

THE TASTE OF THE FUTURE: CULINARY COMPASS FOR A HEALTHY PLANET

How to eat within the planet's boundaries

Study summary

Further reading:

The project “Besseresser:innen – planetarisch-kulinarisch”, a culinary compass for a healthy planet, outlines a viable and sustainable future for our nutrition (website in German)

[🔗 wwf.de/besseresserinnen](https://www.wwf.de/besseresserinnen)

Weekly meal planner & recipes (in German)

[🔗 wwf.de/wochenmenue](https://www.wwf.de/wochenmenue)

So schmeckt Zukunft: Der kulinarische Kompass für eine gesunde Erde. Klimaschutz, landwirtschaftliche Fläche und natürliche Lebensräume. (The taste of the future – culinary compass for a healthy planet. Climate protection, agricultural land use, and natural habitats.)

↓ [wwf.de/kulinarische-kompass-klima](https://www.wwf.de/kulinarische-kompass-klima) (full report, PDF in German)

↓ [wwf.de/kulinarische-kompass-klima-zusammenfassung](https://www.wwf.de/kulinarische-kompass-klima-zusammenfassung) (summarized report, PDF in German)

So schmeckt Zukunft: Der kulinarische Kompass für eine gesunde Erde. Wasserverbrauch und Wasserknappheit. (The taste of the future – culinary compass for a healthy planet. Water withdrawal and water scarcity.)

↓ [wwf.de/kulinarische-kompass-wasser](https://www.wwf.de/kulinarische-kompass-wasser) (full report, PDF in German)

↓ [wwf.de/kulinarische-kompass-wasser-zusammenfassung](https://www.wwf.de/kulinarische-kompass-wasser-zusammenfassung) (summarized report, PDF in German)

So schmeckt Zukunft: Der kulinarische Kompass für eine gesunde Erde.

Ernährung und biologische Vielfalt

↓ [wwf.de/kulinarische-kompass-biodiversitaet](https://www.wwf.de/kulinarische-kompass-biodiversitaet) (full report, PDF in German)

↓ [wwf.de/kulinarische-kompass-biodiversitaet-zusammenfassung](https://www.wwf.de/kulinarische-kompass-biodiversitaet-zusammenfassung) (summarized report, PDF in German)

So schmeckt Zukunft: Gesunde Ernährung für eine gesunde Erde. (The taste of the future – culinary compass for a healthy planet.) Position paper (in German)

[🔗 wwf.de/so-schmeckt-zukunft](https://www.wwf.de/so-schmeckt-zukunft)

So schmeckt Zukunft: Die Proteinfrage. Von pflanzlichen Alternativen bis hin zu Insekten. (The taste of the future – the protein question. From plant-based alternatives to insects)

[🔗 wwf.de/proteinfrage](https://www.wwf.de/proteinfrage) (website in German)

Info graphics (in German)

[🔗 wwf.de/das-essen-von-morgen](https://www.wwf.de/das-essen-von-morgen)

Published by	WWF Germany
Date	November 2022
Project coordinators	Tanja Dräger de Teran, Rebekka Adkins, Silke Oppermann (WWF Germany)
Authors	Tanja Dräger de Teran (WWF Germany), Frank Brendel
Contact	landwirtschaft@wwf.de
Editor	Thomas Köberich (WWF Germany)
Layout	Anita Drbohlav, www.paneemadesign.com
Production	Maro Ballach (WWF Germany)
Cover image	iStock/Getty Images

Based on the life cycle assessment study by Dr. Ulrike Eberle & Nico Mumm, corsus – corporate sustainability GmbH, Hamburg (Germany) in cooperation with Dr. Toni Meier, Institut für Nachhaltige Land- und Ernährungswirtschaft e. V., Halle/Saale. This publication is a summary of the studies listed above. It does not include source citations. For complete citations please refer to the full reports. Data in charts and illustration may be rounded. © 2022 WWF Deutschland, Berlin, Germany. Reprint or republication of this material or parts thereof is only permissible with the consent of the copyright holder.

TABLE OF CONTENT

Our eating habits have a tremendous impact on our planet	4
Adjusting our future land use footprint	8
Our nutrition’s climate impact	13
Water use, water scarcity, and droughts	18
Our eating habits threaten global biodiversity	24
Conclusion	30
How policymakers can promote healthy nutrition for a healthy planet	32
What businesses and the economy can do	35
Recommendations for consumers	39

Our eating habits have a tremendous impact on our planet

In view of the climate crisis, many of us are looking to change our behavior in order to decrease our consumption of fossil fuels in everyday life. We invest in electrically powered cars or replace our fossil fuel-based heating systems with heat pumps powered by green electricity. We insulate our buildings to reduce the energy required to heat or cool our living spaces. Almost all of these changes to our mobility and living situation involve high initial investment or result in higher cost of transport. And there remain many areas where our influence, if we have any, is extremely limited. Thus, we may be able to switch to a utilities provider who supplies renewably sourced energy, but those of us who rent our homes have little or no choice when it comes to our building's heating system or thermal insulation.

Yet there is one very large area of great significance in all our lives that has a tremendous impact on the climate and our environment, and in which we have a lot of leverage to protect not only the climate and the environment but also our own health – without incurring extra cost or increasing our living expenses. The area we are talking about are our eating habits.

A few basic figures illustrate our dietary habits' enormous environmental impact: By now, more than one third of the earth's habitable surface is used for agriculture. Agriculture is accountable for 80% of worldwide deforestation, 70% of biodiversity loss and 70% of global water withdrawals. 29% of total global greenhouse gas emissions are linked to food production. Based on the current world population of 7.8 billion, there are 2,000 square meters of



80%
GLOBAL
DEFORESTATION



29%
GLOBAL GREENHOUSE
GAS EMISSIONS



70%
FRESHWATER
WITHDRAWAL

arable land available to feed each person. In 2050, with an estimated 10 billion people, this number will go down to 1,700 square meters. 1.6 billion of the 5.1 billion hectares of agricultural land available worldwide are arable land, the remaining 3.5 billion hectares are grassland and suitable for grazing. Yet we are using 30% of this global arable land today to produce feed for animals rather than crops for human consumption. One-third of the global food production is lost, wasted or ends up in the trash. And while one in eleven individuals worldwide suffered from hunger in 2019, two billion individuals are considered overweight or obese according to Welthungerhilfe.

Our food system is the greatest threat to nature

Although many people are becoming gradually more aware of the impact their diet has on our planet, the potential for change toward greater sustainability and climate protection in this area remains huge. In 2021 and 2022, WWF conducted three studies that explored the links between our eating habits and the protection of our planet. The results show that we can all contribute to the preservation and protection of our environment by adopting a healthy, balanced, and enjoyable “planetary-culinary” diet.

The three studies are based on the results of the EAT-Lancet Commission, in which 37 experts from 16 countries worked together over the course of three years to develop a “Planetary Health Diet”. The members of the EAT-Lancet Commission represent a wide range of scientific disciplines, including health and nutrition, environmental protection and sustainability, medicine, economics, and politics. The aim of their Planetary Health Diet recommendations is to respect the planetary boundaries while maintaining a healthy, tasty and well-balanced diet. Developed with a high degree of flexibility, the recommendations can be adapted to different cultural traditions and eating habits worldwide.



70%
LOSS OF TERRESTRIAL
BIODIVERSITY



50%
LOSS OF BIODIVERSITY IN
RIVERS AND LAKES



52%
AGRICULTURAL
LAND DEGRADATION

Adapting the German market basket to EAT-Lancet recommendations

Today's consumption habits in Germany: too many calories, too much meat and dairy, not enough vegetables

WWF Germany commissioned the company Corsus Corporate Sustainability Ltd. to adapt the EAT-Lancet recommendations to dietary habits in Germany and developed scenarios for three types of diet: flexitarian, vegetarian, and vegan.

Corsus then examined the complex effects that these three potential future diets would have on the environment and compared them with the average diet in Germany today. Only changes in the amount of foods consumed were considered in the scenario calculations. In order to depict the impact of a change in diet alone, factors like agricultural production methods, food transport and processing, food waste, and geographical origins of foods were left unchanged in the scenarios. More sustainable and environmentally compatible food protection offers additional potential for protecting the climate.

If we apply the EAT-Lancet Commission recommendations to Germany, it becomes clear that we consume too many calories in this country – on average, 2,659 kilocalories per person per day, almost ten% more than recommended. Switching to a Planetary Health Diet would also require cutting the consumption of red meat and sugar almost by half while doubling that of fruits, vegetables, legumes and nuts. One of the fundamental differences between the current diet of the average German person and the Planetary Health Diet is the source of proteins, which in the Planetary Health diet is plant-based foods rather than meat, dairy products, and eggs.



The future's most eligible protein sources: Pulses and legumes, nuts, mycoprotein, and algae

Food (group)	Current diet	Scenario I: flexitarian diet	Scenario II: vegetarian diet	Scenario III: vegan diet
Cereal	107.5	100.1	96.4	96.4
Roots or starchy vegetables	37.3	25.2	27.2	43.8
Vegetables	109.5	151.1	163.2	282.8
Fruits	104.2	100.2	108.2	137.9
Dairy products	123.5	79.5	85.9	0.0
Protein sources, including	81.8	126.2	104.1	108.0
Meat and meat products	55.4	30.1	0.0	0.0
Eggs	13.0	5.7	5.8	0.0
Fish and Seafood	6.5	9.4	0.0	0.0
Legumes	3.9	71.2	87.8	97.6
Nuts	3.2	10.0	10.4	10.4
Added fats*	21.6	18.2	19.8	19.8
Sugar	29.0	11.8	11.8	11.8
Other**	2.8	2.8	2.8	2.8
Total	617.4	615.3	619.3	703.3

(our calculation)

* E.g., palm oil, olive oil, rapeseed oil, sunflower oil, soy oil

** Foods that are relevant in Germany but could not be assigned to any of the categories above (here: cocoa)

Table 1: Consumption of various food groups – comparison between the current average diet in Germany and the EAT-Lancet Commission’s recommendations for flexitarian, vegetarian, and vegan diets, respectively (consumption per capita and year in kg).

Adjusting our future land use footprint



75%
land use for the production of meat and animal-based foods

Providing for our current eating habits in Germany requires an agricultural area of 16.61 million hectares, or 2,022 square meters, per inhabitant per year. At present, 514 square meters per inhabitant are currently used to produce fruit, vegetables and cereals; 1,100 meters are used for meat and sausage production; 403, for milk, cheese, eggs and other dairy products; and another 4 square meters for the production of fish and seafood, since part of the fish feed comes from agricultural production. Thus, 75% of our agricultural land is used to produce meat and animal-based foods. 88% of this land is arable land and only 12% grassland (used for pasture and hay).

