

Learning pack #4

Teaching materials for schools and educational institutions
For students aged 12 to 16 years old



When food becomes trash

Environmental impacts of food waste and food loss



Imprint

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Editorial

When Luis opened his fridge, I was surprised. Fresh strawberries, asparagus, avocados and huge quantities of meat, including steak, sirloins and chicken, filled the shelves. But this wasn't the fridge of a comfortable family, instead it belonged to students in a shared apartment in the German state of Bavaria. The five young people lived from groceries others had discarded. Once a week in the early evening, they went to a nearby supermarket to search through large garbage containers for edible food that had been thrown away for being past its shelf life. Most of the food they found was still in good shape. Luis, a Colombian studying in Germany, found it amusing: "I come to live in Germany and end up eating garbage."

That was in 2015. While researching the topic back then, it was already clear to me that something was wrong in our society if so much perfectly good food was being dumped. My homeland, Germany, is among the most affluent industrialized countries – and is one of the biggest culprits when it comes to food waste. It's a problem across Europe too, as the infographic in our learning pack shows. Europeans discard 95 kilograms (205 pounds) of food each annually – a shocking number.

However, my visit to the student flat made one thing clear to me: I couldn't pass the buck. It was time to examine my own behavior. Too often had I just tossed out food that my family didn't eat. Why had I balked at the idea of giving my children a slightly brown banana or a squishy tomato? I discussed it at home with my family and one thing that emerged from that conversation was the realization that we had to value food again, and not just carelessly consume. We also resolved to only bin food that was spoiled. But to ensure that happens, we must carefully plan our shopping list. We're only allowed to buy what we really need. Unfortunately, it doesn't always work out. My family and I are still working on it.

Our latest learning pack "When food becomes waste" shines a light on the drivers of food wastage and its consequences for the environment and climate. Where in the production process do we lose food? Where is the most food wasted and why? How can I cut down on the amount of food that ends up in the trash?

I hope you enjoy finding out more about this important issue.

Yours faithfully,



Manuela Kasper-Claridge

*Project leadership Global Ideas
Deputy editor-in-chief, Deutsche Welle*



Introduction

This booklet is part of the learning pack “When food becomes trash” published by Deutsche Welle (DW) and was compiled by the editorial team from the environmental series Global Ideas in cooperation with the DW Akademie education program. It is aimed at children between the ages of 12 and 16 and their teachers, as well as environmentally minded young people and eco groups.

The pack includes **worksheets** for students and explanatory **handouts** that will help teachers and educators to prepare and implement lessons. The learning pack consists of four modules, which include educational material in the form of **articles**, **films** and a **poster**.

The print version of the learning pack includes a **DVD** containing all the educational material. Alternatively, the content is also available for free download on the Deutsche Welle website. Click here for previous learning packs on other interesting environmental issues: dw.com/learning-environment



Icon for worksheets



Icon for handouts

Structure

Module I

In the first module “My food, my food waste,” project participants are introduced to the subject through a game that draws their attention to their own eating and consumption habits. In the next step, they are made aware of the food waste they generate and that is generated around them.

Module II

The second module looks at how food wastage comes about globally and the resulting environmental problems. How much food ends up in the trash? Who produces food wastage? What are the reasons for it? To what extent does food wastage damage the climate? Using the poster “Food wastage from the field to the plate,” the terms food wastage, food loss and food waste are introduced and explained. Participants will then be invited to contemplate their own food wastage and to research what happens to their garbage.

Module III

The third module, “Ideas to counter food wastage in politics and business,” presents concrete solutions from Spain, South Africa and Denmark. To begin with, the participants play an active role by taking part in a brainstorming session to develop their own possible solutions to the problem.

Module IV

The fourth module, “Ideas to counter food wastage when shopping and cooking,” explores participants’ personal experiences. They present simple, easy-to-implement measures that participants could integrate into their daily lives. In small groups, they can then go looking for local projects designed to prevent food wastage and can present these to the rest of the class.

The following table offers an overview of the modules, including how long each one takes, a short description of the content and learning objectives, as well as a note about any materials required. The modules build on each other but can also be shortened or used in isolation.

Module overview

Module I – Individual dimensions

My food, my food waste

Duration	Content	Learning objectives	Materials and implementation
40 min	My food – introduction to the subject through a game	To raise awareness of how we deal with food	Handout 1 Worksheet 1.1 Worksheet 1.2 Scissors
35 min	My food waste – keeping a food waste diary and evaluation session in a group	To reflect on the amount of personal food wastage and the reasons for it	Handout 2 Worksheet 2

Module II – Problem and background

Where and why does food wastage occur, and what are the resulting environmental problems?

Duration	Content	Learning objectives	Materials and implementation
25 min	From food production to retail to the consumer – where does food wastage occur?	To introduce the subject of global food wastage	Film 1 “Why one third of our food goes to waste” dw.com/p/3HKnG Handout 3 Worksheet 3
35 min	Explanatory terms and background	To explain the difference between food loss and food waste	Poster “Food wastage from the field to the plate” Felt pen/marker Worksheet 4
40 min	Example of how food waste is generated in India	To recognize the reasons for, and the extent of, food wastage in an emerging economy	Film 2 “Food for the dump” dw.com/p/1HXjt Handout 5 Worksheet 5
35 min	Example of how food waste is generated in Africa	To recognize the reasons for, and the extent of, food wastage in developing countries	Article 1 “Feeding more by wasting less” dw.com/p/1Isrk Handout 6 Worksheet 6
30 min + research	Research: Where does my food waste end up?	To recognize the effects of our own food wastage on the environment	Handout 7
45 min	Connection between food wastage and climate change	To understand the global impacts of food wastage on the environment To look at the issue from different angles	Article 2 “Fighting climate change by tackling food waste” dw.com/p/3H17s Handout 8 Worksheet 8.1 Worksheet 8.2 Scissors

Module III – Structural element

Ideas to counter food wastage in politics and business

Duration	Content	Learning objectives	Materials and implementation
55 min	Brainstorming for a world without food wastage	To develop individual ideas	Handout 9 Worksheet 9
40 min	Example of an initiative against food wastage in Spain	To understand and evaluate “crowd farming” as a means of reducing food waste in the retail sector	Film 3 “Spanish orange farmers invent crowd farming” <i>dw.com/p/2YKCI</i> Handout 10 Worksheet 10 Internet access where applicable
35 min	Example of initiatives to counter food wastage in South Africa	To understand and evaluate different initiatives to counter food wastage in an emerging economy	Film 4 “Waste food and emissions: Landfill or the plate?” <i>dw.com/p/39UbZ</i> Handout 11 Worksheet 11
60 min	Example of initiatives to counter food wastage in Denmark	To understand political measures against food wastage and formulate individual ideas	Article 3 “Denmark leads Europe in tackling food waste” <i>dw.com/p/1JQiA</i> Handout 12 Worksheet 12 Internet access where applicable


Module IV – Possible solutions

Ideas to counter food wastage when shopping and cooking

Duration	Content	Learning objectives	Materials and implementation
40 min	Example of how to avoid food waste in Germany	To prompt a change in personal shopping and eating habits	<p>Film 5 “Saved from the supermarket” dw.com/p/2kFV1</p> <p>Handout 13 Worksheet 13</p> <p>If applicable, materials for a poster</p>
40 min	Example of how to avoid food waste in Brazil	To introduce cooking ideas and recipes that result in minimal food waste	<p>Film 6 “Brazil: Cooking their way out of poverty” dw.com/p/30Yj6</p> <p>Handout 14 Worksheet 14</p> <p>If applicable, space and appliances for cooking</p>
50 min + research	Research: Are there any local models and solutions against food wastage?	To get to know local and regional initiatives to counter food wastage	Handout 15



My food – Introduction to the subject

 **Duration: 40 minutes**

As an introduction to the subject, play a mime game. Copy **worksheet 1.1**, cut the cards out and shuffle them.

