholders to take part in the process of finding a

solution: an Agricultural Cooperative, the director of the Tourism Board, an Ecological NGO and the Head of the Municipal Waste Service.

3.

Who you are

You are the Mayor of the Bonito Island. You deeply care about your community and you are worried about the recent scandal. Unfortunately the media coverage has not helped the island's reputation and it could have a long lasting impact on the island's economy. You believe all the parties involved in finding a solution should work together in order to reach an agreement and improve the situation. As the Mayor you will listen carefully to the ideas of all the stakeholders in order to prepare a joint proposal.

4.

Your interests

1. Bonito Island's economy has been rapidly expanding thanks to tourism, but it is still a struggling to cover even the basic needs of the community. After long negotiations with the board you have agreed to use **\$30,000** out of the budget to solve the waste crisis. This is the maximum amount you can spend during the negotiation.
2. Tourists produce 400 tonnes of waste a year which accounts for the vast majority of the waste produced on Bonito Island (compared to 50 tonnes produced its habitants). There is no other alternative than

to build a landfill waste dump on the island. The Municipal Waste Manager has put in a lot of work and study to prepare two feasible options:

Available options and potential costs of building the landfill

Small landfill (450 tonnes)

Set up cost: building the landfill	\$25,000
Waste management per year (collecting, processing and composting)	\$5,500
Transport per year	\$2,500
Total	\$33,000

Big landfill (600 tonnes)

Set up cost: building the landfill	\$35,000
Waste management per year (collecting, processing and composting)	\$6,500
Transport per year	\$3,500
Total	\$45,000

3. You believe that it is possible to make the landfill self-sustainable in the long term. The big landfill would be the better option because it would cover the current and future needs of the island. You also think that the **Tourism Board should participate** financially in the creation of the landfill (in the end their customers are the ones producing the vast majority of waste).
4. It will be hard to change the situation without the Tourism Board investing in green energy and educational programmes and promoting recycling

and environmentally friendly habits among tourists and employees. You can consider financial participation in the creation of a **sustainability campaign** if there are sufficient funds.

5. You believe that the **Agricultural Cooperative** is an important partner which can help to find a solution. You are willing to support the Agricultural Cooperative in bilateral negotiations with the Tourism Board and ensure that the hotels on the island will buy more local products. You also hope that the Cooperative can be a potential buyer of compost produced in the landfill (which would bring in additional funds and make the investment more sustainable).
6. You can consider including the informal economy as a part of the solution. You can agree to provide waste collectors with a licence for **75 tonnes of waste collection a year**.

Your main goal is to ensure the sound management of the waste in the municipality and to improve the reputation of the island.

Role play about the circular economy: The case of waste management



President of the
Agricultural Cooperative

1.

Instructions for the role play

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3. Negotiate the best possible agreement for you.
4. During the game you can suggest any solution that is compatible with the instructions.
5. The role play ends with the drafting of a negotiated agreement accepted by all parties.

2.

The Challenge

High season has just ended on Bonito Island. It has been the busiest season to date, with over 20 000 tourists visiting the tiny island of 6 400 inhabitants. However it can hardly be seen as a success. The season ended with a viral social media video that has caused a scandal.

The video was made by one of the tourists. It shows the island's most famous beach filled with garbage and the image of a dead bird with plastic in its stomach has reached the international media. The video ends with a question "Is this the paradise you want to visit?". To deal with

this difficult situation the mayor has decided to create a Waste Crisis Think Tank and invited four stakeholders to take part in the process of finding a solution: an Agricultural Cooperative, the director of the Tourism Board, an Ecological NGO and the Head of the Municipal Waste Service.

3.

Who you are

You are the **representative of the Agricultural Cooperative**. You speak for the interests of farmers who supply local inhabitants and hotels with fresh products. The ecological crises may offer a big opportunity for you and your cooperative. Participating in the think tank will give you a chance to talk about the difficult situation facing local producers and also about new ways of developing more ecological farming.

4.

