



Food and Agriculture
Organization of the
United Nations



Grow,
Nourish,
Sustain.
Together.

ACTIVITY
BOOK

Food
Heroes



16 october 2020 **World Food Day**

Grow, Nourish, Sustain. Together.

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A note for educators:

This Activity Book is aimed at a broad age range of young people interested in learning more about the importance of our food systems, who produces our food and where it comes from. It's also an inspiration for those who wish to enter the 2020 World Food Day Poster Contest. Although it could be considered in certain contexts for 8 to 12 year olds, it could also be used to teach both younger and older students.

Grow, nourish, sustain. Together.

Food is a basic human need and right – we all need it to live! The global population in 2019 was about 7.6 billion. And by 2050, the population is expected to grow to 10 billion. Right now, we produce enough food to feed the world, yet more than 2 billion people don't have regular access to enough safe, nutritious food. The Food and Agriculture Organization of the United Nations' (FAO) goal is to end hunger and make sure people around the world have access to nutritious food to lead active and healthy lives.

Agricultural production has increased over the years to meet the needs of our growing population. This was achieved by farming mainly staple crops like wheat, maize or rice, because these crops were affordable and fulfil most of our energy needs. While food production has improved, it has come at the cost of harming our natural resources, contributing to greenhouse gas emissions and the loss of crop diversity. But there's a way to change our food systems to make sure that a variety of nutritious food is produced sustainably, and that this is affordable and available to everyone.

Farmers and workers across the food system will be the changemakers, but all of us need to support them. We have these food heroes to thank for the food we eat every day.

WORLD FOOD DAY

Every year on 16 October, more than 150 countries come together to celebrate FAO's birthday for an event known as World Food Day. FAO was founded in 1945 when nations from across the globe united with one common goal in mind: to eliminate world hunger and poverty. It's a worldwide celebration and we invite you to mark this day with us!



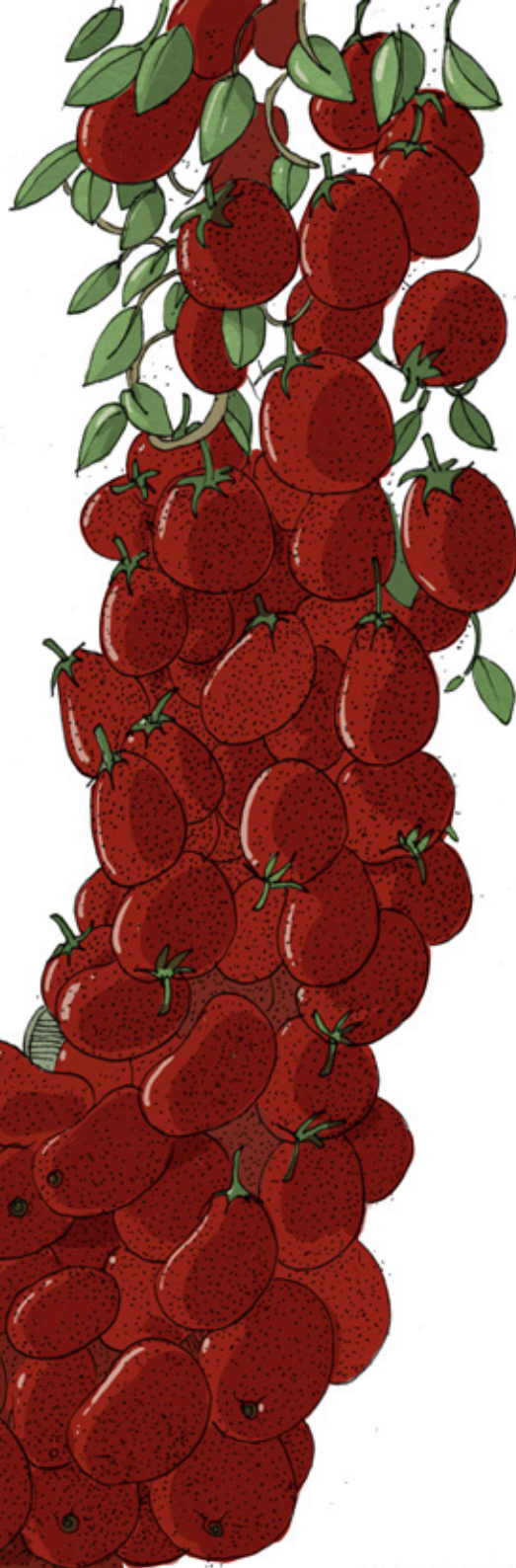
WFD2020 Poster Contest



Design a poster of your favourite food here at work so that together we can make noise and celebrate their efforts across the globe this World Food Day.