» **Worksheet 1.1**

One person takes a card without letting anyone else see it and acts out how they eat or drink the item depicted on it. The others guess what food or drink is being acted out. Once it's been guessed, it's the next person's turn. Alternatively, the participants can think of a foodstuff of their own that they want to act out. It's important to ensure as broad a mix of items as possible (fruit, meat, sweet items, drinks etc.) **15 minutes**.

Distribute **worksheet 1.2** to the participants. Give them time to write answers to the questions. **10 minutes**

» **Worksheet 1.2**

Let the participants compare their answers in small groups. **5 minutes**

In the whole group, the small teams can talk about differences, similarities or even peculiarities. **10 minutes**

Optional extra: group breakfast

As an introduction to the subject, you can organize a group breakfast with participants. They plan the event with the aim of ensuring that everyone feels they have eaten enough, while also making sure there are no leftovers.

After the group breakfast, look to see if there are any leftovers. If there are, what would the participants usually do with them, and what else could be done with them? What do the participants' families do with leftovers? Discuss this in the group.



My food – Introduction to the subject



Banana	Apple	Ketchup	Milk
Spaghetti	Burger	Chocolate	Tea
Cola (can)	Corn on the cob	Chicken leg	Candy
Bread roll	Honey	Nuts	Ice cream
Fish	Lemon	Salt	Hard-boiled egg
Cake	Steak	Potatoes	Soup
Yoghurt	Pizza	Chips	Muesli



My food – Introduction to the subject

1. How often do you shop for food? How often do your parents or other family members shop for food?

.....
.....

2. What did you eat yesterday? Where did you eat and with whom?

.....
.....
.....
.....

3. Were there any leftovers? If so, how much and what did you do with them?

.....
.....
.....
.....

4. If you could decide for yourself what to eat during the course of a day, what would you change?
Would you eat more or less? Would more or less be left over than is currently the case?

.....
.....
.....
.....



My food wastage

 **Duration: 35 minutes**


Distribute **worksheet 2** to the participants. For the next few days, they should keep a “waste journal.” In worksheet 2, they note down what they threw away and why. **5 minutes**

» **Worksheet 2**

It would make sense to continue keeping the journal for the duration of the learning pack. If there’s no opportunity to keep the journal for several days, ask the participants to note down what foodstuffs they threw away the day before and why.

Working with the participants, present the results to the whole group. Ask the group to add up the discarded items as listed by each participant. How much was wasted in total? What would be the monetary value? Did they expect there to be as much waste as there was, or are they surprised? Ask them if their awareness of food wastage has changed. Discuss this in the group. **30 minutes**

Optional extra: Using visual aids

 **Duration: 40 minutes**

You can then split the participants into groups and ask them to discuss their findings. After that, they can work together to create a poster or a collage in which they clearly show the amount of discarded food and the reasons for it having been thrown away. If the necessary technical requirements can be met, ask the participants to take photos of discarded food they see as they go about their daily lives. They should bring the photos to the next session and add these to their collages.




My food waste: journal

	What foodstuffs did you throw away?	Why did you throw the items away?	How much, roughly, did they cost?
Day 1			
Day 2			
Day 3			
Day 4			



From production to the consumer: Where does food wastage occur?

 **Duration: 25 minutes**

Distribute **worksheet 3** to the participants. Initially, they should only complete the upper section, deciding whether or not the statements are correct. **10 minutes** » **Worksheet 3**

Show **film 1** “Why one third of our food goes to waste” from the website dw.com/p/3HKnG or from the DVD. **5 minutes** » **Film 1**

If required, you will find instructions on how to play the films on the last page of this learning pack.

Ask the participants to complete the bottom part of the worksheet. The statements are the same as those to which they already responded. **5 minutes**

Were their assessments correct? What answers did they give this time? Discuss the answers in the group. **5 minutes**

Answers

1. False, we can survive without food for a few weeks, and a maximum of two months
2. False, of the nearly 8 billion people on the planet, almost 800 million people (one in 10) don't have enough to eat
3. Correct
4. Correct
5. Correct
6. False: Even wasted food emits CO₂, which damages the environment



Questions on the video explainer: “Why one third of our food goes to waste”

Before watching


- | | | |
|--|----------------------------|-----------------------------|
| 1. Humans can't survive for longer than a week without food. | <input type="radio"/> true | <input type="radio"/> false |
| 2. There are 8 billion people in the world. Half of them don't have enough to eat. | <input type="radio"/> true | <input type="radio"/> false |
| 3. There is enough food on the planet for everyone. | <input type="radio"/> true | <input type="radio"/> false |
| 4. A third of food produced ends up being discarded. | <input type="radio"/> true | <input type="radio"/> false |
| 5. By 2050, there will be 10 billion people in the world. | <input type="radio"/> true | <input type="radio"/> false |
| 6. Discarded food doesn't damage the environment. | <input type="radio"/> true | <input type="radio"/> false |
-

After watching

- | | | |
|--|----------------------------|-----------------------------|
| 1. Humans can't survive for longer than a week without food. | <input type="radio"/> true | <input type="radio"/> false |
| 2. There are 8 billion people in the world. Half of them don't have enough to eat. | <input type="radio"/> true | <input type="radio"/> false |
| 3. There is enough food on the planet for everyone. | <input type="radio"/> true | <input type="radio"/> false |
| 4. A third of produced food ends up being discarded. | <input type="radio"/> true | <input type="radio"/> false |
| 5. By 2050, there will be 10 billion people in the world. | <input type="radio"/> true | <input type="radio"/> false |
| 6. Discarded food doesn't damage the environment. | <input type="radio"/> true | <input type="radio"/> false |



Explanatory terms and background: Food waste and food loss

 **Duration: 35 minutes**

Begin by explaining these terms to the group. **10 Min**

Food wastage *Food loss* *Food waste*

Definition of terms according to the UN Food and Agriculture Organization (FAO)

Food wastage is a collective term that includes:

- *Food loss*: Food that is lost before it reaches the consumer (agriculture, processing, transport and storage)
- *Food waste*: Food that is thrown away by retailers, consumers and in the gastronomy sector

Note: This learning pack does not talk about unavoidable food wastage such as meat and fish bones, cheese rind, banana peels or coffee grounds. The term “food wastage” refers her to avoidable food loss and waste.