Your interests

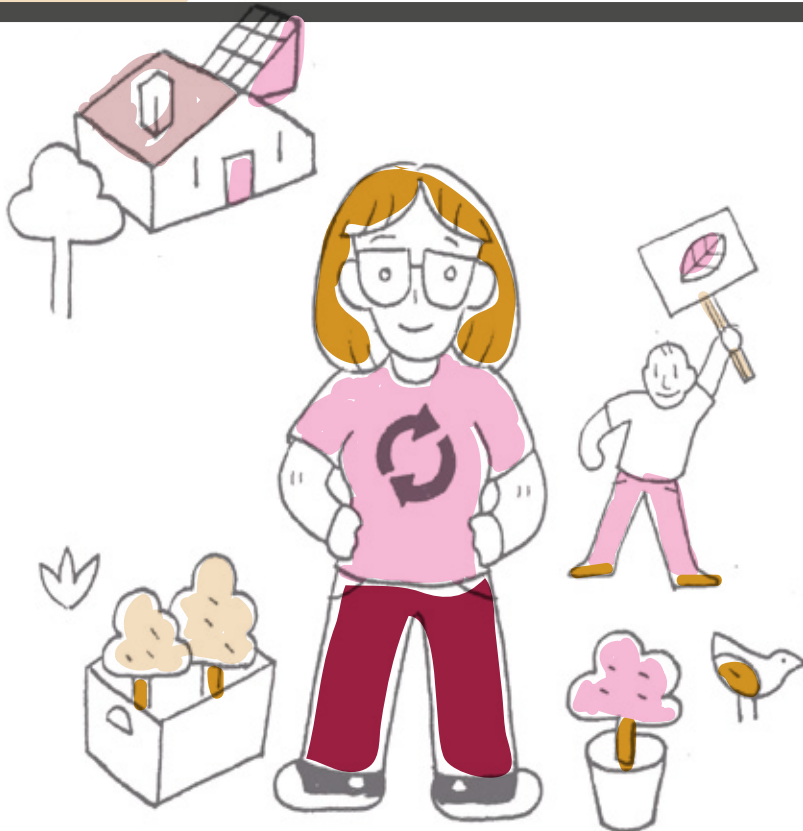
1. Your main goal is to **sell more local products** directly to the hotels represented by the Tourism Board. They seem to be open to negotiations as they want to improve their image and make their offer more attractive to tourists (Okm cuisine). The Cooperative is able to provide hotels with up to **80 tonnes** of products and no less than **50 tonnes** per year. The optimal option for you would be to sell as many tonnes as possible for **\$140** per tonne and you are not willing to accept less than **\$110/tonne**.
2. If you are able to sign the contract for **50 or more tonnes a year**, the Cooperative will have enough money to invest in professional equipment. In this case the Cooperative will be able to offer additional transportation services and you will be able to make a competitive offer to transport waste and therefore start negotiations with the Municipal Waste Services:
 - in the case of a **small landfill dump (450t)**, the minimum price per year that you would be willing to agree to is **\$2,000**, but your goal is to get the best price possible
 - in the case of a **big landfill dump (600t)**, the minimum total price per year that you would be willing to

agree to is **\$2500**, but your goal is to get the best price possible.

3. **If you sell more than 60 tonnes of products** a year to the Tourism Board, you will need to buy more compost. In such a case, you can sign a contract with the Municipal Waste Service. You will be able to buy from 50 to 70 tonnes of compost per year. An acceptable price for you would be \$50-55 per tonne.

Your main goal is to represent the interests of the local farmers.

Role play about the circular economy: The case of waste management



Representative
of the Ecological NGO

1.

Instructions for the role play

1. Read your role and prepare for the negotiation (25 - 30 minutes).
2. Start the role play by briefly presenting your character and interests.
3. Negotiate the best possible agreement for you.
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3.

Who you are

As a **representative of the Ecological NGO** you would like to use the current situation as an opportunity to finally talk about environmental problems on Bonito Island. The think tank organized by the municipality will give you a chance to convince other participants of the importance of new ecological solutions. When the shocking video about the island became an internet sensation, you received a lot of support from other ecological NGOs around the world. Working together, you should be able to put a lot of pressure on the local hotel industry and be able to influence its decisions. Your knowledge and experience is essential to establish a common consensus. Share the information you have with other stakeholders so they can work more efficiently.

4.

Your interests

1. You strongly believe that it would be impossible to improve the current situation without a well-planned, multi-dimensional Sustainability Campaign. The first pillar of this should be investment in green energy and making improvements to the hotel sector's water supply system. The second should be education and raising public awareness. Your organisation has already created a plan for a major campaign. Its estimated total cost would be **\$13,000**. With this amount invested in the campaign, you believe

that it would be possible to reduce waste production on the island. A small landfill dump would then be sufficient to meet the island's needs. If you are not able to collect the total amount needed, you could agree on a minimum of **\$7,000**. This, however, would affect the quality of the campaign.