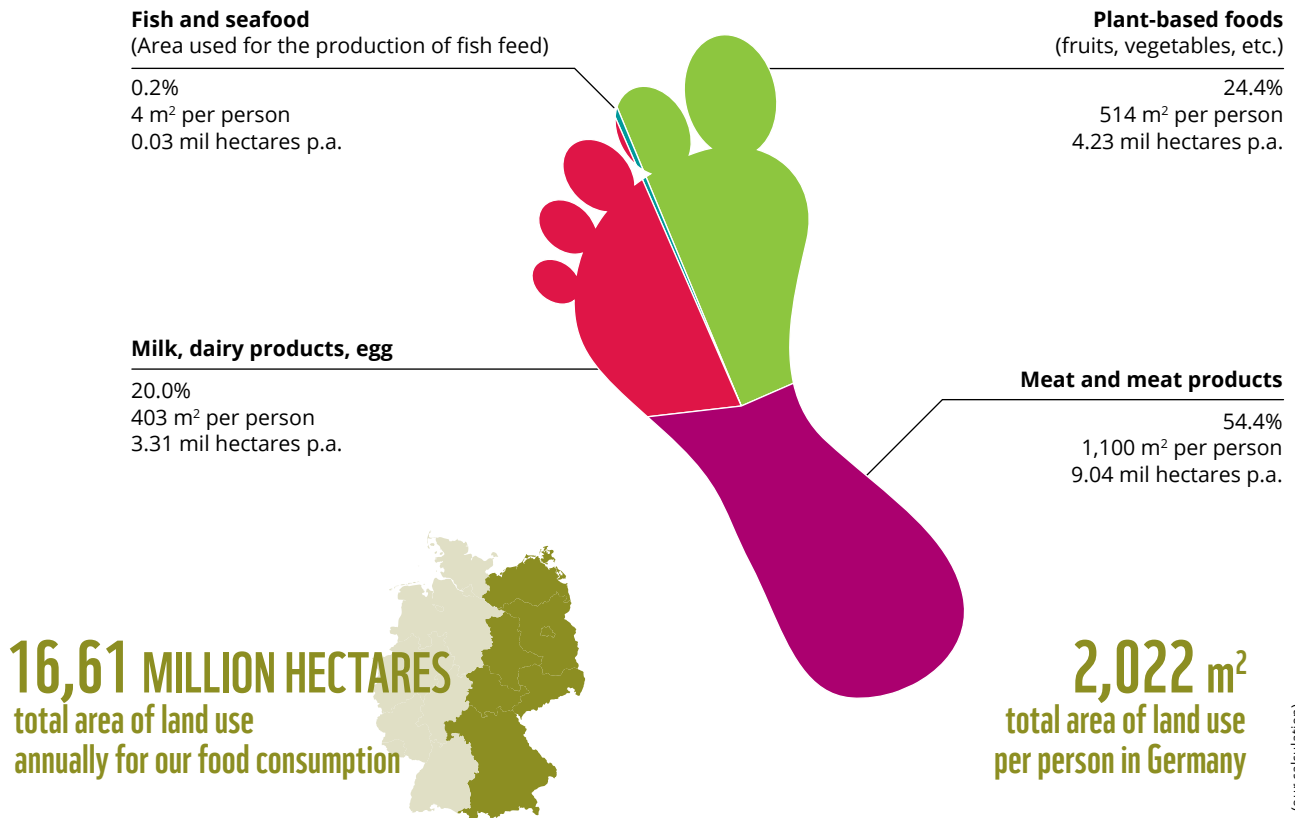


Figure 1: Global land required to satisfy our annual food consumption in Germany

Not all of the agricultural land used to provide for our current dietary habits is located in Germany. For soy alone, we need an area of 2.84 million hectares. 2.73 million hectares, or 96%, of this area is used to produce soy for animal feed. Most of this land is located in the U.S. and Brazil, a smaller portion, in Argentina. Only 4% of the soy crops grown in these fields is consumed by humans as tofu, soy milk, or soybeans .

2.84 MILLION HECTARES soy cultivation area worldwide



2.73 mil hectares
soy cultivation area to produce animal feed



0.11 mil hectares
soy cultivation area
for plant-based foods

(our calculation)

Figure 2: Land required to produce soy as animal feed in order to meet our demand for animal-based food products (in million hectares p.a.)



96%
of soy cultivation area
used for animal-
based products

Producing soy crops for animal feed not only uses up valuable arable land, but also leads to the massive destruction of virgin forest in Brazil for the purpose of gaining additional arable land. Take the Brazilian Cerrado, a savannah forest of nearly six times the size of Germany. Over the past 40 years, about half of the natural vegetation in the Cerrado has been converted into cropland and pasture, another 30% has been severely compromised. Between January and August 2021, 377,400 hectares of the most biologically diverse savanna forest on Earth were lost. This represents a 25% increase over the same period last year. The cause for this destruction of nature is the steady increase in soy production and cattle farming.

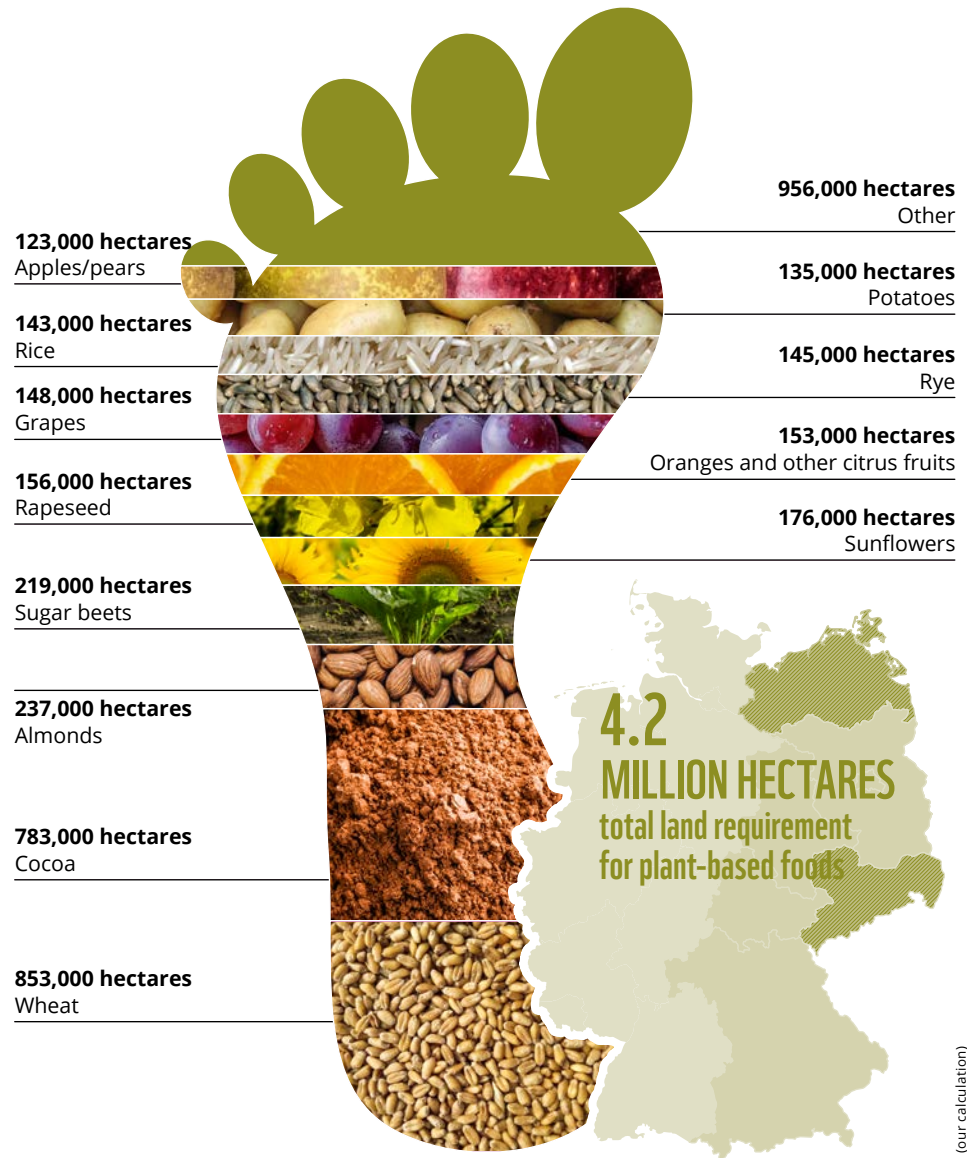


Industrial soybean harvest in Campo Verde, Mato Grosso (Brazil)

© iStock/Getty Images

Wheat has the largest land requirement, followed by cocoa, almonds, and sugar beets

And even the 4.2 million hectares used for the production of plant-based foods consumed in Germany are not all located within its borders. This is partly due to the fact that citrus fruits, cocoa or almonds cannot be grown here. Wheat is number one in hectares used (853,000 ha) for consumption in Germany, followed by cocoa (783,000 ha), almonds (237,000 ha), and sugar beets (219,000 ha). These numbers alone suggest that our dietary habits aren't the healthiest. Cocoa ranks so high because people in Germany consume 5.7 kilograms of chocolate per capita and year while the yield per hectare for cocoa is only 400 kilograms. To give you a comparison: one hectare yields about 40,000 kilograms of potatoes. Low crop yields per hectare are also accountable for the large area share of almonds.



■ 16.61 million hectares land requirement for our food consumption

Figure 3: Area needed to cover our consumption of plant-based food (in hectares p.a.)

These numbers show that our eating habits have a major impact on how much agricultural land we need, and especially how much of the relatively scarce and valuable arable land available worldwide. By following the EAT-Lancet Commission's guidelines for a flexitarian diet, each individual could reduce their individual land footprint by 18% or 364 square meters, from currently 2,022 square meters to 1,658 square meters. On a vegetarian diet, the decrease would be 924 square meters, or 46%, and a vegan diet would result in a decrease in land use of 992 square meters, or 49%. The smaller difference between the vegetarian and vegan diets is explained by the different weights of the two market baskets: the vegetarian market basket weighs 619 kilograms per capita and year, the vegan, 703 kilograms. This is due to the fact that the caloric density of animal-based foods is often much higher. On a vegan diet, a person needs to consume a lot more legumes and vegetables to reach the target of 2,500 kilocalories per capita and day than someone who also eats animal-based foods like cream and eggs. This is associated with corresponding environmental impacts.