Show the participants the **poster** “Food wastage from the field to the plate” and discuss it with them. Together with the group, insert the following terms in the correct places on the poster. **10 minutes**

Gastronomy *Processing* *Retail* *Transport and storage* *Consumers* *Agriculture*

Answer (see graphic on handout 4)

When you've finished, hang up the poster in the classroom and leave it there for the duration of the learning pack. During subsequent lessons, you can refer to it to see where the subject you are discussing would best fit along the food loss and food waste chain.

Distribute **worksheet 4** and let the participants complete it. **10 minutes**

» **Worksheet 4**

Discuss the results in the whole group. **5 minutes**

Answers

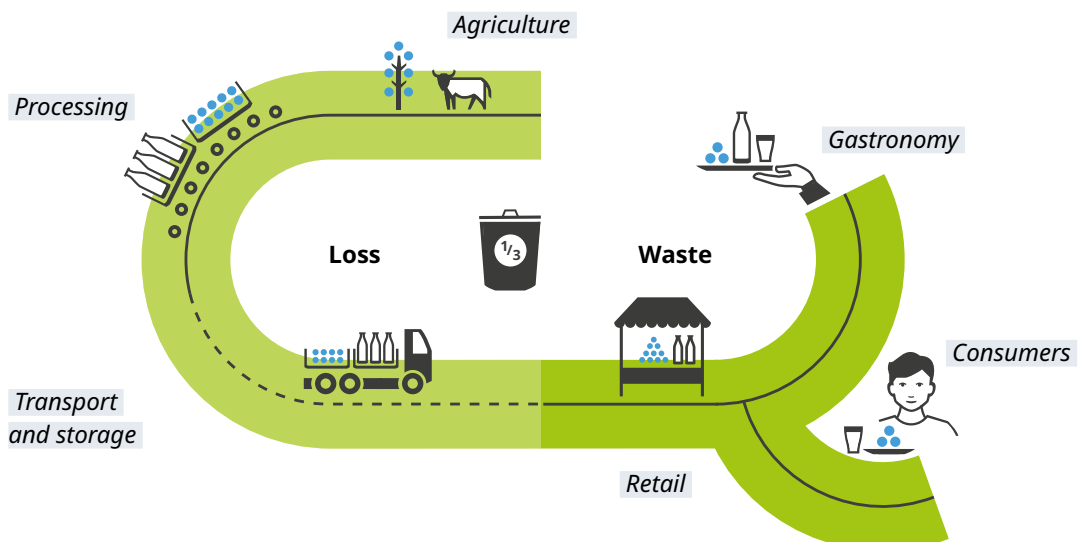
1) Transport and storage, 2) Consumers, 3) Agriculture, 4) Gastronomy, 5) Consumers, 6) Retail, 7) Agriculture, 8) Gastronomy



Explanatory terms and background: Food waste and food loss

Write down which of the six stages shown on the graphic would best describe where the following examples of food waste occur. Then decide if it was “waste” or “loss.”

1. A tanker has an accident and the milk inside spills all over the highway.
Stage: Waste
 Loss
2. Marie forgot the yoghurt at the back of the fridge. It has now passed its expiration date, so she throws it away. Stage: Waste
 Loss
3. When harvesting, a farmer leaves small potatoes in the field because nobody would buy them. Stage: Waste
 Loss
4. The all-inclusive hotel offers a buffet every morning. When items run low, they are topped up to ensure that the guests all have a wide choice. What's left over is thrown away. Stage: Waste
 Loss
5. Monika's young daughter prefers to eat apples and cucumber without the skin because they're easier to chew. Monika throws the skins away. Stage: Waste
 Loss
6. A bakery didn't sell all its rolls. It will be difficult to sell them tomorrow. Stage: Waste
 Loss
7. The plum trees are laden with fruit, but because there is currently no demand, the plums are left to rot on the tree. Stage: Waste
 Loss
8. The portion sizes in Café Blau are just too big. Half of today's guests didn't finish what they ordered. Stage: Waste
 Loss



Example of how food waste is generated in India

 **Duration: 40 minutes**

Before you show the film, write the different food items (e.g. bread, milk, tomatoes, apples, carrots, juice, onions, eggs) on the board. The participants discuss how best to keep and store them. If they're not sure, they can research the answers. Put the results under each item on the board. **10 minutes**

Distribute **worksheet 5**.

» **Worksheet 5**
» **Film 2**

Show **film 2** "Food for the dump" from the website dw.com/p/1HXJt or the DVD. **5 minutes**

If required, you will find instructions on how to play the films on the last page of this learning pack.

Let the participants answer the questions while the film is running, and then give them some additional time to complete their answers once it has finished. **15 minutes**

Discuss the results with the whole group. Let them refer to the **poster** "Food wastage from the field to the plate" to see where the examples shown in the film would best fit along the food waste and food loss chain. **10 minutes**

» **Poster**

Answers

1. They rot.
2. 60%
3. The monsoons, abundant rain, strong heat
4. Small-scale retailers can't afford cool storage. And in India, there are few large supermarkets that can afford it.
5. The grain is stored out in the open and is therefore not protected from the elements.
6. The food goes bad very quickly, often before it is sold. That is in part because of the weather conditions, but also because of poor storage and transport conditions. For example, food items are often not cooled because small-scale retailers can't afford it.



Questions on the film “Food for the dump”

1. What happens to food that the vegetable trader can't sell?

.....
.....

2. What percentage of the food produced in India gets thrown away before it is even sold?

.....
.....

3. Which weather conditions are bad for the food?

.....
.....
.....

4. What reasons are given for the lack of facilities to cool food?

.....
.....
.....

5. What are the problems facing the state grain storage facility shown in the film?

.....
.....
.....

6. Summarize why so much food is thrown away in India.

.....
.....
.....
.....
.....



Example of how food waste is generated in Africa

 **Duration: 35 minutes**

Distribute **article 1** "Feeding more by wasting less" among the participants. You will find a copy of it here or under this link: dw.com/p/1Isrk

» **Article 1**

Let the participants read the text quietly or choose one person to read the article out loud. **15 minutes**

Distribute **worksheet 6** and give the participants enough time to complete it. **10 minutes**

» **Worksheet 6**

Discuss the results with the whole group. **10 minutes**

Invite them to identify where post-harvest losses appear on the **poster** "Food wastage from the field to the plate."

» **Poster**

Answers

1. Food that gets damaged or contaminated after the harvest, for example during storage or transport, and is inedible as a result.
2. Reasons:
 - Many people could be fed from food that is lost.
 - Farmers incur financial losses.
 - It is bad for the environment because destroyed food also requires water and land, which are in short supply in some regions.
3. Research is being done to see exactly where food loss occurs. Farmers should be equipped with technology for better storage.
4. 60% of produced food is lost.

The initiative YieldWise is investing \$130 million to find solutions to post-harvest loss in Africa.

1.3 billion tons of food is destroyed every year.

The tuberous root, cassava, spoils within 24 to 72 hours after harvest.

Small-scale farmers in developing countries lose 15% of their income to post-harvest losses.

Feeding more by wasting less

A third of the food we produce throughout the world actually never gets eaten. We're talking about so-called post-harvest loss. It's a huge waste of resources, and stemming it could help eliminate hunger.