- The Tourism Board is desperate to clean up its image and to obtain an **international Eco-Tourism certificate**. However, it cannot do this without a recommendation from your organization. So far, it is a long way from archiving this goal. In order to be successful, it will need to:
 - Invest not less than **\$9,000** in a **Sustainability Campaign**
 - Buy at least **50 tonnes** of local products
- You cannot consider a waste management system to be effective unless it includes the **informal economy**. You are certain this would save a large amount of money; studies indicate that every **25 tonnes per year** collected by the informal sector implies a saving of **\$1000**. You are here to defend the interests of informal workers and they have told you that they could collect up to **125 tonnes per year**. You have to convince the Mayor to give them the necessary licence to do so.
- You think the landfill should be created on the island as soon as possible. The options available and the potential costs of building the landfill dump are:

Small landfill (450 tonnes)

Set up cost: building the landfill	\$25,000
Waste management per year (collecting, processing and composting)	\$5,500
Transport per year	\$2,500
Total	\$33,000

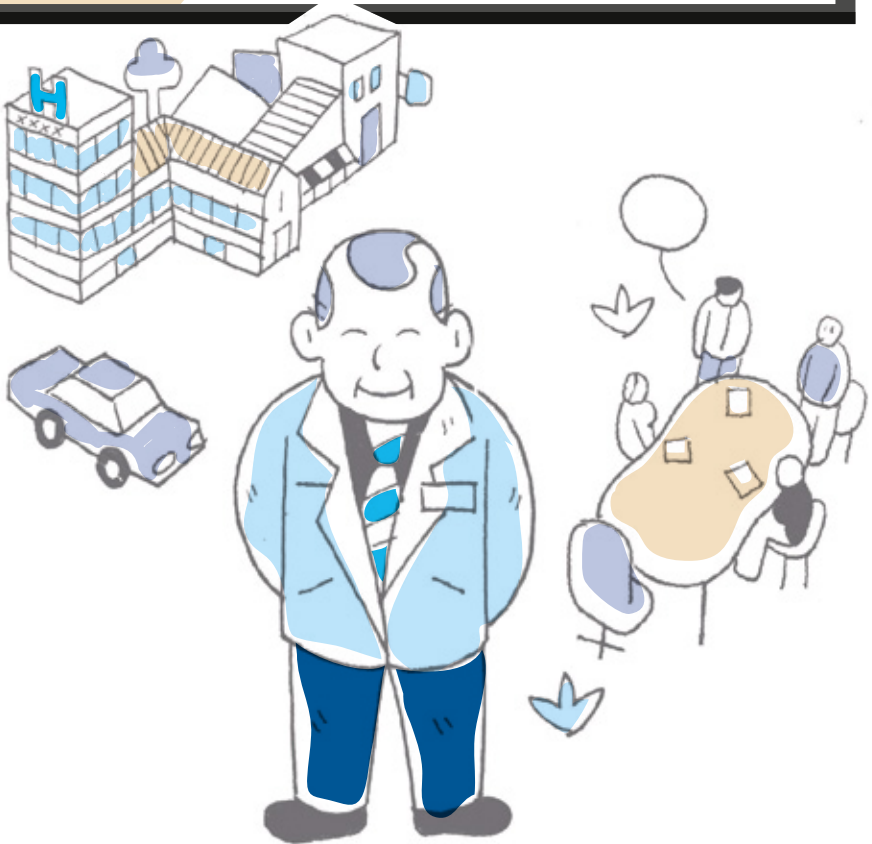
Big landfill (600 tonnes)

Set up cost: building the landfill	\$35,000
Waste management per year (collecting, processing and composting)	\$6,500
Transport per year	\$3,500
Total	\$45,000

You are sure that there is a way to find the resources necessary to construct the landfill dump and fully meet the island's needs. Use your knowledge and analytical skills to help to find the best possible solution.

Your main goal is to find new green solutions to environmental problems. Use your knowledge and analytical skills to find the best possible solution.

Role play about the circular economy: The case of waste management



President of
the Tourism Board

1.

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the director of the Tourism Board, an Ecological NGO and the Head of the Municipal Waste Service.

3.

Who you are

As the **President of the Tourism Board** you represent the interest of the local tourism businesses. The ecological scandal has already adversely affected the number of tourists visiting the island and your board will do anything to rebuild its reputation. You believe investing in an advertising campaign and showing the public a more ecological side of Bonito Island's tourism is the best way to proceed.

4.

Your interests

1. You held an assembly of all the hotel owners on the island and they have pledged **\$40,000** to help solve the crisis. This is the maximum amount you can spend during the negotiation.
2. You think the landfill is necessary and it should be mainly paid by the municipality. However, you are willing to consider participating financially in a symbolic way. You can learn about the costs of the landfills from other stakeholders.