To submit your poster, go to:
www.fao.org/WFD2019/contest

The contest is open to 5 to 19 year olds and the deadline for entries is 6 November 2020. Three winners from each age category will be selected by our jury and announced on the World Food Day website and on FAO's social media channels. Winners will receive a certificate of recognition and a surprise gift bag, and will be promoted by FAO offices around the world.



The food journey from farm to table

Most of the food you eat comes from a farm, whether it's a crop, animal, dairy, fish or other type of farm. Bread, milk, meat, seafood, fruit and vegetables - you name it. Even if it's homemade, the ingredients most likely came from a farm.

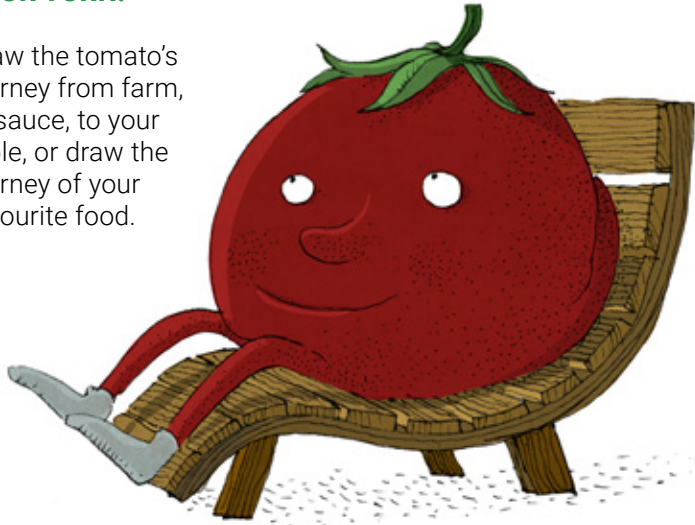
Did you ever think about how far some of the items in your grocery store had to travel to get to us? A great deal happens during the time food leaves a farm to when it is eaten at the table.

- 1. Cultivation** - Farmers grow crops, rear animals or fish, or get produce from the local environment, like forest products. To do this, they need agricultural equipment, seeds, fertilizer, animals or fish, water, land and labour.
- 2. Processing** - Food either reaches your table the same way it was when it left the farm, or it is processed, which means that food coming from farms is transformed into a variety of food products, such as jam or tomato sauce, usually at a factory. Preserving food by processing it often gives it a longer life, meaning that food is available between harvests.
- 3. Market** - Farmers may use some of the food for their family and transport the rest to sell at a market. It sounds easy but some farmers might not know where to sell their products at a fair price, or have access to transportation, or even a road. Food may also pass from the farmer to a middleman before it goes to a factory for processing, reaches a supermarket or gets transported to another country.



YOUR TURN!

Draw the tomato's journey from farm, to sauce, to your table, or draw the journey of your favourite food.



Take a humble tomato for instance. A tomato can travel thousands of kilometres to reach its destination. The farmer sometimes sells tomatoes to a wholesaler, also known as middleman, who in turn sells the tomatoes to a supermarket warehouse. If they are lucky, farmers sell the harvest themselves at the nearest market or through the internet by e-commerce, a digital market that connects farmers to consumers.

Sometimes tomatoes are transformed into a food product like sauce. Once the farmer picks the tomatoes, they're loaded onto trucks and transported to a factory. Washed and sorted, the tomatoes are then crushed and heated in huge vats. The juice is cooked down until it reaches a concentrated paste, at which point it is packed into large bags and transported to supermarkets to be sold as tomato sauce.

The long and often complicated journey of the tomato and other foods is linked like a chain and often called a food system. You can imagine that, if a link in the chain or system breaks (or doesn't work like we expect it to), the whole process is interrupted. It could be that a harvest fails due to drought, flooding or a pest outbreak, or that conflict or a disease outbreak prevents movement of food from one stage to another.



Real life #FoodHeroes

Heroes are not just fictional characters – they also live in your neighbourhood! Food heroes are protectors of biodiversity, defenders of the Earth's natural resources, and guardians of social and cultural traditions. They work in rural and urban areas. They are agricultural labourers, fisherfolk, mountain farmers, foresters, pastoralists and farmers in indigenous communities. The world is filled with heroes.

You may also recognize your local heroes as your parents or guardians that cook for you at home, processors, retailers at the grocery store, the people working at a food bank in your community, or food truck drivers. Every hero is an important piece of the giant puzzle that is our food system!