Lots of food is thrown away in industrialized countries

When it comes to feeding the world, the focus is usually on increasing food production but a vital point is often overlooked: how much of the food that is grown never reaches the plate. This so-called post-harvest loss has a profound impact, particularly in developing countries. A new \$130-million (116-million-euro) initiative launched this year by the Rockefeller Foundation in Africa is working on ways to tackle the problem.

"In Africa, we face a lot of challenges with agriculture, particularly around food security," Mamadou Biteye, Managing Director for Africa at The Rockefeller Foundation told DW. "There is a general perception that Africa is facing a production gap but the reality is that Africa can feed itself." The problem, he concedes, is post-harvest loss.

"Africa produces 100% of what it needs [in terms of food], but 60% of that production is lost!"

A 2011 study commissioned by the Food and Agricultural Organization of the United Nations (FAO) concluded that one third of all food produced throughout the world for human consumption is lost. That amounts to 1.3 billion tons of food per year.

Waste of resources

Whereas in many developed countries, the biggest problem associated with post-harvest loss is food going to waste, which could still be eaten, the problem in many poorer countries lies in the production process.

The situation is particularly bad when it comes to fruits and vegetables. In Africa, half of them never make it to the market. Overall, 40% of all staple foods go to waste. The reason is often inadequate storage in the places where the food plants are harvested.

Cassava, for example, a starchy tuberous root that is a major staple food in large parts of the developing world, spoils within 24 to 72 hours after harvest unless it is processed. Damage to food plants during processing or transport are additional problems.

"Post-harvest loss, has been an issue for decades but people did not take it very seriously," Prasanta Kalita, director of the ADM Institute for the Prevention of Postharvest Loss at the University of Illinois, told DW.

"Then, in 2011, the FAO published a study that said that by 2050 the world population would be close to 9.5 billion. By then, we will need a lot more food." That was a shock, Kalita says, and suddenly, the fact that a third of all food we produce today is lost or wasted became an important issue.



For many people in Africa, reducing food waste is absolutely crucial to survive

More than food security

And there is more to the issue than just producing enough food for the world. On average, small farmers in developing countries lose as much as 15% of

their income to post-harvest loss. This affects a staggering 500 million farmers. For many of them, losing 15% of their income can be the difference between providing for their families and going hungry.

Furthermore, there is the environmental impact. "About 25% of global fresh water and one-fifth of global farm land is used every year to grow crops that never get eaten," says Biteye. "Both water and arable land are scarce in many parts of the world and when we need more of both to feed the growing population it often means the destruction of ecosystems and the overall biodiversity in those places."

Not one problem but many



Technologies make quick processing and a longer shelf life possible

Given that reducing post-harvest loss would provide so many benefits, it may seem surprising that there hasn't been a sensational breakthrough in solving the problem. Part of the reason for that is that the focus has been elsewhere: "Most investments in agriculture go towards improving productivity," says Biteye. "Less than 5% goes towards post-harvest management." To make matters worse, post-harvest loss isn't one problem, it's many.

There are several stages along the value chain where the losses can occur. The first is often during storage immediately following the harvest but the crops can also be damaged, contaminated or lost during processing, transport or storage at a later stage as well. Factors like humidity, temperature and pests, which are unique to a particular location, can be important factors as well.

"The losses are different from country to country, even among developing countries," Kalita explains.

"For, let's say rice, the losses are different in India than they are in China, not to mention that they differ significantly from crop to crop."

Another huge problem is cost. A number of companies have developed innovative ways to dry food or store it in airtight containers. "But the farmers still can't afford them," Kalita says. That's why for Kalita, developing low-tech solution or taking existing local storage or drying techniques and improving them is an important part of reducing post-harvest loss.

He emphasizes education as well: "People need to know that post-harvest loss can be reduced, and even prevented, and there are the things that we can do. So when people see positive results, I think slowly, they'll join."

Catalytic investment

With \$130 million, YieldWise is not a small endeavor, but Biteye concedes that it won't be enough to single-handedly solve the problem. "This is a catalytic investment in initially four value chains, which are representative of all crop categories," he explains.

"We are focusing on mango in Kenya, and tomato in northern Nigeria to demonstrate this model within the fruits and vegetables crop categories." Correspondingly, to find solutions for cereals and grains, they will look at maize production in Tanzania; for roots and tubers, they will investigate how cassava are grown in Nigeria and how post-harvest loss could be reduced there.

"The power of philanthropic dollars is that we can invest in innovation, in demonstrating what can work and what can't and then we think that other actors like the government or the private sector, who have a stake in this, will take up the solutions and take them to scale," Biteye says.

"And then, hopefully, these solutions can be applicable to other, similar value chains in other countries."

YieldWise's goals are ambitious: By 2030, the initiative aims to cut post-harvest loss by at least half.

25.05.2016

Harald Franzen (Text)
dw.com/p/1Isrk



Questions on the article: Feeding more by wasting less

1. What are post-harvest losses?

.....
.....

2. Why are post-harvest losses a problem? Give three reasons.

1.
.....
2.
.....
3.
.....

3. What is being planned to improve the situation?

.....
.....
.....

4. What do these figures represent? Look at the article carefully and complete the sentences.

- 60%
- \$130 million dollars
- 1.3 billion tons
- 24 to 72 hours
- 15%



Research: Where does my food waste end up?

 **Duration: 30 minutes + research**

Ask the participants what happens to the food they throw away at home. Do they discard it with all other general waste, such as plastic packaging, glass, etc.? Or do they have a compost bin especially for organic waste? Perhaps this is then put on a compost heap in the garden, or used as animal feed? **15 minutes**

If the waste is collected by a refuse company, ask the participants (possibly as homework) to research what happens to the organic trash once it has been gathered up and taken away. Does it go to landfill, to be incinerated or to a biogas facility? Is it used to generate power?

After their research, participants collect their answers and discuss the following question: What effect does the way food is treated in your region have on the environment? Do they have other ideas about what could be done with the wasted food? **15 minutes**



Connection between food wastage and climate change

Duration: 45 minutes

Distribute **article 2** "Fighting climate change by tackling food waste" among the participants. You will find a copy of it here or under this link: [dw.com/p/3H17s](https://www.dw.com/p/3H17s)

» **Article 2**

Let the participants read the text quietly or choose one person to read the article out loud. **10 minutes**

Then distribute **worksheet 8.1** and give the participants enough time to complete it. **5 minutes**

» **Worksheet 8.1**

Discuss the results with the whole group. **10 minutes**

Return to the **poster** "Food wastage from the field to the plate" and ask participants to determine where Jonas Korn and the organization "foodsharing" would best fit along the food waste and food loss chain.

» **Poster**

Answers

1. Most is wasted in North America and Oceania, least is wasted in countries in sub-Saharan Africa.
2. Most is thrown away in wealthy industrialized nations.
3. Meat production does more harm to the environment than the production of bread, because cows generate vast quantities of climate-damaging methane.
4. Food in landfill rots, releasing climate-damaging gases.
5. 45% of fruit and vegetables produced and 20% of meat produced get thrown away.
6. Having a compost heap in the garden or using a biogas facility for larger quantities of organic waste.