**A reduction
by 49 percent
of land requirement
is possible**

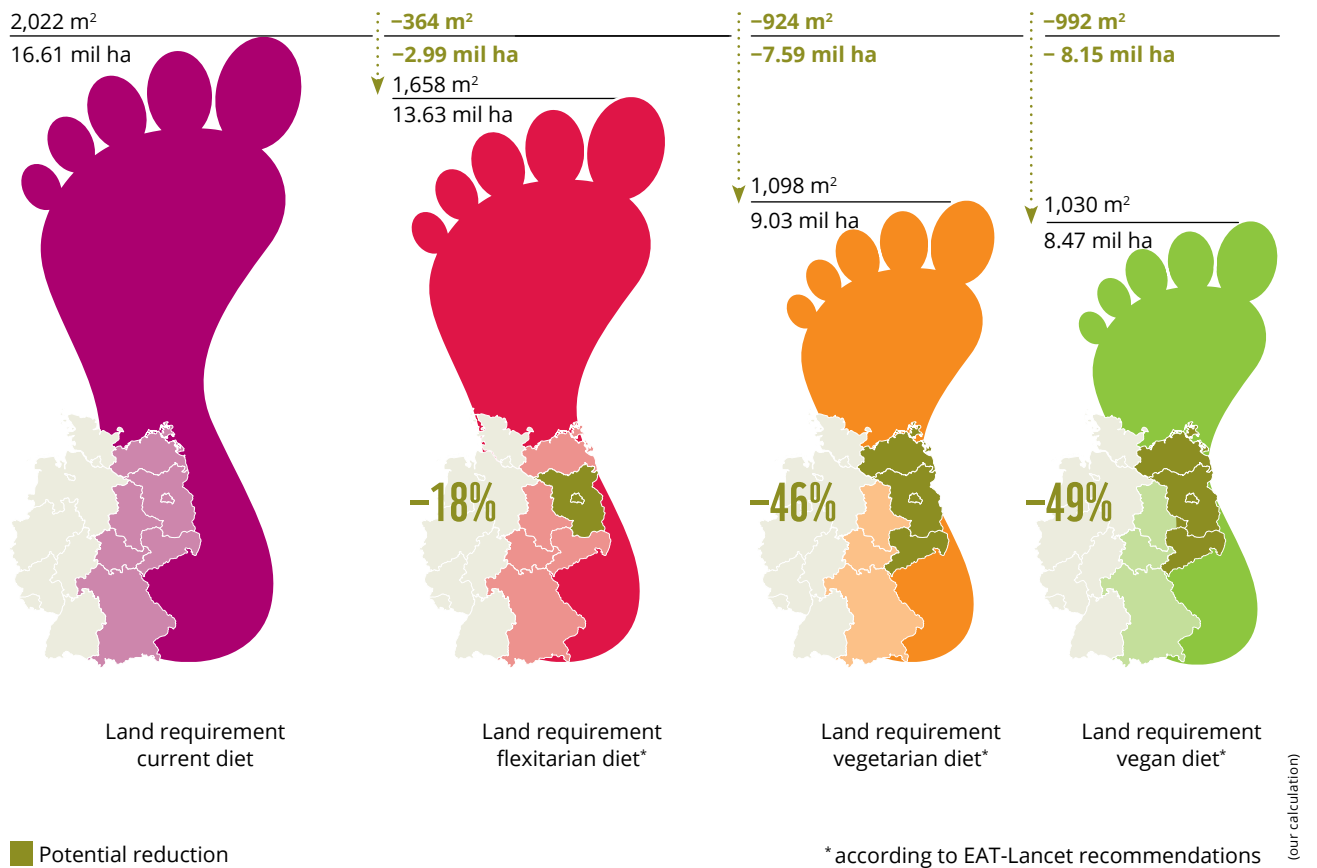


Figure 4: Land requirement for our current diet in Germany as compared to flexitarian, vegetarian, and vegan diets according to the recommendations of the EAT-Lancet Commission (in m² per capita and in mil ha)



“Save the rainforest with chocolate“

A joint project of WWF Ecuador and WWF Germany, with funding from Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), demonstrates how cocoa cultivation and rainforest protection can go hand in hand. Though cocoa beans are mostly produced in West Africa today, the cocoa tree (*Theobroma cacao*) was domesticated originally in the Amazon region, where it thrives particularly well due to the tropical climate. Cocoa domestication is an integral part of Ecuadorian culture and provides an income for thousands of families. Often, cocoa is grown traditionally in agroforestry systems – chakras – that combine cocoa trees and other fruits or medicinal plants.

The WWF project supports indigenous farm cooperatives in the province of Napo in order to preserve traditional methods of crop production, improve the livelihood of families, protect the rainforest, preserve biodiversity, and establish a traceable supply chain to Germany. Within near-natural agroforestry systems, the shade of other native trees protects the cacao tree from direct sunlight, which would be harmful to it. By growing a diversity of crops, e.g. timber trees, bananas, and legumes, farmers also diversify their sources of income and are able to produce a range of foods for their own consumption or local markets. In addition to technologies for sustainable cultivation methods, the project supports the local processing of cocoa beans. This improves cocoa yields and quality and facilitates the coexistence of numerous animal and plant species in the forest-like structure in which the cocoa is grown.



[wwf.de/kakao-ecuador](https://www.wwf.de/kakao-ecuador)
bit.ly/3bUR3Ew

© Alejandro Janeta/WWF Ecuador

The Arriba Nacional cocoa variety grown in the project is certified according to various standards such as Organic and Fairtrade. Moreover, it is a fine bean variety suitable for processing into luxury chocolates. To ensure consistent demand for this cocoa and type of production – and, consequently, the long-term future of the project – WWF is cooperating with interested chocolate manufacturers in establishing a transparent supply chain to Germany.

Our nutrition's climate impact

Our eating habits also have a powerful impact on the climate – from farm to table. To name just a few factors: crop production involves using machinery and fertilizers; even more machines, plus heating and cooling processes are needed to process foods; and the finished food products need to be transported to stores and, from there, our homes. To reflect this impact, foods can be assigned CO₂ equivalents (CO₂ e). In addition to these CO₂ emissions, scientists also attribute CO₂ emissions from land use changes, e.g., when forests that previously functioned as CO₂ reservoirs are destroyed to create fields for soybeans, oil palms or cocoa.



Deforestation in Côte d'Ivoire, the main export country for cocoa

Sustainable consumption and production: international approaches

WWF Germany addresses precisely this problem with a program designed to establish sustainable food systems in countries of the Global South. The program encompasses model projects to develop more sustainable practices and reduce greenhouse gas emissions along the entire supply chain in emerging countries with a growing middle class – which, unfortunately, is typically associated with unsustainable consumption of natural resources and destruction of nature. In these countries, WWF follows a three-pronged approach, working with national governments in developing mitigation strategies for the agricultural and food sectors, cooperating with businesses and industry to implement sustainable business models, and raising consumer awareness of the impact their behaviors have on the climate. A South-South exchange provides a platform to share best practices, leverage synergies, and scale results.



© Aaron Gekoski/WWF-US

Our project in Sabah, Borneo (Malaysia) helps small and medium-sized palm oil farmers to produce more sustainably in order to preserve existing nature reserves.

In Thailand, a new model project with sites for sustainable agriculture in northern Thailand and sustainable supply chains to Thai retailers provides an approach to prevent land degradation and deforestation. In Indonesia, project results included the development of ways to fulfill climate pledges in the agricultural sector with a focus on palm oil production, a business platform for sustainable retailers, and criteria for sustainable procurement of agricultural commodities. In the Philippines, the focus was on mitigating emissions from the tourism and hospitality sector. Private sector partners (restaurants, hotels) implemented sustainable dining measures. Comprehensive communication measures addressed and involved the (dining) public. In Paraguay, project participants worked on improving the sustainability of agricultural fresh food production in peri-urban regions and supply chains to retailers, creating “sustainable food shelf” options for urban consumers. In Colombia, the project worked on designing concrete corporate commitments to reduce transformation and deforestation in key supply chains (e.g., palm oil, meat/dairy, cocoa) and raised consumer awareness with a focus on food valorization and food waste prevention.

Our diet accounts for almost a quarter of the 11 metric tons of CO₂ emissions attributed to each person in Germany per capita and year. 2,060 kilograms of CO₂ e can be directly attributed to our diet, an additional 492 kilograms of CO₂ e, to changes in land use. In sum, that makes 2,552 kilograms of CO₂ e, of which 1,116 kg are attributable to meat and sausage, 779 kg to plant-based foods, and 646 kilograms to eggs and dairy products. Combined, the animal-based foods we consume in our current diet account for 69% of our climate footprint.

The protein question is a climate question

A specific CO₂ e value per kilogram can also be assigned to each food type. Beef has the highest CO₂ e (25.2 kilograms of CO₂ e per kilo), with a considerable lead over sausage (12.1 kg CO₂ e/kg). Pork (10.3 kg CO₂ e/kg) and poultry (9.2 kg CO₂ e/kg) have a slightly lower impact. Eggs and fish are significantly better for the climate, with 2.0 and 1.1 kg CO₂ e/kg, respectively. Among plant-based protein sources, hazelnuts have the highest climate impact at 5.2 kg CO₂ e/kg, followed by almonds (5.2 kg CO₂ e/kg) and peanuts (5.0 kg CO₂ e/kg), while peas (1.4 kg CO₂ e/kg) and beans (1.3 kg CO₂ e/kg) are protein crops with relatively small climate footprints. However, there are also some climate killers among plant-based foods. Cocoa (25.4 CO₂ e/kg) is even higher in emissions than beef. And the impact of palm oil (15.1 kg CO₂ e/kg) exceeds that of sausage and pork.

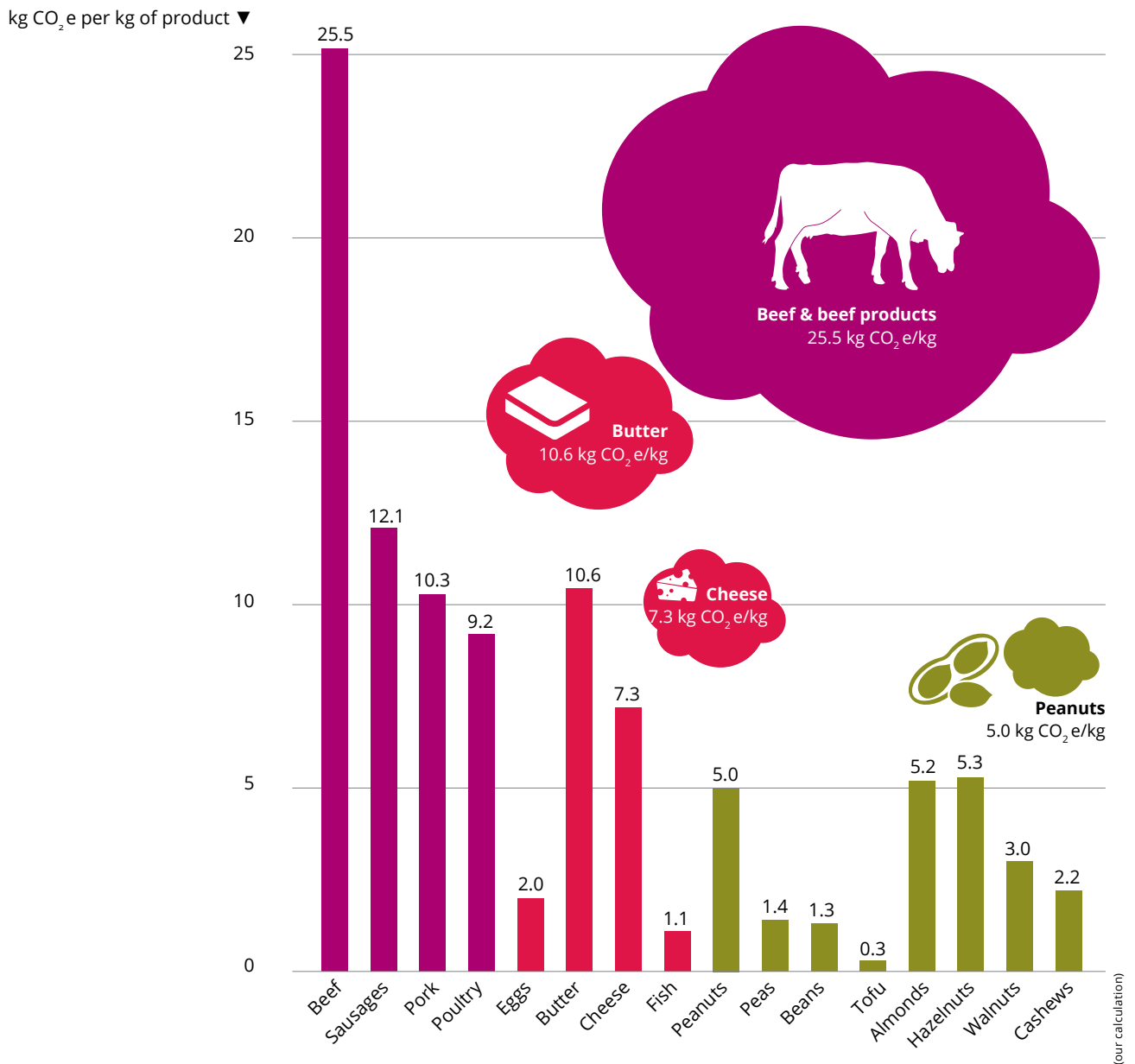


Figure 5: Comparison of the climate impacts of animal-based and plant-based protein sources (in kg CO₂ e per kg of product)

Switching to a planetary-culinary diet would reduce greenhouse gas emissions by almost 50%



So how can we reduce the CO₂ e amount – currently 2,552 kilograms – caused annually by our eating habits? The studies examined the three EAT-Lancet scenarios and their corresponding CO₂ e emissions. In the flexitarian diet, CO₂ e emissions dropped 27% to 1,874 kg CO₂ e per capita and year. The vegetarian diet promises a 47% decrease to 1,360 kg CO₂ e per capita and year; and the vegan diet cuts off another% with a 48% decrease to 1,315 kg – a total saving of 102 million tons of CO₂ e per capita and year. By comparison, Germany’s total emissions in 2018 amounted to 858 million metric tons CO₂ e.