Food heroes exist in every region and environment across the globe. And for many food heroes, family and farm are two concepts that are deeply linked. Did you know there are more than 600 million farms around the world? Most of them are run by an individual or family and rely on family members to work the land. This is what we call family farming. They're also intergenerational which means the farm is passed down from the parents to their kids. In doing so, family farmers upkeep cultural values and knowledge of the land, strengthening the community's heritage and identity. And in developed and developing countries, family farming is the main form of food production.



YOUR TURN!

- Who are the #FoodHeroes in your community?
- Can you think of another food hero that we haven't mentioned yet?

BIODIVERSITY

The word biodiversity is a combination of two words: biological and diversity. It refers to the variety of all living organisms on our planet. It is the backbone of our ecosystems and this diversity helps to naturally sustain all life forms.

While rich in knowledge and skills in farming, 80 percent of the world's poor and food insecure live in rural areas. And most of the rural poor are small-scale family farmers whose livelihoods and food depend not only on crops or animals, but also forest products, fisheries and aquaculture, that is, the cultivation or farming of organisms, such as fish, shellfish, algae and other aquatic plants either in inland freshwater ponds or in the sea.

A lack of financial resources puts a strain on many smallholder farmers and makes it difficult to break the cycle of poverty. Banks may not always lend money to poor farmers, but solutions like microfinancing, also known as "money-borrowing", helps by giving them a loan that can be used to buy equipment for their farms, like seeds, fertilizer and machinery.

But our food heroes face other challenges too, such as access to markets and infrastructure like roads, control over natural resources like land and water, digital technology, proper governance, and gender inequality (which means that men and women may not have the same rights). Did you know that about half of all farm labour is carried out by women, yet they own less than half of all farmland? Gender inequality means that women in rural areas often have limited job opportunities. In order to ensure equal work opportunities amongst our fellow heroes, women across the food chain need more access to resources and support from their local government. For every 100 men living in extreme poverty, there are 122 women. Eliminating gender inequality is a step towards eliminating poverty.

Heroes are not just
fictional characters



Farmers and digital agriculture

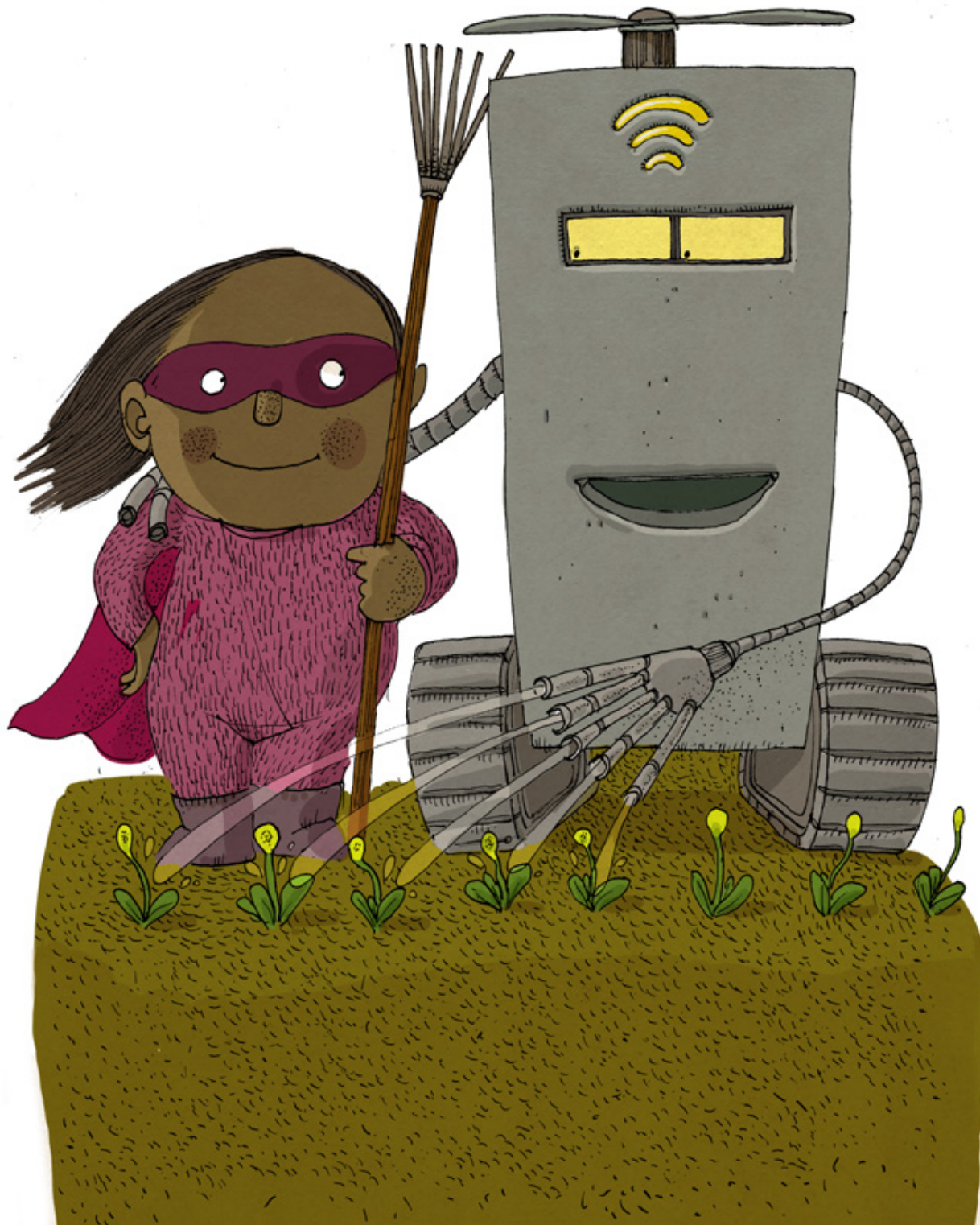
Today, there is so much that digital technology can do. It can even be used in food production to help farmers! Digital agriculture uses tools to share, collect and analyze information along the food chain. It allows farmers to know what's happening when it's happening. Potential problems can be anticipated and farmers can respond in real time to any situation. Digital tools like satellites, drones and Apps can help farmers and workers along the food chain to reduce food losses, improve water management or fight against pests and diseases or process better. It can also help to monitor forests, prepare farmers for disasters, and so much more. Having better control of resources leads to greater food security and a higher profit for farmers.