Copy **worksheet 8.2** and cut out the six role-playing cards. Ask six volunteers to the front of the class. Give each of them one of the role-playing cards. The six people are now going to take part in a talk show on the topic of "Food wastage – who is responsible?" Write the title on the board. You, or another volunteer plays the part of a moderator. The discussion begins with each of the six presenting their role. **20 minutes**

» **Worksheet 8.2**

Fighting climate change by tackling food waste

One-third of all food worldwide ends up in the garbage, with industrialized countries contributing the most. A new foodsharing platform wants to help tackle the impact this has on our climate.



Jonas Korn helps prevent food waste in Leipzig

It's raining cats and dogs as Jonas Korn rescues baked goods from being thrown away. It is midday on a Saturday and the Falland bakery in the south of Leipzig is getting ready to close. Five baking trays with cakes, donuts and fruit pastries are lined up on a long counter in the entrance area. Behind it, 10 boxes are stacked with rolls, croissants and loaves of bread.

"If you were to put all this in a trash can, it would be full. It would fill a 120 liter dumpster," muses the 26-year-old student.

In order to make sure the leftover products are distributed instead of discarded, Jonas has brought reinforcements: three fellow campaigners from the organization Foodsharing. The online platform links more than 50,000 "food savers" with businesses that want to give away food for free instead of throwing it away.

"According to 2011 estimates, one-third of all food produced globally ends up in the garbage," says Rosa Rolle, head of the Food Loss and Food Waste Project at the Food and Agriculture Organization of the United Nations (FAO).

In total, that is 1.3 billion tons of food per year that goes uneaten. The FAO estimates that collectively this food waste has a CO₂ footprint of 3.6 gigatons. These figures don't include the CO₂ emissions produced

when forests are cleared for animal farming or to create soybean or palm oil plantations. In other words, if food production were a country, it would be the third largest CO₂ emitter in the world after the US and China.

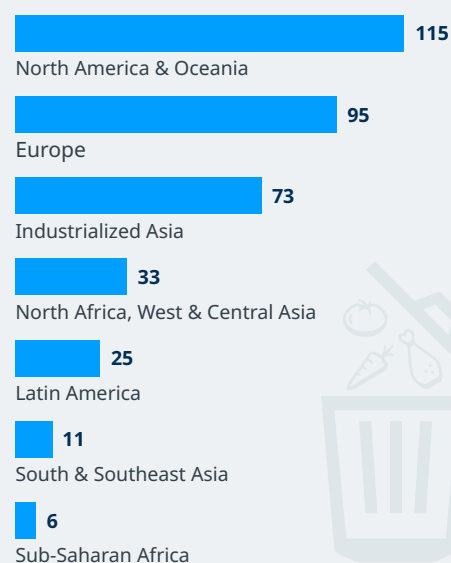
The 'haves' throw away a lot of food

The majority of food waste is produced by the high-income industrialized countries. According to FAO estimates, Europeans on average throw away 95 kilograms (209 lbs) of food annually per person. In the low-income African countries south of the Sahara, it is only 6 kilograms.

Some food groups are more resource-intensive than others. Meat is by far the worst for the climate, partly because cattle and other ruminants generate large amounts of methane, a greenhouse gas that is about 25 times more harmful to the climate than CO₂. In the case of cows that amounts to several hundred liters of gas every day. As a result, according to the environmental organization Greenpeace, roughly 13 kilograms of CO₂ is released per kilogram of beef, compared to only 0.75 kilograms of CO₂ for a typical loaf of brown bread.

Food wasted by consumers

Per capita in kg/year



Source: FAO, *Global food losses and food waste* (2011) ©DW



Meat that is thrown away is therefore far more problematic for the environment than most plant-based foods, all the more so because 20 percent of the world's meat products end up in the bin. That's equivalent to 75 million cows a year, according to the FAO.

Tackling the mountains of food waste

"Despite some progress and good initiatives for redistribution, too much food still ends up in landfills, releasing even more climate-damaging gases into the atmosphere," says Rolle. Regardless of whether it's bread or meat, it continues to contribute to climate change, as organic waste rots in landfills and releases methane gas.

"In the EU, for example, this is still the case in the small island nation of Malta," says Stefanie Siebert from the European Compost Network (ECN), an association of European companies from the

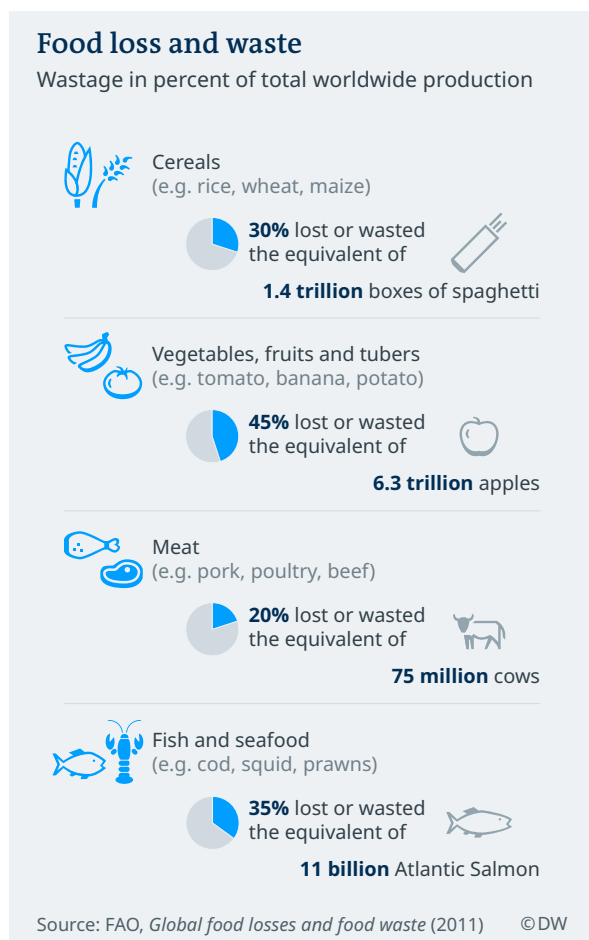
bio-waste industry. Although landfill methane gas can be captured and used to generate electricity, that can't happen until the landfill is closed. "As long as waste is still being transported to the landfill, the climate-damaging gases escape unhindered into the atmosphere," she says. So what are the alternatives?

Turning waste into a source for clean electricity?

"First and foremost, we have to try to avoid food waste," said Siebert. But ultimately, eco-friendly recycling of food waste needs to happen not only among individuals but at an industrial level. This can happen, for example, in biogas plants. Here, the gas produced by decomposing food waste can be used much more effectively than at the landfill. The facilities continuously generate electricity and heat, which, depending on the system, can also be fed into the grid. What remains is the fermentation product. "This remaining product from the biogas plants is fluid," says Siebert. Further composted with wood materials, it can be turned into high quality compost. But so far, only 17 percent of organic waste within the EU is composted or fermented.