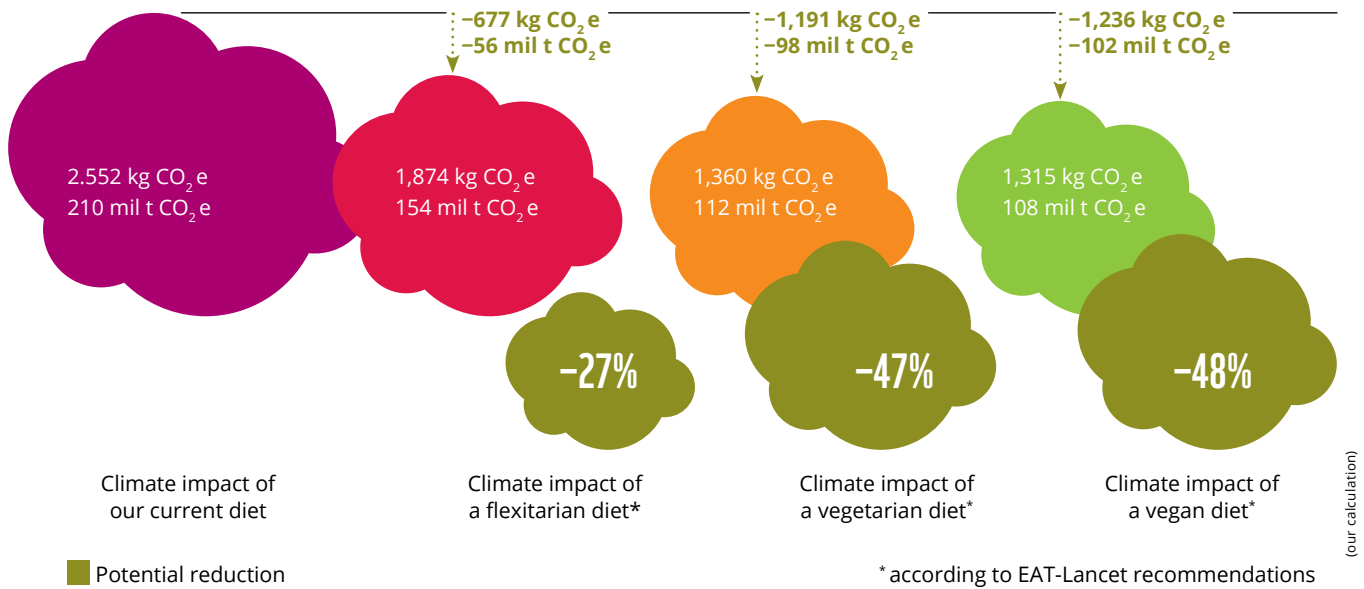


Figure 6: Potential reduction in greenhouse gas emissions for the three scenarios - flexitarian, vegetarian, vegan – as compared to the status quo in German (in percent, kg CO₂ e per capita, and million tons CO₂ e respectively)

By changing our eating habits, we would contribute significantly to the protection of our planet's climate and biodiversity.



Water use, water scarcity, and droughts



70%
of all freshwater with-
drawals are due to food
production

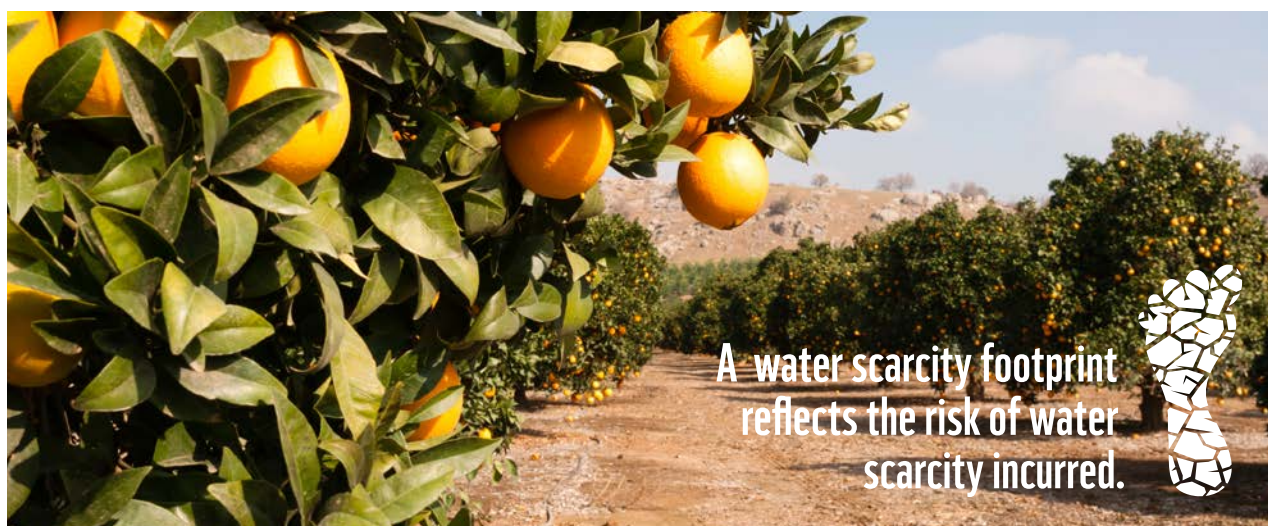
In addition to land use and CO₂ emissions, our eating habits also impact our water consumption. Unlike CO₂, however, water consumption should be approached as a regional issue as water availability and qualities vary widely by region, and conflicts over water are almost always regional in nature. Thus, growing food crops in areas with high precipitation hardly ever leads to resource scarcity with regard to water while growing the same crops in dry areas that require artificial irrigation leaves a significant water footprint.

Accountable for about 70% of all freshwater withdrawal, food production is the most water-intensive human activity. As the world's population grows, and with it the demand for food, the pressure on freshwater resources increases. Water scarcity and its consequences are considered one of the major threats to humankind and the environment over the coming decade.



Water footprint measurements distinguish between three types of water footprints: green, blue and grey. Green water footprint refers to rainwater usage from precipitation and rainwater stored in the soil. Grey water footprint refers to the volume of water that is required to dilute pollutants to such a degree that the water meets water quality standards. Blue water footprint refers to water sourced from groundwater and surface water resources for agricultural practices. It is also the type of water use that is expected to cause the most conflicts. To assess the environmental impact of artificial irrigation the studies used the Available Water REMaining (AWARE) method, which determines water scarcity footprints that in turn reflect the risk that water withdrawals will deprive others – humans and nature – of this resource.

Our current demand for food in Germany requires a total water withdrawal of 2,400 million cubic meters annually – this is roughly the water volume of Lake Chiemsee and equals 29,000 liters or 29 cubic meters per person and year.



Plant-based foods production accounts for 82% of this water withdrawal, animal-based food production, for the remaining 18%. This quantity is due partly to the fact that animal feed is grown predominantly in regions with sufficient precipitation, whereas fruit and vegetables crops depend on artificial irrigation to a larger degree.

Moreover, only 37% of the vegetables and only 20% of the fruit consumed in Germany are produced in Germany. Even for peas and beans, which are gaining in importance as an alternative source of protein, Germany's self-sufficiency rate is just over 20%. The rest is imported from other countries, where these crops often require high water withdrawals for irrigation. Citrus fruits are the leading irrigated crops, using 6,900 liters per capita and year. Rice causes 2,800 liters of water withdrawal for irrigation per capita and year; almonds, 2,500 liters; grapes, 1,300 liters; and walnuts and hazelnuts, 1,100 and 700 liters respectively. Animal feed crops, on the other hand, account for only 5,000 liters of irrigation water per capita and year.

Citrus fruits and almonds have the largest water scarcity footprints

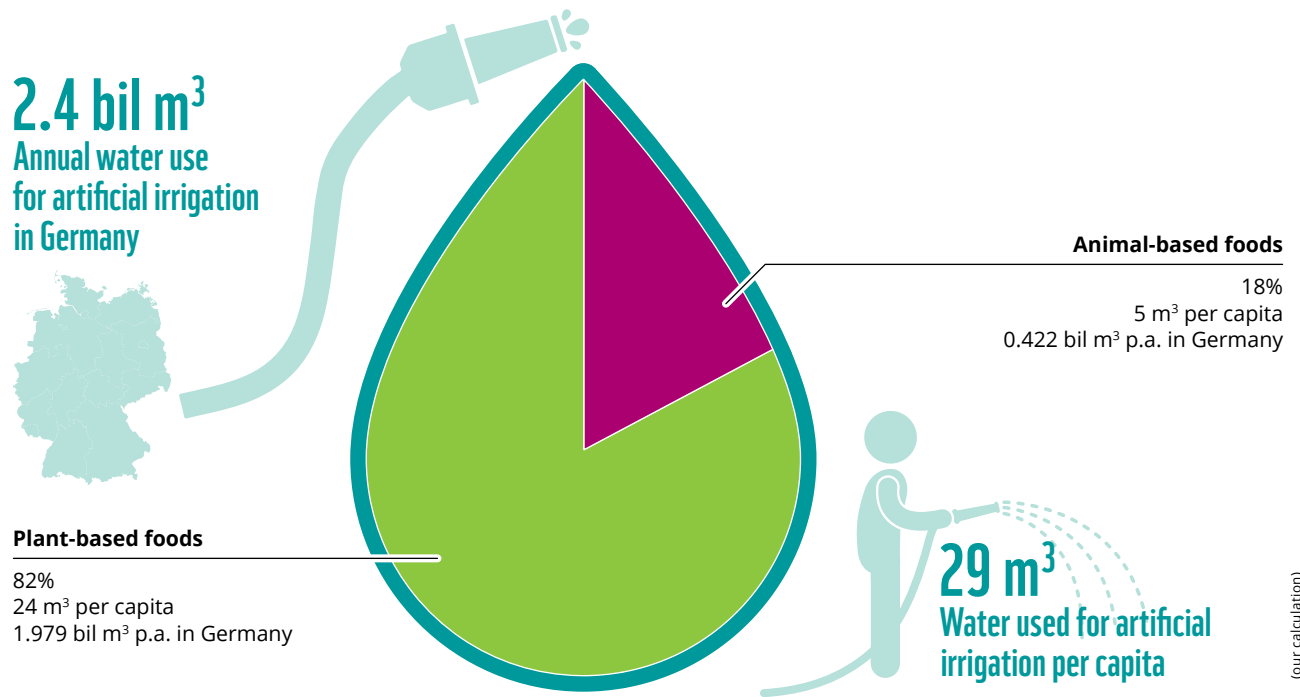


Figure 7: Water use for irrigation in the production of foods for the current demand. Annual amount in bil m³ for Germany in total and in m³ per capita.