Encouraging young people to work in agriculture is essential to the future of food systems. With better access to infrastructure, better paying jobs and tailored training in digital technology, governments can encourage young women and men to work in the food sector. Right now, over 3 billion people in the world don't have access to internet. We must ensure that all farmers and food sector workers, especially in rural areas, are equipped with digital resources and networks. Improving digital skills will lead to a more sustainable food system.

THERE ARE THREE IMPORTANT REQUIREMENTS TO MAKE USE OF DIGITAL AGRICULTURE:

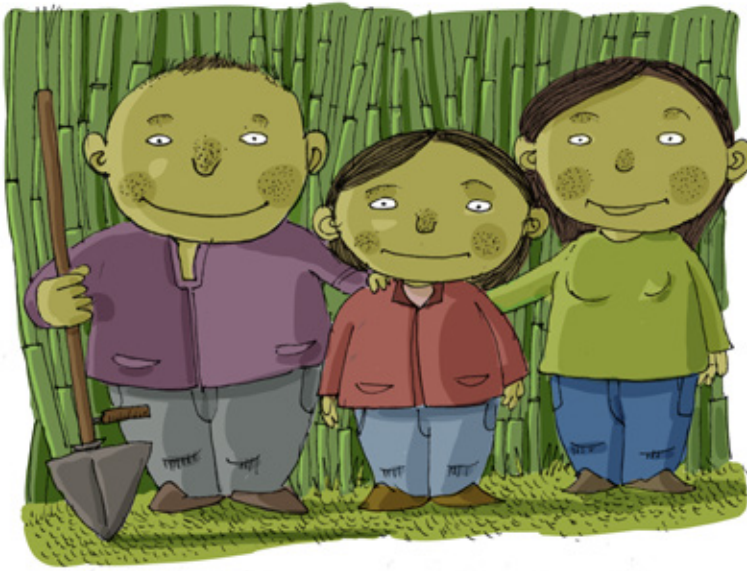
1. access to the internet and cellphones;
2. skills to use digital technology; and
3. a culture that encourages digital agricultural activities as a business.





Let's discover digital technologies that can help **food heroes!**

- Artificial intelligence (AI) is the ability of a machine or computer to think and learn by itself. AI can improve food systems by learning habits and studying patterns to increase food production and use less resources. Two private sector companies, Alibaba Group Holding Ltd. and JD.com, developed a "smart brain" for pig farms. This technology uses facial, temperature and voice recognition software. It can tell if a sow is pregnant by analyzing its sleeping and eating habits and can detect if a pig is sick.
- Apps can be used by farmers to check the weather, diagnose a pest or disease, get information on food prices so they know when to sell at a fair price – all in the palm of their hand. And some can be used in offline mode if phone credit runs out!
- Agribots, like tractors, that run automatically or weed vegetable beds with great precision help farmers to save time.
- Drones or flying robots can collect data covering large areas or get to places that are difficult to reach by land. They can tell when a crop is ready for harvest, apply fertilizer and water fields.
- Satellites that already circle around our planet collecting information from outer space can be used to monitor the stages of food production and provide weather forecasts so that farmers can anticipate storms or droughts. With more information about their fields, farmers can make better informed decisions and react earlier to potential problems. FAO created a tool whereby farmers control the use of water in their fields using information from satellites. Water is a basic need for crops and with WaPOR it can be managed sustainably.