One of the places where this happens is Leipzig, but for Jonas Korn and his three companions that is no reason to waste food: "Then you may as well throw the whole supermarket in the biogas plant," jokes Korn. The four of them carry bulging bags out of the small bakery. "I eat a lot myself and give away a lot to friends and acquaintances," says Carolina, a young woman who has been energetically packing the bags. But Korn emphasizes that welfare institutions are given priority.

Korn checks again to see if all bags are well secured in the bicycle trailer. The rain has not let up. "Hopefully it will not get wet," he says and cycles away.



24.04.2019
 Kerstin Palme
dw.com/p/3H17s



Questions on the article

“Fighting climate change by tackling food waste”

1. According to the graphic, where in the world do consumers waste most food? And where do they waste the least?

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2. Explain the statement from the article: “The ‘haves’ throw away a lot of food.”

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3. Why does discarded meat have a bigger impact on the global climate than discarded plant-based products, such as bread?

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4. Why is it bad for the climate when food ends up in landfill?

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5. What percentage of globally produced fruit, vegetables and meat are thrown away?

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6. What suggestions for using food waste are outlined in the article?

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Talk show “Food wastage – who is responsible?”



<p>Environmental activist</p> <p>You have been an active environmental defender for years. As a result, you have also tried to avoid food wastage. You understand how damaging it is for the environment – from unnecessary production through to landfill. Everyone should play a part in reducing food wastage – from producers to consumers.</p>	<p>Restaurant owner</p> <p>As a restaurant owner, you are used to a lot of food being thrown away. You believe it is better to have too much than not enough. You don't buy into the idea that we should try to avoid food wastage. The food is produced anyway, so it doesn't matter whether it is thrown away or eaten.</p>
<p>“Foodsharing” participant</p> <p>You regularly save food from the trash and give it to those who need it. Through your work with different organizations, you've been to many places in the world and have seen starving people. You consider it a scandal that some people are starving while others eat their fill and throw food away. In particular, you believe that large shops should avoid throwing food away.</p>	<p>Food retailer</p> <p>As far as you're concerned, there is enough food in the world, so much, in fact, that not everything has to be used, but can be thrown away. The fact that people are starving is a distribution problem. A tomato that goes moldy in Europe doesn't help a starving person in Africa. You prefer to throw away the leftovers from your shop than donate them, because nobody is going to buy from you if they could get it for free in the evening.</p>
<p>Farmer</p> <p>It annoys you that fruit and vegetables always have to look so perfect. You can't sell bent or unsightly food, although it would be healthy and delicious. As a result, a lot is left over, and you make financial losses. You are demanding a societal rethink.</p>	<p>Irritated consumer</p> <p>You refuse to understand what the activists want. Nobody throws food away just for the fun of it, but always for a good reason. Are we supposed to eat moldy food just so it doesn't get thrown away? Should we continue to eat when we are already full, just so nothing is wasted?</p>



Brainstorming: A world without food wastage

 **Duration: 55 minutes**

Form groups of up to four people and distribute **worksheet 9** to all participants.
5 minutes

» **Worksheet 9**

In group work, use the worksheet to develop ideas about how political measures or new concepts in the retail sector could be used to avoid food wastage. Participants should come up with both concrete suggestions for potential inclusion in their daily lives and theoretical ideas for global solutions. **20 minutes**

The groups then present their ideas to the whole group and answer questions from the other groups. Alternatively, the ideas could be visualized on the black- or whiteboard or on a large poster or collage and hung up in the room. **30 minutes**



Brainstorming: A world without food wastage

Work together to develop ideas about how to reduce food wastage using political measures or new concepts in the retail sector, such as in supermarkets or at the market.

The following questions could be helpful:

- What are the reasons for food wastage in the retail sector (wholesale, supermarkets, markets, etc.)?
- What needs to be done to stop so much food being destroyed? What do politicians need to do? What can retailers themselves do?
- What role do consumers play?
- What is our idea for avoiding food wastage? What is our goal?
- Who could we address for help at a political level (e.g. city or community?)
- What would be the impact of our idea?
- How much would our idea cost?
- How long would it take to implement?
- How many people do we need?
- What concrete changes would our idea make to our lives?
- What will happen if everything remains as it is now?
- To what extent could our idea help the environment?

Initiative against food wastage in Spain

 **Duration: 40 minutes**

Distribute **worksheet 10** to the participants. Show **film 3** "Spanish orange farmers invent crowd farming" from the website dw.com/p/2YKCI or the DVD. **5 minutes**

» **Worksheet 10**
» **Film 3**

If required, you will find instructions on how to play the films on the last page of this learning pack.

Let the participants answer the questions while the film is running, and then give them some additional time to complete their answers after it has finished. **5 minutes**

Discuss the answers with the whole group. **10 minutes**

Return to the **poster** "Food wastage from the field to the plate" and ask participants to determine where along the food waste and food loss chain the crowd farming efforts to avoid food wastage would best fit.

» **Poster**

If possible, you could ask participants (perhaps as homework) to do internet research on crowd farming. They should look for a specific project and present it to the other participants.

Discuss with the group whether, based on the information they've been given, they could imagine becoming a crowd farming customer. They should give reasons for their opinions and talk about advantages and disadvantages. For this, you can divide participants into one pro and one contra group and allow them to discuss the issue. **20 minutes**

Answers

1. They only harvest what customers order, meaning no unnecessary food is harvested. They sell the products directly to customers who order it on the internet.
2. In Europe, too much food (100 million tons) is wasted annually.
3. The internet means people are now used to getting everything immediately. But nature doesn't work at that pace and cannot easily be planned for.
4. A customer buys a tree from the farmer, who plants it and looks after it. The customer then receives part of the harvest.
5. Because the customer orders directly, only food that will be used is harvested.



Questions on the film

“Spanish orange farmers invent crowd farming”

1. What is the business idea of the two Spanish farmers?

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2. What was their motivation for doing business this way?

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3. What are the difficulties for the project?

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4. How does crowd farming work?

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5. How does the idea help to reduce the amount of food that is ultimately discarded?

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Initiatives to counter food wastage in South Africa

🕒 **Duration: 35 minutes**

Distribute **worksheet 11** to the participants. Then show **film 4** "Waste food and emissions: Landfill or the plate?" from the dw.com/p/39UbZ or the DVD. **10 minutes**

» **Worksheet 11**
» **Film 4**

If required, you will find instructions on how to play the films on the last page of this learning pack.

Let the participants answer the questions while the film is running and give them some additional time to complete their answers after it has finished. **5 minutes**

Discuss the answers with the whole group. **20 minutes**

Answers

1. In South Africa, a lot of food is thrown away (a third) while at the same time, many people are starving.
2. Food wastage is very bad for the climate, because it emits methane and CO₂, and because producing food requires water, soil and energy.
3. Approaches:
 - The farmers in the region donate any food leftovers to be delivered to soup kitchens in poor areas.
 - In a garden project, Avian Park residents learn how to grow their own vegetables in a sustainable way. They also give their produce to those in need.
 - Large food retailers donate expired food to social organizations.

Optional extra: Letter to the editor

🕒 **Duration: 20 minutes**

Participants are confronted with the following commentary in a newspaper: *"Food wastage is not that bad because there's enough food in the world. The idea that discarding food is bad for the environment is just another case of scaremongering at the hands of eco-freaks."* If necessary, write this on the board.