Water withdrawal for fruits and vegetables becomes even more worrisome in terms of the associated water footprint. This is due to the fact that citrus fruits, fruits and vegetables imported to Germany are grown in regions with a high risk of water scarcity, e.g., Spain. Almonds are imported mainly from California, another high-risk region in terms of water scarcity, and also from Spain. Thus, our eating habits create a water scarcity footprint of 1,384 cbm per capita per year, 37% of which (514 cbm) are attributable to citrus fruits; 11% (159 cbm), to almonds; 9% (118 cbm), to peaches and other stone fruits; and 7% (102 cbm), to rice.



Figure 8: Water scarcity footprint for the current consumption of plant-based foods in Germany in m³ worldq per capita and year, plus the respective main producers

Experiences in Spain, California, Saudi Arabia, Chile, Morocco, Italy, and other countries have made clear that optimizing irrigation systems is not the answer to diminishing water resources. Rather, what is needed is a sustainable distribution of water resources across hydrological systems in which crops are grown, adapted water management techniques, protection for natural water storage in forests and wetlands, and many other interventions. Ecological agriculture projects in Spain have shown that crops can be grown without artificial irrigation if the climate is suitable. Measures include planting ground cover, covering the soil with mulch, and using non-mechanical tillage methods.

Compared with our current diet, which requires 29,000 liters per capita and year of water withdrawal, the planetary culinary diet recommended by the EAT-Lancet Commission would lead to an increase in water withdrawal for irrigation. The flexitarian and vegetarian diets require 39,000 liters per capita and year, the vegan diet, 45,000 liters per capita and year. The same applies to the water scarcity footprint, which would increase with a heightened demand for plant-based foods. In our current diet, 96% of the water scarcity footprint – i.e., water sourced from areas with potential water conflicts – is attributable to plant-based foods and only 4%, to animal-based foods. This is due primarily to the increased consumption of citrus fruits, nuts, almonds and legumes.

Vegetarian and vegan diets cause an increase in water use for irrigation

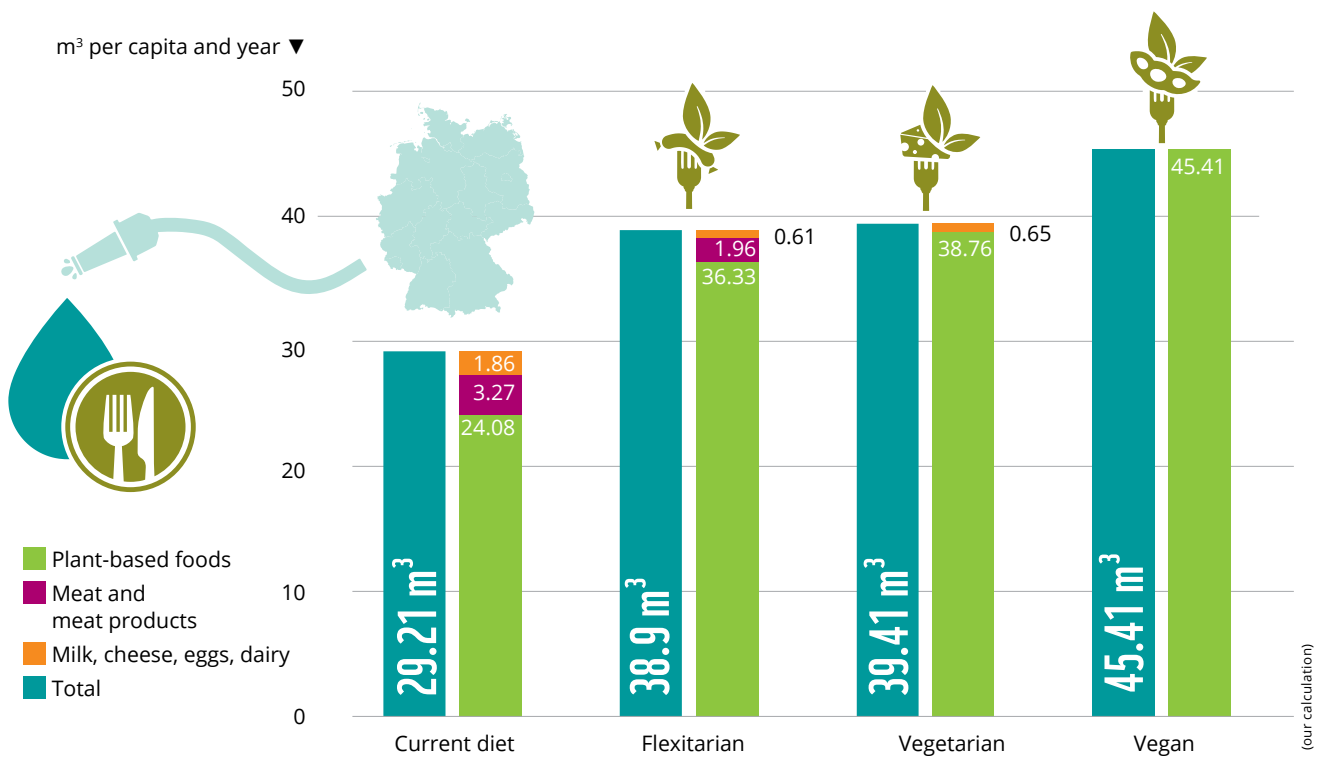


Figure 9: Water use for irrigation in m3 per capita and year - comparison between our current food consumption and flexitarian, vegetarian, and vegan EAT-Lancet diets, respectively

Allowing all people in Germany to eat a diet that benefits both their health and the planet requires a clear change in policy. Changing consumption patterns will not suffice. It must be ensured that the crops needed to support changes in eating habits towards predominantly or purely plant-based diets are grown sustainably and without excessive water withdrawal.

One of the most urgent measures is the increase of domestic crops of fruit, vegetables, nuts and pulses. This requires the government to develop an interdepartmental nutrition strategy that sets specific targets for the consumption of animal-based foods and the proportion of foods from sustainable, resource-saving (including water-saving) production.

Domestic agricultural land is ideally suited for crops that can satisfy the demand for vitamin C without the need for irrigation. With more than 1,000 mg per 100 g, rosehips contain about 20 times as much vitamin C as oranges (50 mg/100 g) or lemons (55 mg/100 g). Sea buckthorn takes second place (400 mg/100 g), followed by black currants (200 mg/100 g). Although berries are a traditional food in Germany, the self-sufficiency rate has dropped to approx. 6% – most berries consumed in Germany are imported from Spain, the Netherlands, and Poland.

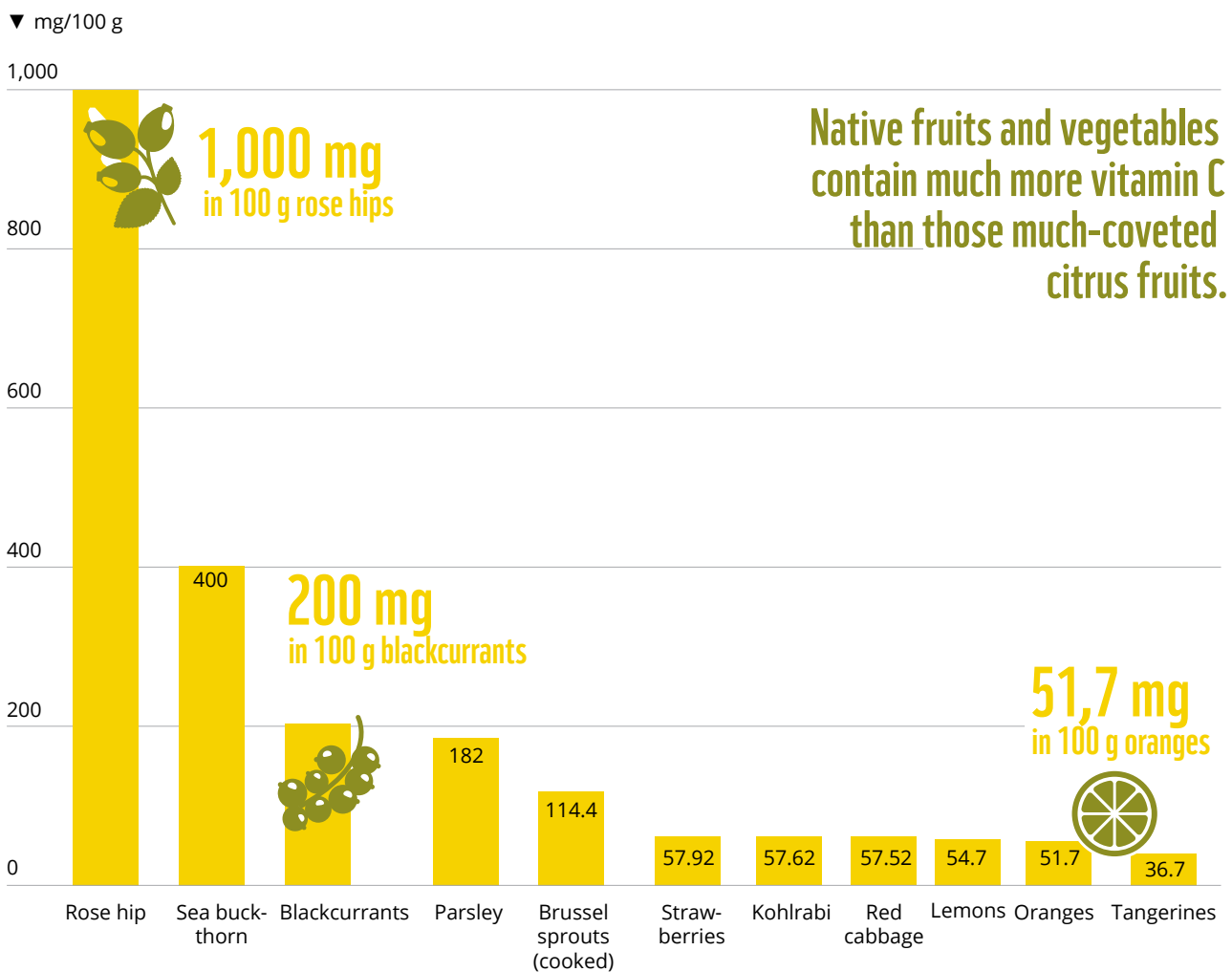


Figure 10: Comparison of vitamin-C contents of various fruits and vegetables (in mg/100 g of product)

Promote domestic nut production for the planetary-culinary diet of the future

When it comes to nuts, the situation is similar. While hazelnuts are native to Germany, 98% of the demand is imported from abroad, mainly from Turkey and Italy. Pulses, an important source of protein increasingly in demand for meat substitutes, are also ideally suited for domestic cultivation. In 2020, the self-sufficiency rate for beans was 19%; for peas, 24%. Dry pulses, e.g. dried beans, peas or lentils, consumed in Germany are almost all imports.

It is therefore obvious that action needs to be taken if we are to introduce dietary habits in line with the EAT-Lancet Commission's recommendations. The diet composition and consumption volumes for flexitarian, vegetarian or vegan diets listed in table 1 were determined based on current eating habits in Germany, which show a clear preference for citrus fruits and almonds. Changing the composition of the diets within the dietary recommendations of the EAT-Lancet Commission would allow us to explore which foods from which countries can help us to reduce our water scarcity footprint.