80 percent of the world's food is produced by family farmers, and there are more than 600 million farms across the globe!

DID YOU KNOW?



To meet the growing demands for food, many countries increase their agricultural production. But oftentimes, these processes lead to food loss and waste.

Climate change causes temperatures to rise and extreme weather events such as floods and storms. This affects farmers' harvests, the activities of food chain workers and leads to an increase in plant pests that damage crops.

While there is currently enough food to feed the global population, more than 2 billion people don't have regular access to enough safe, nutritious food.





The majority of the world's poor and food insecure live in rural areas, and most of the rural poor are family farmers. With a lack of access to financial services and technology, it is difficult to break the cycle of poverty.

Even though women provide more than half the labour on farms, they hold a very small amount of the land (only 15 percent!).

Growing more diverse foods benefit the natural resources in our environment and is also good for our diets.



Over 3 billion people in the world don't have access to internet. Access to technology can help farmers and food sector workers to produce more and earn better.



The world's youth population is expected to grow, yet employment opportunities for young women and men remain limited – especially for those living in rural areas of developing countries.

Help our Food Hero navigate the food system and arrive to the finish line!







Challenges faced by **food heroes**



Food heroes face many challenges. A growing population means there are more mouths to feed so more food needs to be produced and brought to market. This means there will be more competition for resources, such as land, energy and water. As people get richer, they demand more expensive foods in addition to basic cereal crops, meat, fruits and vegetables. Food heroes are going to need to discover new or innovative ways to produce more food, and different foods with less resources, while dealing with a number of challenges (some are already discussed on pages 7 and 8).

Poverty

Smallholder farmers produce most of the world's food, yet they often don't have enough food for their own families. When crops fail, or in lean times between harvests, smallholders tend to eat a smaller amount of less nutritious food. A plentiful harvest can also have its downsides for poor farmers as they don't have the means to store food or take it to market. With more food available, prices can also drop meaning that farmers earn less. Poverty also causes farmers to leave their farms and migrate in search of a different job.

Climate change

Climate change is linked with increasing temperatures which cause more storms, droughts and other extreme weather events that can cause destruction and make it harder to grow food, rear animals or practice aquaculture. It is also causing plant pests and diseases to travel to places they have never been before, destroying entire fields of crops, and affecting the size of fish.



Conflict

Conflict such as wars make it hard to grow food or get food to those who need it. It can damage farms, produce and important infrastructure, including roads, markets, storage facilities or factories. It can even cause poverty and hunger and force farmers and other food sector workers to migrate. Many of the 2+ billion people without access to enough food live in conflict zones.

Food loss

I'm sure you are familiar with food waste that happens at home or at restaurants or supermarkets when uneaten or spoiled food gets thrown in the bin. But food also gets wasted between the farm and the market and we refer to this as food loss. There are many reasons for this. Some farmers may not have access to a fridge. Bad packaging could mean that the food spoils fast or unsuitable transport may mean that food simply falls off the truck. In developing countries it's estimated that as much as half of all fruit and vegetable crops are lost between harvest and the market. All the water used to produce those lost crops is also wasted.

Viruses and pandemics

Virus outbreaks can happen in a country or region or even spread to several countries around the world, in which case we talk about a pandemic, like the Coronavirus COVID-19. In an effort to stop the spread of infection, governments often arrange a quarantine where people are asked to stay at home. This often means that food heroes have difficulty working, which causes problems with the movement of food, especially in developing countries. The Ebola Virus Disease outbreak in West Africa in 2014-2016 caused hunger as there were no workers available at harvest time and farmers were unable to bring their produce to market. Animal diseases can also wipe out herds, ruining a pastoralist's livelihood.

COVID-19

The Coronavirus COVID-19 pandemic has widespread effects in countries across the globe. It is essential now more than ever to call attention to the importance of resilient sustainable food systems that support our food heroes and communities. This World Food Day is an opportunity to call for global cooperation and solidarity to keep our food supply chains going and help the most vulnerable.



YOUR TURN!

Choose one of the challenges and list which food heroes are affected by it and how, and what this does to the food system.