Ask participants to write a letter to the editor in which they complain about the commentary and set out an opposing opinion. They should use the information from the video for this. Volunteers read their letters out loud.



Questions on the film

“Waste food and emissions: Landfill or the plate?”

1. What is the basic problem explained in the video?

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2. Why are discarded food items bad for the environment?

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3. What three approaches to counter food waste in South Africa are shown in the film?

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4. How practical do you think the solutions in the film are? How effective do you think they could be at preventing food waste and environmental damage? Please explain your answers.

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Initiatives to counter food wastage in Denmark

🕒 **Duration: 60 minutes**

Distribute **article 3** “Denmark leads Europe in tackling food waste” among the participants. You will find a copy of it here or under this link: [dw.com/p/1JQiA](https://www.dw.com/p/1JQiA)

» **Article 3**

Let participants read the text quietly or choose one person to read the article out loud.
10 minutes

In the group, consider where the initiatives named in the text would best fit along the food loss and food waste chain on the **poster** “Food wastage from the field to the plate.”

» **Poster**

Using information from the article, the participants should now write a speech. They should imagine they are a spokesperson for Selina Juul’s initiative “Stop Wasting Food” and have to give a short presentation about food wastage. They can choose their own audience – deciding whether it is to be comprised of restaurant owners, a class of school kids or politicians. Their task is to convince their audience of their ideas and opinions and encourage them to be more sensitive to the issue of food wastage. Distribute **worksheet 12**, which is designed to help participants with the speech. **20 minutes**

» **Worksheet 12**

Afterwards, invite volunteers to present their speeches to the entire group. They should try not to read from what they’ve written, but to speak as freely and passionately as possible to get the audience on board. **30 minutes**

Optional extra: Video presentation

If the participants have good enough English, and you have the necessary technical requirements, show a video of Selina Juul in which she gives a presentation. You will find such videos on the internet, for example on YouTube under the name “How to Avoid Food Waste Traps | Selina Juul | TEDxKEA”

Denmark leads Europe in tackling food waste

More than one third of all food is spoiled or squandered. Led by an activist with a passion for food, Denmark has been working intensively on solutions. Eliminating “UFOs” is just one thing people can do to help.

“Food is love. If we throw away food, we throw away love,” says Selina Juul, a passionate 36-year-old Danish activist. The work of her non-governmental organization Stop Wasting Food (Stop Spild Af Mad) has contributed to a major milestone: Denmark has managed to reduce food waste by a quarter since 2010.

In September 2016, the Danish government will establish a subsidy pool for projects that save food, with funding of more than 5 million Danish kroner (about 670,000 euros).

For the environment, reduction of food waste is an urgent cause: agriculture produces nearly one quarter of global greenhouse gas emissions, uses more than a third of the planet’s arable land, and consumes 70 percent of all freshwater used globally.

With the world population expected to reach more than 9 billion by 2050, how to feed all these mouths remains an open question. Reduction of food waste helps to prevent potential devastating impacts to the climate, and water and land resources, from a massive increase in agricultural production.

And the “green kingdom” is taking the lead. Initiatives to reduce food waste combine two great passions of the Danish: to do good for the planet and to save money.

Putting value on waste

“Garbage is actually not garbage,” Juul insists. “Reducing it is the key to the future survival of human civilization,” she tells DW.

Juul’s work is backed by the United Nations Food and Agriculture Organization (FAO), which reports that globally, one third of all food is spoiled or squandered.

In addition to causing a loss of \$940 billion (850 billion euros), this also generates 8 percent of the global greenhouse gas emissions - equal to the emissions of a large country.

The FAO calls this “an excess in an age where almost a billion people go hungry.” The agency condemns throwing away food as also a waste of the labor, water, energy, land and other resources that went into producing that food.



*“Food is love”: Selina Juul cares about food
Photo: Andreas Mikkell Hansen*

New protocol to cut food waste

“There’s simply no reason that so much food should be lost and wasted,” Andrew Steer, president and CEO of the World Resources Institute, tells DW.

Working with numerous United Nations, European Union and non-governmental entities, the World Resources Institute has spearheaded a new strategy: the first-ever global food waste measurement standard.

The Danish government announced that it would back this new “food loss and waste protocol” during the Global Green Growth Forum (3GF) in Copenhagen this past June.

“At the moment, food production is very destructive,” Steer said. Steer and his institute developed the protocol under the mantra “what can be measured can be managed.”

“It is just like what we did with the greenhouse gas protocol 10 years ago,” Steer explains. “To succeed in cutting food waste in half, we must take a systemic approach.”

International coalitions

The World Resources Institute has managed to rally major entities to the food waste reduction cause – including the Consumer Goods Forum, which represents more than 400 of the world’s largest retailers and manufacturers from 70 countries, with combined sales of 2.5 trillion euros.

The World Farmer’s Organization and various governments also stand behind the UN Sustainable Development Goal to halve food waste and reduce food loss globally by 2030.

Denmark has also joined these coalitions.

“Waste makes everybody poorer,” said Danish Minister for Foreign Affairs Kristian Jensen. This “new strong alliance between public and private actors will provide an efficient answer to the global challenge of food loss and waste,” he said during the 3GF in Copenhagen.



Instead of throwing it away food is offered here for free

Numerous strategies

„Ever more Danish supermarkets have “stop food waste areas,” with food close to its expiration date at very cheap prices. And “ugly” potatoes are going to use in salads.

The startup Too Good To Go tackles unsold meals.

An app pairs customers with restaurants and bakeries about to close, allowing them to fill a box with food at knock-down prices.

Juul highlights another effort: to eliminate “UFOs.”

“Every second Dane had a UFO, a ‘unidentified frozen object,’ in their freezer,” Juul says. “So we ran a campaign for consumers to once a month eat your UFOs.”

“Food is love”

Denmark, with only 5.7 million people, has more initiatives against food waste than any other European country. This has largely been attributed to the group Stop Wasting Food.

Juul, its founder, is already a national icon. She was granted the Womenomics Influencer Award 2016, is included in the Who’s Who of Denmark, and was named Dane of the Year for 2014.

Armed with a green apron and an irresistible passion for food, the young activist has managed to elate millions of Danes.

“It is a very bottom-up initiative,” Juul tells DW. “We mobilize the people, then the people mobilize the industry and the supermarkets, cafeterias and restaurants.”

“It’s like a spiral - it’s growing and growing and growing,” Juul says.

Juul and her group plan to start work in other countries as well. Juul’s dream is that caring for food can become a tool for world peace.

“When it comes to food waste, no matter if you are rich or poor, left- or right-wing - no matter which color, nation or religion - people can agree,” she says.

“Food is really the one cause that unites people. Food is love.”

25.07.2016

Irene Hell

dw.com/p/1JQiA



Campaign speech: Raising awareness of ideas to counter food wastage

Imagine you're a spokesperson with the charity "Stop Wasting Food" and you have to give a speech in which you have to convince the audience of your ideas and plans. Write the speech and present it to the whole group.