**Urgently needed:
a national food strategy that
respects planetary boundaries
and takes water risks into account**

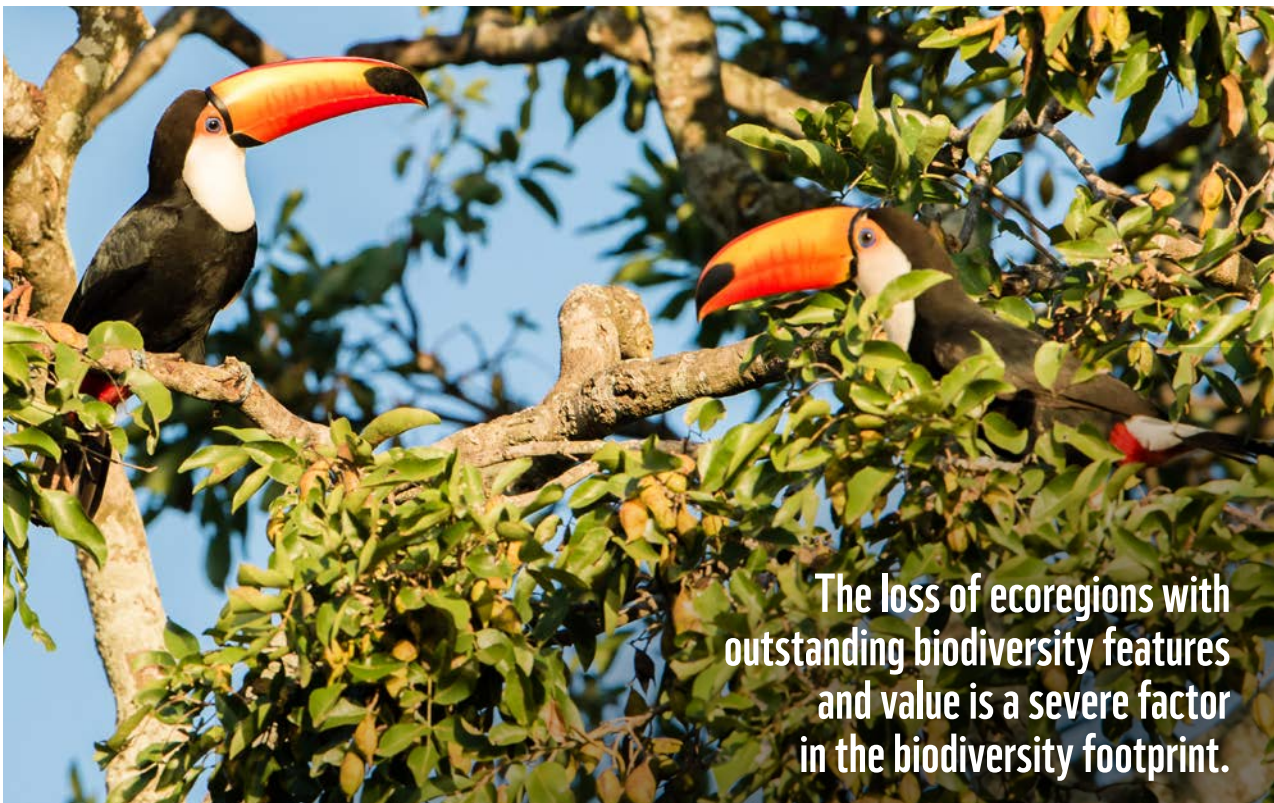
© IMAGO/Joerg Boethling

Our eating habits threaten global biodiversity

Last, but not least, our eating habits have a major impact on biodiversity. Besides, malnutrition or obesity are not the only detrimental consequences of our current diet. Around 60% of all infectious diseases known today are zoonoses such as HIV, SARS, Ebola or the coronavirus. These spread of these zoonoses is promoted when wild animals lose their natural habitats. When more animals have to share increasingly smaller habitats, they are more likely to contract diseases, and diseases can cross species barriers more easily – including that to humans. The stress the confined living space puts on host animals also makes it more likely that this spillover, i.e., the transmission of a pathogen to a new host, occurs.

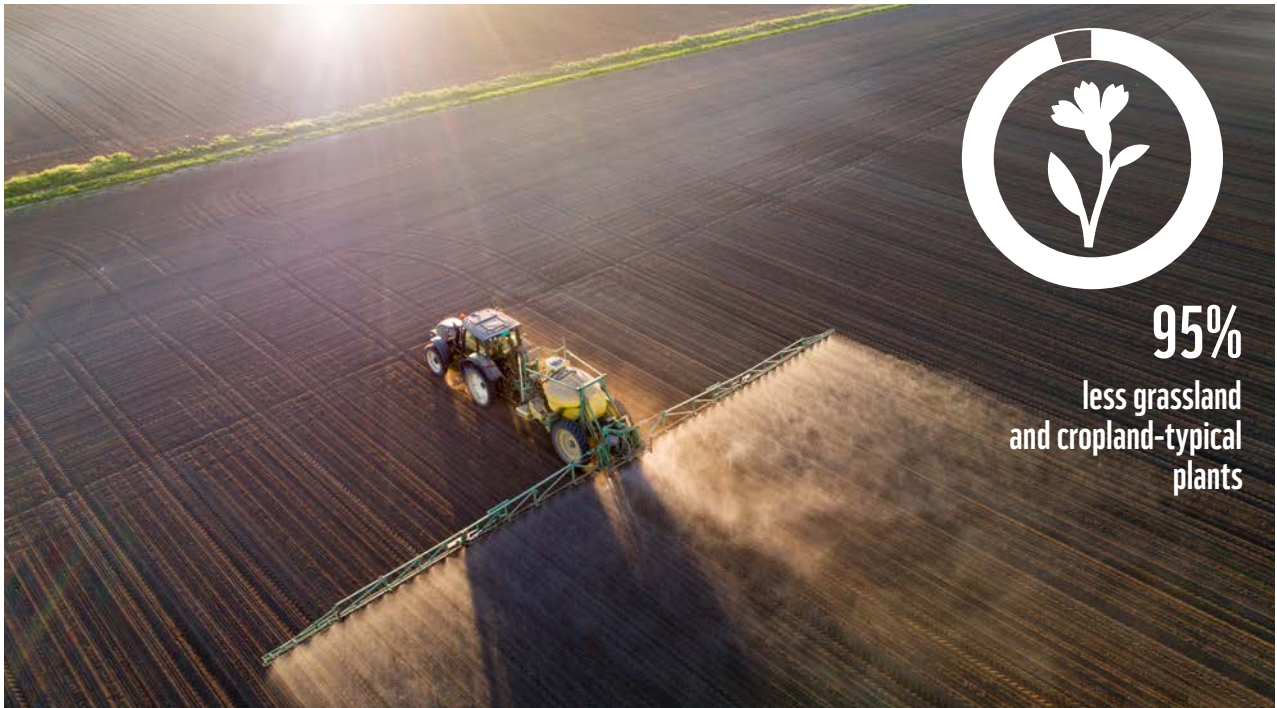
The World Biodiversity Council (IPBES) now identifies our food systems as the main cause of serious biodiversity loss.

- ➔ The conversion of natural ecosystems into cropland and pasture is considered the main reason for habitat destruction. This is also happening in the Amazon rainforest, one of the most biodiverse areas on earth.
- ➔ Every year, humans withdraw more resources from the planet than the natural ecosystems can regenerate. This includes not only raw materials, but also the overexploitation of soils through intensive agriculture, overfishing of the oceans, and deforestation.



© Ralph Frank/WWF

Toco toucan, Cerrado (Brazil)

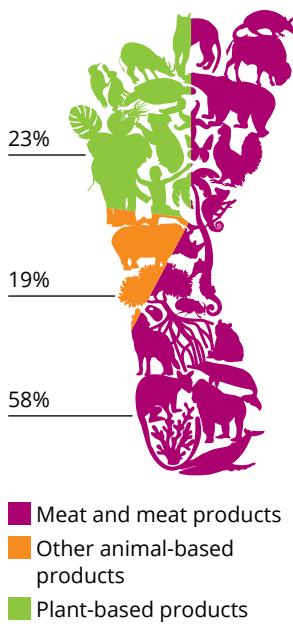


Aerial view of a tractor spraying soil and young plants in the spring

- Air, water and soil pollution also have serious impacts on terrestrial, freshwater, and marine ecosystems. Our current food production with its intense use of fertilizers and pesticides is a major contributor to this pollution. This decimates the diversity of landscapes and habitats. Breeding, feeding and/or nesting sites of birds, mammals, insects and microbial organisms are threatened or destroyed, and many native plant species are displaced.
- Global warming contributes to the loss of biodiversity with increasing and extreme natural disasters or shifts in vegetation zones. With a share of about one third of total greenhouse gas emissions, our food systems are major drivers of the climate crisis.
- Humans contribute to the loss of biodiversity by willingly or unwittingly displacing animals and plants from their native range to new habitats. As neozoa and neophytes, these animals and plants often have a negative impact on their new habitats.

Only in recent years have methods been available to assess the impact of products and services on biodiversity. The three WWF studies were the first to apply this method to examine the impact of nutrition in Germany on terrestrial biodiversity. The following factors were considered in this assessment of the biodiversity footprint:

- **Land area time:** area requirement and duration of use
- **Land-use-specific biodiversity value:** determined by how close to nature and how intensive the land use is
- **Ecoregion factor:** describes the ecological value of an area



Meat and meat-based products account for the largest share of the biodiversity footprint (58%), followed by dairy products and eggs (19%). Meat and animal products combined account for 77% of the biodiversity footprint while only 23% are attributable to the plant-based products we consume. Thus, the biodiversity impact of animal-based foods is even higher than their land footprint (75%) or their climate footprint (69%). This is due to the fact that the production of these animal-based foods requires large volumes of animal feed, which contains large proportions of soy. 1.25 million hectares of the 2.73 million hectares of land used to grow soybeans to satisfy our craving for animal-based foods are located in Brazil in regions with a high ecoregion factor – i.e., which are habitats for wild animals.

Among plant-based foods, cocoa has the largest share of the total biodiversity footprint (5%). Once again, this is the result of a combination of factors: not only has cocoa a large land use footprint (783,000 hectares) but this land is located in regions with very high biodiversity in countries like Côte d'Ivoire, Ghana, Nigeria, and Cameroon.



© Jeffrey A. Sayer/WWF

Among all regions of origin and agricultural products sourced there for the German market, the biodiversity value of palm oil producing regions is highest. However, only 10,000 hectares of oil palm plantations suffice to satisfy our demand for palm oil in our diets. Consequently, palm oil as a food has little significance in terms of biodiversity. Taking into consideration the total demand for palm oil, this assessment changes dramatically, since palm oil is also used in biofuels, cosmetics, detergents, and other products.

Our current diets contain a high proportion of animal-based products, particularly meat and meat products. This gives us tremendous leverage in terms of biodiversity: changing our diet to include less meat and meat-based products would reduce our biodiversity footprint considerably. Switching to a flexitarian diet in line with the EAT-Lancet Commission's recommendations would reduce our biodiversity footprint by 18%; a vegetarian diet would reduce it by 46% compared to our current diet; and a vegan diet would almost cut it down by half (49%).



77%

**of our nutrition's
biodiversity footprint
is due to animal-based foods**

If we consider the impact a change in diets would have on our food's regions of origin, Germany would benefit significantly even though its value as ecoregion is comparatively low. 8.1 million hectares of the 16.6 million hectares of agricultural land needed to produce our food are located in Germany – and current agricultural practices in Germany have a strong negative impact on our native biodiversity. Populations of formerly common and widespread wild herbs and flowers have dropped drastically, and agricultural land has been cleared of hedges and shrubs. This led to a dramatic decline of native flying insect populations, which have shrunk by an average of 76% over the past 30 years. In turn, populations of field and meadow birds also have declined. Introducing a planetary-culinary diet could reduce the biodiversity footprint in Germany significantly. A flexitarian diet would lead to a 25% reduction; a vegetarian diet, to a 59% reduction; and a vegan diet would cut the biodiversity footprint even by 63%. The reason for these much smaller biodiversity footprints is that these diets require less land: only 5.9 million hectares in the case of the flexitarian diet, 3.2 million hectares for a vegetarian diet, and a mere 2.7 million hectares for a vegan diet.