FAO and the SDGs

The 17 Sustainable Development Goals (SDGs) of the United Nations (UN) are a set of guidelines supported by all UN organizations. They're used to steer nations, private sector companies and people around the world in the right direction towards achieving a peaceful, prosperous and more sustainable world. In order to act towards fighting poverty (SDG 1) and hunger (SDG 2) by 2030, more complex issues need to be worked on too.

Tackling the effects of climate change (SDG 13), encouraging gender equality in communities around the world (SDG 5), and promoting inclusive and sustainable economic growth and work for everyone (SDG 8), are just some of the ways in which we can achieve these goals. Everything from life on land (SDG 15) to life under water (SDG 14) needs to be protected, not only for our generation, but also for future generations. What we do today affects tomorrow. Obtaining sustainable living will ensure that the natural resources in our environment are respected, and that everyone everywhere has enough nutritious food to eat and can live without poverty.

Education is key to learn how to act and share resources. Using new digital technology to study our land and water, monitor farms, reduce food waste and loss are important for improving our food systems. Every action big or small makes a difference, and now is the time to act!

YOUR TURN!

Learn more about FAO's work to achieve the SDGs and read real stories about how people are working towards achieving them by visiting www.fao.org/sustainable-development-goals/

Find out more about the SDGs by visiting worldslargestlesson.globalgoals.org

What FAO is doing to help **food heroes**

FAO is committed to help governments, partners and food heroes by increasing access to markets and resources, like finances, innovation, farm inputs and more, to help the most vulnerable have a better life and provide nutritious food for everyone around the world. FAO is even staying up to date on the latest technology to help food heroes benefit from the emerging digital society by conducting research, providing training programmes, developing databases and Apps.

FAO also promotes initiatives such as the Farmer Field School (FFS), a community-based approach that lets farmers take the lead in educating. It allows farmers to come together to share their knowledge and skills. It's a way in which to combine local, traditional knowledge of farming with scientific knowledge. FAO and other organizations have been promoting this type of field school in more than 90 countries.

What can **farmers** do?

Since the majority of all farms in the world are family-owned, they play an impressive role in the production of our food. If they join forces and work together as cooperatives, they can develop common strategies for sustainable cultivation, as well as to learn how to prepare for natural disasters and recover faster from their impacts. Governments need to support farmers but small farmers also need to preserve the Earth's natural resources, such as soil and water, and find out about new techniques for harvesting, food storage, packing or transport to cut down on food loss. We are not only talking about farmers in the fields but also communities living off forestry, fishery, and pastoralism.



What can governments do?

Governments and decision-makers have a big responsibility to help food heroes by keeping food systems moving, encouraging youth to work in farming and building up infrastructure like roads, and factories that connects farmers in rural areas to markets. They also need to find ways to work with private businesses and banks to create more opportunities.

Governments can help farmers to gain access to important resources like money, training and technology but at the same time, put systems in place to protect them in the case of a disaster, such as a storm or global pandemic. These safety nets could include food vouchers or money transfers to help keep their family going, secure access to medical services, or a pension when food workers retire.