3. Your main goal is to put an end to the crisis affecting the local tourism sector. You can do this by investing in a powerful and **effective PR campaign** to attract more tourists . For a good quality campaign you would have to pay a PR Agency **\$15000**. If you invest less than **\$8,000** in a PR campaign, the members of your board may not support your plan.
4. One of your main goals is to rebuild the island's reputation as a perfect holiday destination. In order to do this you need to obtain an international **certificate of Eco-Tourism**. This will not be possible without the backing of the **Ecological NGO**. In order to get their support, you are willing to introduce energy and water-saving solutions at the hotels and to invest in a sustainability campaign, if sufficient funding is available.
5. You have worked with local farmers in the past but you have never signed any official agreements with the Agricultural Cooperative. Now you are considering doing so and you are open to negotiation. Local hotels may easily consume **30 tonnes** of local products a year but it would probably be interesting to buy a bigger amount of good quality local food, and to sell this to guests as added value "Okm cuisine". Buying 70 tonnes is your absolute maximum (however risky). Ideally you would like to pay

\$90/tonne of products, and you are not able to pay more than **\$120/tonne**.

6. You do not think that including workers from the informal economy would be a good idea. From your experience you know the informal waste collectors working on the beaches do not make the best impression on guests and you are not willing to take risks.

Your main goals are to put an end to the crisis caused by the ecological scandal and to promote an increase in tourism.

Role play about the circular economy: The case of waste management



Head of the Municipal
Waste Service

1.

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to take part in the process of finding a solution: an Agricultural Cooperative, the director of the Tourism Board, an Ecological NGO and the Head of the Municipal Waste Service.

3.

Who you are

You are the **Head of the Municipal Waste Service**. Until now, local stakeholders have not been interested in improving the archaic (or even non-existent) waste management system on Bonito Island, but the current difficult situation has made them understand that important changes need to be done. Your knowledge and experience in waste services will be crucial to find the best possible solution. You will also be the person responsible for making sure that the **negotiated agreement is financially feasible**.

4.

Your interests

1. You believe that it is crucial to finally build the landfill on the island and that investing in a big one (600 tonnes) seems to be the most efficient option. Available options and potential costs of building the landfill:

Small landfill (450 tonnes)

Set up cost: building the landfill	\$25,000
Waste management per year (collecting, processing and composting)	\$5,500
Transport per year	\$2,500
Total	\$33,000

Big landfill (600 tonnes)

Set up cost: building the landfill	\$35,000
Waste management per year (collecting, processing and composting)	\$6,500
Transport per year	\$3,500
Total	\$45,000

2. You are willing to look for cheaper ways of transporting waste. If this is not possible, the municipality will take care of the transportation, which will cost from **\$2,500 (for a small landfill)** to **\$3,500\$ (for a big landfill)**.
3. You believe the waste management system needs to be improved and if the best way to do that is to include the **informal economy**, you will support that. This would help to make the landfill more sustainable.
4. Based on your expertise 50% of the waste produced every year is organic. The most profitable option for you would be to sell it locally. One of the best ways to do this would be to

negotiate with the Agricultural Cooperative. Each year you are able to sell around 150 tonnes of compost, your goal is to sell all of it and the Cooperative could be a potential buyer. You are willing to accept \$53-60 for a tonne of compost. If you manage to sign a contract it will directly reduce the yearly cost of maintaining the landfill.

Your main goal is to improve the system of waste management of Bonito Island. Use your knowledge and experience to find the best solution to the current crisis.

Integrated management and circular economy require from local governments to reflect different perspectives, to consider new solutions and to make pragmatic decisions in consolidation with the involved actors. In our municipalities there are many examples of circular economy, such as recycling campaigns, promotion of local consumption or the municipal purchasing policies.

The objective of the game

This group dynamic allows the players to discuss and evaluate the impact of different solutions by playing with various possible scenarios.

The objective of the game is to understand the concept of the circular economy, and the variables that influence decision-making relating to waste management, and the positioning and behaviour of different actors. It also seeks to improve their capacity to debate and look for joint solutions. **The game makes a significant contribution to meeting SDGs and, in particular, goal 12: responsible production and consumption.**

5 players will participate



The President of a Farmer's Cooperative



Technical leader
- Head of waste services



The Spokesperson
of the Tourist
Board



The Mayor



An NGO that represents
the interests of the
informal economy and
the environment

**If possible, we will listen to a real-life experience
and share the lessons learnt!**



With the support of:  European Commission