Brazil would benefit even more than Germany as it is home to a particularly large number of regions with high ecological value. Our biodiversity footprint there could be reduced by up to 92%, due to the fact that land requirements for soy cultivation (for animal feeds) would drop drastically.

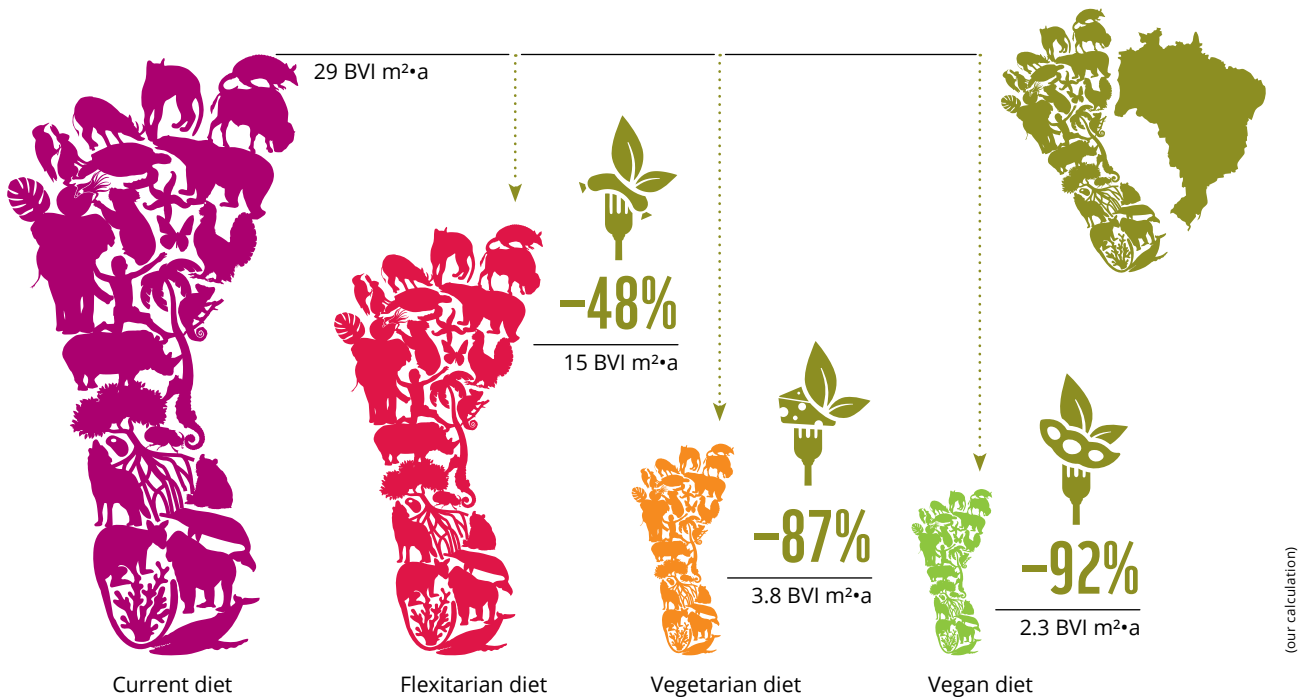


Figure 11: Potential reduction of the biodiversity footprint in Brazil in regard to diet in BVI*m²*a (BVI = Biodiversity Value Increment) per capita and year



The Brazilian cerrado is one of the oldest and most biodiverse savannas in the world.



Landwirtschaft für Artenvielfalt (Agriculture for Biodiversity/LfA)

© Frank Gottwald/WWF

Good example: Launched by the organic farming association Biopark in 2012, Landwirtschaft für Artenvielfalt (Agriculture for Biodiversity/LfA) is the Germany's largest program for biodiversity in agricultural landscapes. Agriculture has always impacted flora and fauna habitats. Yet once-common species of mammals, birds, insects, reptiles and plants are becoming increasingly rare. Agriculture for Biodiversity aims to reverse this trend by working with organically managed farms to integrate conservation measures into their farming operations. The initiative's core project is a farm-adapted nature conservation model designed as additional qualification standard for organic farms. With the help of conservation consultants, participating farms select from a range of 100 potential measures those best suited to their farm and the local conditions. Besides the creation of habitats for wild plants and animals, a key aspect of the initiative is to align the farms' economic viability with biodiversity protection.

Since its inception, other growers' associations have joined Biopark. WWF Germany is responsible for the initiative's project management, the Leibniz Centre for Agricultural Landscape Research (ZALF) e.V. contributes scientific expertise. The retail group EDEKA supports the over 100 participating farms by guaranteeing to buy their products at an elevated price. Further farms are currently in the consulting stage. Farm sizes range from 50 to 3,500 hectares.

Conclusion

Our eating habits are becoming increasingly subjects of public debate. More and more people are thinking about changing their diets to become flexitarians with lower meat consumption, vegetarians or vegans. This debate focuses mainly on health aspects as well as on animal welfare. Far too little attention is devoted to the environmental impact of our eating habits, be it greenhouse gas emissions, water withdrawal, land consumption, or the decline in biodiversity. The three WWF studies that form the basis of our report “So schmeckt Zukunft: der kulinarische Kompass für eine gesunde Erde” (“The taste of the future – culinary compass for a healthy planet”) shine a light on the consequences of our dietary habits on our planet and our own future.

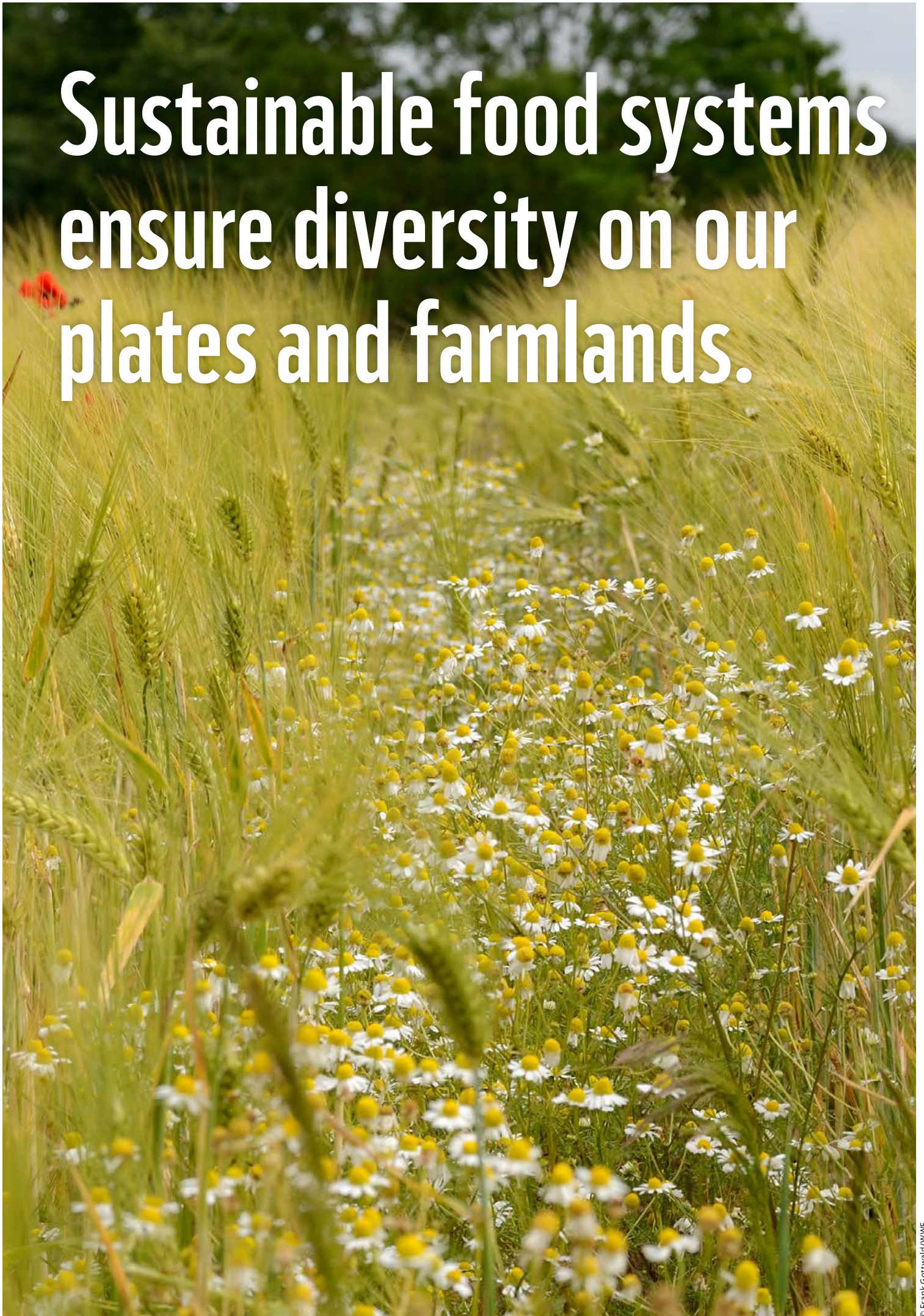
Following the scientifically supported recommendations and switching to a planetary-culinary diet may take some getting used to, especially in terms of our protein sources. But we cannot continue with our eating habits because the earth’s population is growing and there simply is not enough arable land on the planet to feed us all unless we make some changes.



To help with the switch to a planetary-culinary diet, WWF commissioned nutritionists to create three weekly menus for a flexitarian, a vegetarian and a vegan diet, respectively. These menus show that we can all eat better – not only with regard to our own and our planet’s health but also in terms of taste, variety, and culinary pleasure.

[🔗 wwf.de/wochenmenue](https://www.wwf.de/wochenmenue)

**Sustainable food systems
ensure diversity on our
plates and farmlands.**



How policymakers can promote healthy nutrition for a healthy planet

Germany plays an active part as contributor to the global food crisis – but with the right nutrition policy, the country can become part of the solution. The WWF position paper “So schmeckt Zukunft - Gesunde Ernährung für eine gesunde Erde” (“The taste of the future – a healthy diet for a healthy planet”) addresses policymakers, industry, and consumers with a comprehensive list of demands and recommendations. Below is a short list of actions policymakers can and should take to promote food production practices and eating habits that minimize our nutrition’s environmental impact.



→ **Develop a comprehensive nutrition strategy:** In early 2023, the German government will adopt an interdepartmental strategy that covers all four sustainability dimensions – health, social factors, environment and animal welfare – and aims to respect planetary boundaries. The strategy’s objectives include ensuring fair working conditions in all food-related occupations and throughout supply chains. The strategy is to define targets, timelines, indicators and measures, and be reviewed for effectiveness at regular intervals. Among the targets to be defined should be specific climate targets for nutrition, targets for the protection and promotion of biodiversity, and targets for the consumption of animal products.

→ **Implement the Convention on Biological Diversity effectively:** The post-2020 agreement, which is expected to be adopted by the UN Convention on Biological Diversity (CBD) at the World Conference on Nature (CBD COP 15) in 2022, aims to halt the global destruction of biodiversity by 2030. It will include about 20 global biodiversity targets. The German government should advocate for a global target to halt the current species crisis and reverse biodiversity loss.