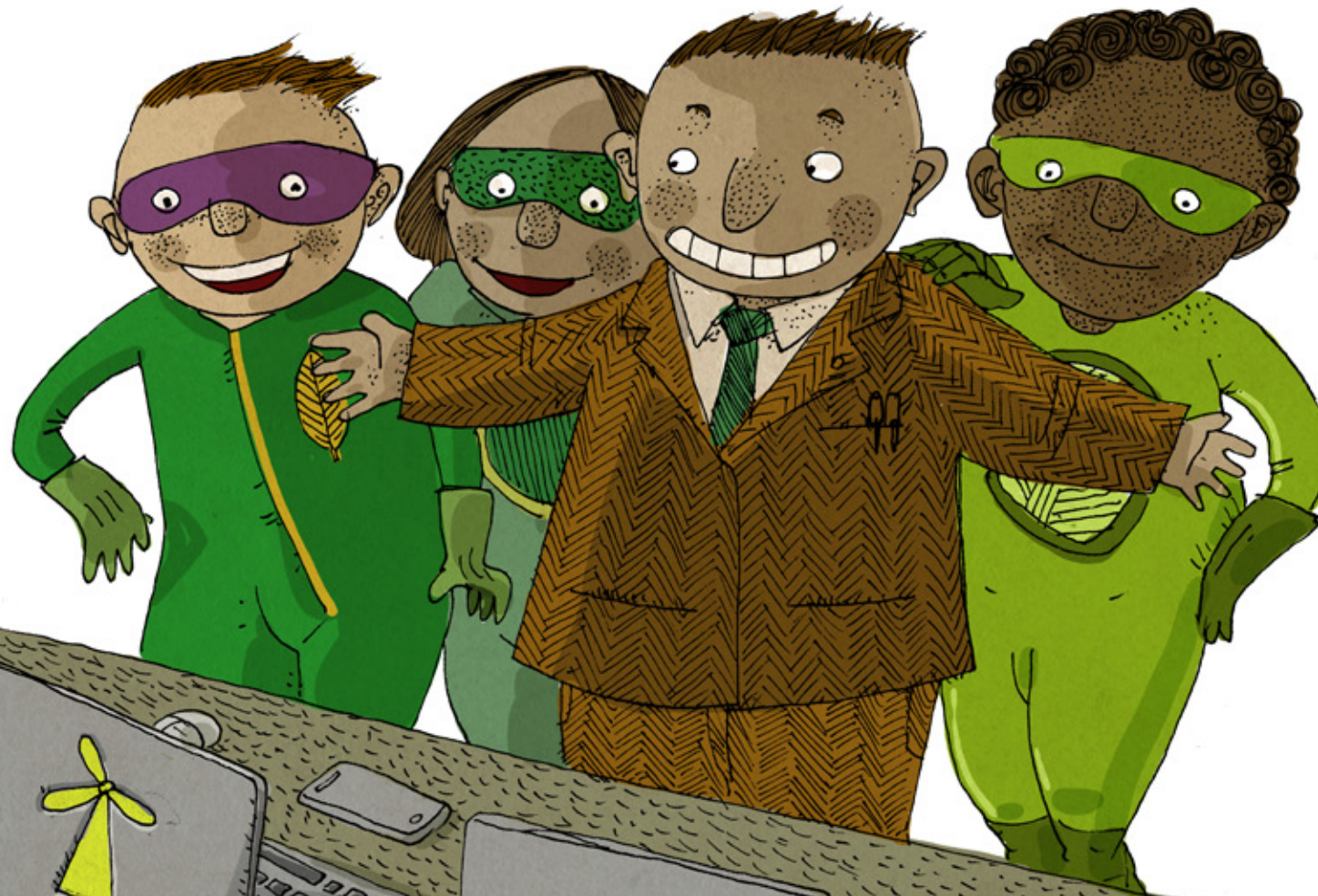
In some cases, governments need to rethink how they are spending their money, while in others, international solidarity or support from other countries is needed. Development aid from other countries aims to promote lasting development through investment in agriculture, education or setting up microfinance plans.

Governments and decision-makers have a big responsibility to help food heroes

What can **private companies** do?

Private companies have a big part to play in ensuring that the food production system is sustainable and constantly active. Multinational corporations need to use large areas of land responsibly, respecting the environment and making sure that local people are not pushed away from their farms, jobs or homes.

Telecommunication, technology and data companies can make sure that digital tools and technologies are shared with food heroes, so they have access to important information and new Apps. These could help farmers for example to predict the weather, diagnose pests or diseases, use natural resources with more caution, or help distributors and factories to be more efficient.





ALL OF US

The youngest generations, from every country, from all walks of life are the adults of tomorrow and will inherit the Earth. Our actions determine our future and we all have a role to play to make our world more sustainable and supportive of food heroes. Countries, the private sector and society as a whole need to make sure that our food systems grow a variety of food to nourish a growing population and sustain the planet, together.



Choose local

Whenever you can, ask your parents to buy local fresh food, especially from farmers markets. In doing so, you not only help local food heroes, like smallholder farmers, but also local economic growth.

Choose seasonal

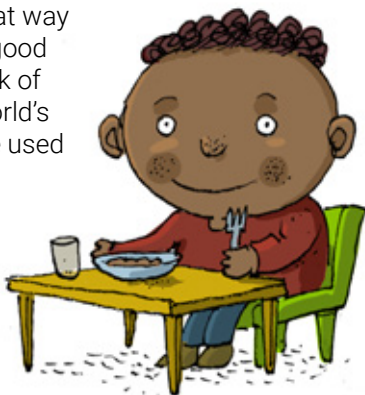
Did you know that you reduce your carbon footprint when you buy produce that's in season? When food is out of season in one part of the world it must travel a long way before it gets to your local grocery store or market. A shorter trip can also mean riper, tastier or more nutritious food!



Respect food.

Respect food sector workers!

Storing uneaten food properly for another day's meal is a great way to avoid wasting perfectly good food. Respect the hard work of our food heroes and the world's precious resources that are used to produce all that we eat.