The article "Denmark leads Europe in tackling food waste" provides information and arguments you can use.

The following questions could be helpful:

- What is the current situation regarding food waste around the world?
- What is the problem with food waste?
- How successful is the work of the charity "Stop Wasting Food?"
- What does "Stop Wasting Food" have going for it?
- What has the organization done so far to reduce food wastage?
- What can individuals do to reduce food wastage
- What is the goal of "Stop Wasting Food?"

Example of how to avoid food waste in Germany

 **Duration: 40 minutes**

Ask participants if they would eat food that had passed its expiration date. Split them up into groups and ask them to discuss the issue. Ask them if they are aware that there are different types of food expiration dates, e.g. the “best before”, “use by” and “sell by” dates. It varies between countries, products and manufacturers. The groups then draw up a list of the foods they would be reluctant to eat once the expiration date had passed, and those they would not have an issue with eating. Compare the results in the whole group. **15 minutes**

Distribute **worksheet 13** to the participants and show them **film 5** “Saved from the supermarket” from the website dw.com/p/2kFV1 or the DVD. **5 minutes**

» **Worksheet 13**
» **Film 5**

If required, you will find instructions on how to play the films on the last page of this learning pack.

Let participants answer the questions while the film is running, and then give them some additional time to complete their answers after it has finished. **10 minutes**

Discuss the answers with the whole group. Refer to the **poster** “Food wastage from the field to the plate” to locate where Raphael Fellmer’s efforts to prevent food wastage would best fit along the food loss and food waste chain. **10 minutes**

» **Poster**

Answers

1. He collects expired food from wholesalers and sells it cheaply in his own shop.
2. Advantage: Food that is still edible is not thrown away. Customers buy food at a lower cost.
Disadvantage: There is no guarantee that the food is still good, because they only conduct spot tests.
3. Yes, it would be a good opportunity to buy food cheaply/No, I would be too worried about buying food that had gone off.
4. Yes, people will be convinced by the cheap prices/No, people are too skeptical about food that has passed its expiration date.

Optional extra: Role-playing game

Divide the participants up into pairs for a role-playing game. One takes on the role of a journalist interviewing Raphael Fellmer for an article. The other plays the part of Raphael Fellmer. The participants can be creative in their questions and answers.



Questions on the film “Saved from the supermarket”

1. What does Raphael Fellmer do to prevent food waste?

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2. What are the advantages and disadvantages of a supermarket like this?

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3. Would you do your shopping in such a store? Give reasons for your answer.

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4. Do you think the store will be a success? Give reasons for your answer.

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Example of how to avoid food waste in Brazil

 **Duration: 40 minutes**

Ask participants if they enjoy cooking and what they cook. Talk about leftovers that are generated during the cooking and eating of the meal and ask participants to tell the group what they do with theirs. Do they know any good recipes that would lend themselves to using yesterday's leftovers or things like vegetable peel? **15 minutes**

Distribute **worksheet 14** to the participants and show them **film 6** "Brazil: Cooking their way out of poverty" from the website dw.com/p/30Yj6 or the DVD. **5 minutes**

» **Worksheet 14**
» **Film 6**

If required, you will find instructions on how to play the films on the last page of this learning pack.

Let participants answer the questions while the film is running, and then give them some additional time to complete their answers after it has finished. **10 minutes**

Discuss the answers with the whole group. Refer to the **poster** "Food wastage from the field to the plate" to determine at which point along the food loss and food waste chain the initiative shown in the film avoids food wastage. **10 minutes**

» **Poster**

Answers

1. The cooks all come from low-income families.
2. They are made from food that has been put aside because it's not good enough.
3. They make a caponata from paprika leftovers. They sauté potato skins to eat on bread or make into a kind of salad.
4. Yes, you don't need a lot of money to make good meals/No, you must pay for quality. Good things cost more, and they should cost more.

Optional extra: Recipe research

If there is the opportunity to do so, let participants (either using the internet or cookery books) look up recipes that lend themselves to the use of leftovers. If the circumstances allow, ask participants to bring leftovers from home so you can work as a group to make them into one or several dishes. Maybe you could get leftovers from a canteen that are still edible but won't be used for anything there. This makes it clear to participants what leftovers are generated in their immediate vicinity, while simultaneously showing them how they can be used.



Questions relating on the film “Brazil: Cooking their way out of poverty”

1. What is special about the cooks in the video?

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2. What is special about the dishes that are cooked in the video?

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3. What leftovers are used in the video and what are they made into?

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4. Do you agree with the line from the film “good food doesn’t have to be expensive.” Why? Or why not?

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Research: Are there any local initiatives to avoid food wastage?

 **Duration: 50 minutes + research**

Divide the whole group into smaller groups of no more than three people. **5 minutes**

In groups, the participants should research which associations, companies, initiatives or individuals in the area are working to avoid food waste or food loss. The participants look for at least one example and present it in the group. In the process, they answer the following questions: What exactly does the association/company/initiative/individual they found do to counter food waste? Why do they do it? What does the group think of it? Would they get involved?

Each group then has the chance to present their findings to the whole group. **45 minutes**

Instructions for playing films

You have several options for playing the films accompanying this learning pack:

1. Playing films from DVD

If you have a hard copy of the learning pack, you will find all of the films on an accompanying DVD. You will need a DVD player connected to a TV screen, or a laptop/PC with a DVD drive, as well as software for playing video (media player).

2. Playing films from the internet

If you don't have the learning pack DVD, you can stream all the films directly online. You will find the film links in the handouts, as well as the right column of the module overview (materials and implementation).

Please test your internet connection to ensure the film plays smoothly. If the picture is choppy, then your internet connection likely isn't stable. In this case, we recommend that you download the films beforehand and save them as mp4 files.

3. Downloading and playing films as mp4 files

To download the films, follow the links in the handouts and module overview.

You can start the download by clicking "Download: Save MP4 file" in the sidebar to the right of the screen. You can save the film as an mp4 file on your computer or external storage device (e.g. USB key, SD card or external hard drive).

Please plan enough time to download the films. Downloading the material can take between a few seconds and a few hours depending on the speed of your internet.

Note: Playing the films on a projector

If you connect your DVD player, PC or laptop to a projector to show the films, we recommend using speakers for the sound.

Please also ensure that the room is dark enough and you have a large and smooth enough white wall for the projection.

Global Ideas

The multimedia environment magazine

Around the world, imaginative people and innovative projects are working to protect our climate and biodiversity. Global Ideas tells their stories on TV and online.

Global Ideas is Deutsche Welle's multiple award-winning, multimedia environment magazine supported by the German Environment Ministry's International Climate Initiative. Established in 2009, it showcases TV reports, background articles, web features and more, as a means of informing people all over the world about solution-based initiatives to protect the planet.

Global Ideas is more than just television. Think interactive specials such as a visit with Africa's wild animals or explainers that answer complex questions like "does global warming really exist?" The magazine also has an educational element in the form of carefully crafted "learning packs" on key environmental topics. Available free of charge in German, English and Spanish, these learning materials include videos, articles, worksheets and teacher handouts, as well as other educational materials such as posters, picture cards and practical experiments.

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