Be an activist

Governments and decision-makers have a big responsibility to help food heroes, but we are more than just eaters. Ordinary citizens – including young people – can call for action putting pressure on decision-makers to make changes where needed. If you don't have access to a computer or the internet, don't worry: you can also find ways to speak out in your community. Great communication works offline too!



Help people to rise out of the poverty trap

Tell your parents about the importance of supporting important development initiatives, such as school meal and nutrition programmes. Education is power. It opens up doors to better opportunities for employment and increases awareness about the importance of eating well.

Grow food at home

If you have access to a garden or outdoor space, grow some vegetables or herbs. This will take some time but it will teach you a lot about how food is produced. This can be a form of exercise and fun activity to do alone or with friends and family. Green spaces also do a lot of good for us and our environment by purifying the air we breathe.



Practice good food hygiene

You should always keep yourself and your cooking areas clean by properly washing your hands and food. This is especially important if a virus is going around, such as in the case of the Coronavirus COVID-19 outbreak, because practicing good food hygiene prevents the spread of germs.



Appreciate and celebrate

Celebrate the efforts of our food heroes who in times of crisis still work hard to bring food to our plates. Tell a farmer at the market, a supermarket, food delivery or factory worker that you're grateful for the service they provide and I'm sure you'll bring a smile to their face!



Activities

Make your own food system

In small groups, pick a kind of food you often eat and research all the stages in its production (from growing/raising to harvest, processing, packaging and sale. Don't forget transportation!). On separate round pieces of card, draw a picture to represent each step. You can then string these together and hang your food chains in your classroom.

Now we want you to tell us about your favourite food hero!

Ask yourself, where does your food hero work in the food system? (see page 5 for examples)

What superpower(s) does your food hero have?



What SDG does this food hero work for?

Give your food hero a name!

Enter your food hero in the Poster Contest

Now that you have read and learned about the different kinds of food heroes and their important role in our food systems, enter the World Food Day Poster Contest. Draw, colour or paint your food hero at work, then scan or take a photo of your poster to participate in the contest (for more information see page 4).

Don't forget!

Cut out the badge on this page and present it to your local food hero to show your appreciation for all of their work or wear it yourself and show that you are a food hero too!

Solution to pages 12-13



FAO virtual group visits

FAO headquarters is located in Rome, Italy, but the Organization works in over 130 countries across the globe! Are you curious about the history of FAO, its projects and the spaces where world leaders come together to meet? We invite you to check out our Group Visits website where you can get an inside view of FAO and learn more about our work.

For more information visit
www.fao.org/about/visit-us/en

CUT OUT

FOOD HERO'S BADGE

CUT ALONG
THE DOTTED LINE

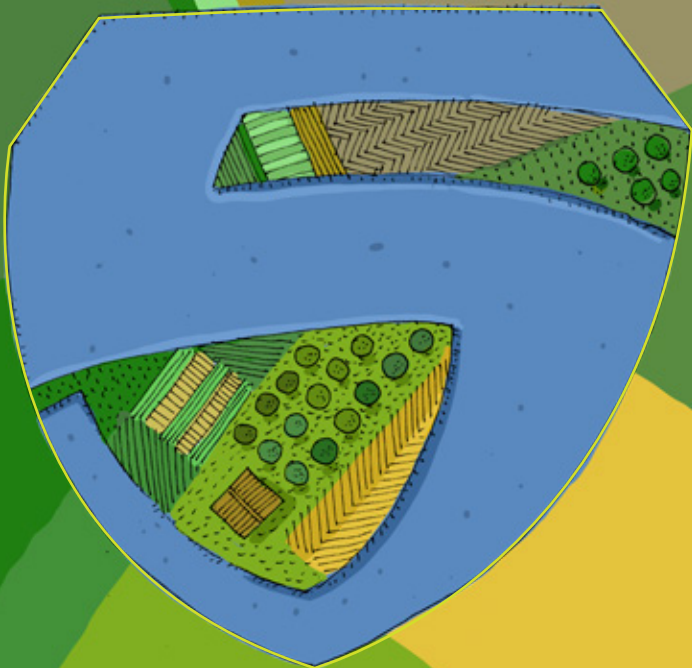




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FOOD HERO'S BADGE



Activity Book Series

You can download the FAO Activity Book Series on our “Building the #ZeroHunger Generation” portal together with a range of material to support educators and parents in the preparation of activities or classes on important global issues at the core of FAO’s work: www.fao.org/building-the-zerohunger-generation



► Healthy Plants
Healthy Planet



► Eating Healthy Matters



► Your Guide to FAO



► Working for Zero Hunger



► Change the future
of Migration



► Climate is Changing

Contact us:

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