→ **Review European and German agricultural policies:** The German government must work towards a consistent implementation of the European farm-to-fork strategy and towards ending the loss of biodiversity through agriculture. This requires a shift in the Common Agricultural Policy (CAP) from the current practice of paying out a premium based on the area of eligible land towards a subsidy practice based on concrete and ambitious environmental, climate and animal welfare requirements. This could take the form of a “Common Good Premium” that rewards farmers who demonstrably protect biodiversity, soils, water and climate. Farmers need more support for production methods that involve less environmental impact and use fewer resources. In the same vein, policies need to promote, establish and support production methods that go hand in hand with protecting and nurturing biodiversity. This includes production-integrated practices, e.g. drill gaps (wide row spacing), as well as strategies on and around cultivated land, e.g., field margin vegetation and hedgerows. Agroforestry systems must also be subsidized more intensely in Germany.

**Our demand:
Introduction of
a Common Good
Award rewarding
farming practices
that verifiably
protect biodiversity,
soils, water
and climate.**

The German government must push ahead now with the expansion of organic farming to 30 percent and increase the budget for organic farming research accordingly.



- **Support fruit, vegetables, nuts and pulses farming in Germany:** In 2019/20, Germany had a self-sufficiency rate of about 37% for vegetables, and not quite 20% for fruit. Only 4% of the demand for tomatoes, the most favorite fruit in Germany, was sourced in Germany in 202. The self-sufficiency rate for peas and beans, which are gaining in importance as an alternative source of protein, barely exceeds 20%. German policymakers need to support sustainable farming of fruits, vegetables, nuts and legumes more strongly in order to boost self-sufficiency and satisfy the demands of a balanced and sustainable plant-based diet in Germany. Required steps include funding for research and knowledge exchange as well as the establishment of specific support and advisory programs for agricultural producers.



- **Introduce a sustainability label for food products:** We call on the German government to advocate for the development and obligatory implementation of a sustainability label for food at the national and European levels. Besides the climate footprint, the scope of this sustainability label should include aspects like water risks (e.g. overexploitation, pollution and water conflicts), biodiversity loss (through increased land use), social and health impacts. This would allow consumers to make more informed shopping decisions and compare the impacts of various food products – e.g., animal-based products vs. vegan and vegetarian alternatives.

- **Review food taxes:** The German government needs to review food taxation in order to promote nutrition that is socially just, healthy, environmentally and animal-welfare friendly. Concrete proposals for reviewed taxation regulations are required. The objective of the reviewed taxation strategy must be to ensure that the healthy and sustainable choice is also the convenient and cheaper choice.



- **Leverage the impact of public procurement for sustainability:** Public institutions have the power to create new markets for more sustainable products and services. German federal and state governments should leverage this power immediately by adopting sustainability targets and minimum criteria for food and catering suppliers. These targets and criteria should be included as mandatory in all invitations to tender and contract award procedures for public institutions on the federal and state levels. Criteria should include the mandatory implementation of Deutsche Gesellschaft für Ernährung (German Nutrition Society / DGE) quality standards, a 30% share of organic products by 2025 (50% by 2030), and measures to capture and prevent food waste. To ensure comprehensive implementation at the municipal level, authorities need to set up an extensive support and advisory structure that involves suppliers, civic initiatives, and public administration. DGE quality standards for catering in daycare centers, schools, plants, businesses, hospitals, nursing homes, and care and rehabilitation facilities need to be evolved in view of planetary boundaries.



→ **Make the finance sector more sustainable:** The German government must stop investments in the destruction of the environment and unsustainable corporate practices, and instead promote sustainable investments. The government also needs to adopt regulations that compels the financial sector to due diligence with regard to human rights, freedom from deforestation, and environmental factors, including water risks. These latter are particularly significant in light of the worsening water scarcity and its consequences, which represent one of the greatest challenges in the decade to come. Moreover, sustainable financial products and investments must be assessed on the basis of uniform, scientifically sound criteria (EU taxonomy).



→ **Review the German Supply Chain Act:** WWF welcomes the German government's moves to legally regulate corporate due diligence. However, a strong German supply chain regulation must treat the environment as an independent legally protected good in addition to human rights. The environment as independent legally protected good should include water, air, soil, climate and biodiversity. Consequently, the corresponding legislation would also address water risks resulting from overuse, pollution, water conflicts, and other factors. Businesses in breach of due diligence must be liable in civil courts. Furthermore, this legislation must apply to all businesses with risks throughout their supply chains. The focus must always be on the entire supply chain, not just on the individual business unit and its immediate suppliers.

→ **Make climate protection a priority:** WWF demands a consistent alignment of climate and energy policies in all economic sectors with the goals of the Paris Climate Agreement. We call for more ambitious German and European climate targets (EU emission target: -65% by 2030, climate neutrality by 2040). In the future, governments should define clear climate targets and implementation measures for food systems.

What businesses and the economy can do

Businesses will need to align their strategies not only with the UN Sustainable Development Goals (SDGs), but also with planetary boundaries. Consequently, corporate activities will have to be realigned fundamentally and verifiably to respect and preserve scientifically defined planetary boundaries. Only then can business meet social standards and contribute to the protection of our planet, the foundation of all our lives. While global goals (SDG, planetary boundaries) remain immensely significant, the food industry also needs to promote and protect biodiversity on the level of local landscapes.

For businesses, this means taking a closer look at processes, supply chains and decisions (products, assortment, procurement, etc.) from the perspective of biodiversity preservation.

→ **Ensure transparent and responsible supply chains:** Businesses need to have a thorough understanding of their supply chains and supplier relationships. They need to ensure human rights and compliance with environmental standards along their entire supply chains. This obligation also applies to biodiversity factors. Long-term conservation and expansion of natural reserves as well as restoration of degraded ecosystems are the most important tools available to the global community in the fight against deforestation, land-use change and biodiversity loss. Businesses must make sure that their sourcing, production, and other business practices do not impact natural reserves or areas of high biodiversity value (Protected Areas, Key Biodiversity Areas, HCV & HCS Areas). In order to create transparent supply and value chains and minimize environmental and human rights risks, businesses need to establish a responsible supply chain management in compliance with the OECD Guidelines for Multinational Enterprises as well as monitoring and reporting mechanisms for the implementation of measures. Supply chain visibility and traceability also play an essential part in successful consumer communications.

Corporate strategies must be based on Sustainable Development Goals (SDGs) and planetary boundaries

→ **Adopt binding sustainability criteria for all raw materials and throughout the value chain:** Businesses need to apply binding sustainability criteria to the production of all raw materials, regardless of their use further down the value chain (e.g., as raw material, energy source, food and feed). This means not only that social and environmental standards must be met in the production of these raw materials, but also that the food supply situation in the producing countries must not be jeopardized or restricted at any time by a company's activities. Product labeling allows consumers to make informed buying decisions.



Use of 100 percent certified soy, palm oil and cocoa



- **Use certified soy:** Switching to GMO-free and deforestation-free soy is the most important step towards reducing the negative environmental impact of soy production. Another relevant factor is the reduction of pesticides used in soy production. Potential ways to achieve this include certifications (e.g. EU-Bio, RTRS Non-GMO, ProTerra, Donau Soja) and sector or landscape-based approaches (e.g., Amazon region, Cerrado).
- **Use 100 percent certified palm oil:** WWF calls on businesses to switch to 100 percent physically certified palm oil, preferably organic palm oil verified in accordance with Palm Oil Innovation Group (POIG) or Roundtable on Sustainable Palm Oil (RSPO) criteria. The aim is to support smallholder farmers and their corresponding landscape approaches and participate in initiatives that improve existing systems. In addition to organic certification recognized in the EU, organic palm oil should be RSPO/RTRS certified as these certifications also consider land use changes.
- **Use 100% certified cocoa:** Businesses must take responsibility for the environmental and social impacts of the cocoa they use. Steps to be taken include: banning the conversion of natural forests and other ecosystems, banning hazardous pesticides, water conservation, prohibiting child labor, introducing and guaranteeing fair working conditions and wages. By sourcing only 100% certified organic cocoa, businesses can work towards these goals. To guarantee that their products actually contain certified raw materials, businesses need to establish a viable global supply chain management (product segregation). Cocos fulfilling “organic” and “fair trade” criteria – preferably, in combination – are recommended.



© Alejandro Janeta/WWF-Ecuador

Sustainable cocoa cultivation in a near-natural agroforestry system in Ecuador

We demand full traceability of goods from sea to sale



→ **Source seafood sustainably:** Government control of fishing vessels is often inadequate. Violations of fishing, labor and human rights regulations in fisheries are widespread. To ensure that the seafood they source is legally compliant and sustainable, businesses need to make sure that they use all means available to them to increase transparency at sea and in the supply chain. These include remote electronic monitoring using cameras and tracking systems, catch and bycatch documentation, consistent sanctions for misconduct on catching vessels, and full traceability of goods from sea to sale.

→ **Filter water risks consistently:** Businesses need to identify their water risks (physical, regulatory and reputational) both within their own scope of activities and throughout their supply chains. They need to take action to protect river basins affected by key production sites with high water risks by cooperating with supply chain partners and local stakeholder groups to mitigate these risks. Effective action at the river basin level demonstrably helps to improve water balance and quality, protect water bodies, promote inclusive governance structures, and stabilize freshwater supply and sanitation.



→ **Become a water steward:** The objective of the water stewardship is a use of freshwater that is socially equitable, environmentally sustainable, and economically beneficial, and that succeeds through stakeholder engagement at the farm and river basin level. To provide companies with a regulatory framework and a uniform, recognized standard, the Alliance for Water Stewardship (AWS) developed the International Water Stewardship Standard. The AWS standard is basically applicable to any type of company in any industry.

A person wearing a blue and white striped shirt is holding a large bunch of fresh carrots with green tops. The person is standing in a field of tall grass under a clear blue sky. The carrots are of various sizes and are held in both hands, with some hanging down. The text is overlaid on the image in a large, white, sans-serif font.

Even small changes
in our eating habits
sum up to make a
big difference.

Recommendations for consumers

Our food deserves to be valued

Food is one of the basic necessities of life. As such, we must learn to value it more highly. Our food should be worth more to us, in the interest of our health, nature, the planet. In the same vein, we need to come back to a greater appreciation for those who produce our food. Even small changes in our eating habits add up to considerable impact. Every bite counts!

→ **Plant-based proteins are better for the environment and our health.** Proteins are indispensable for our bodies. Our muscles, organs, skin, hair, hormones and enzymes are made up largely of proteins. Plant-based protein sources often have higher and healthier protein levels than meat and dairy products, without the fat and cholesterol. The variety of plant-based protein foods is increasing, ranging from soy to lupins, beans and lentils to mushroom proteins and microalgae.

[wwf.de/proteinfrage](https://www.wwf.de/proteinfrage)



→ **Go for organic!** Organic farming is still the only land use system with clearly defined legal guidelines for all plant production, animal husbandry, and processing. It represents one of the most sustainable forms of land management. The absence of mineral nitrogen fertilizers and synthetic chemical pesticides reduces environmental pollution and promotes biodiversity. Organic meat is preferable not only because of its smaller impact on the environment but also for animal welfare reasons. To meet organic standards, the animals must be fed organically produced feed, preferably from the same farm. Some organic farming associations (including demeter or Bioland) have additional requirements that go beyond EU organic certification, making them the best choice for consumers. Last, but not least, organically produced meat and fish do not contain genetically modified soy or palm oil.



→ **Better choose certified foods.** There are a number of certification schemes with ecological and social criteria for crop cultivation. These can be a useful complement to organic standards, especially in terms of social aspects or freshwater protection. Consumers can look for certification labels products or check label requirements on online comparison portals.

www.siegelklarheit.de

www.sustainabilitymap.org

Changing the way
we enjoy meat:
for example with meat
from free-range farms
and venison from
the region.





The choicest morsels aren't the only parts of the animal we should enjoy. Appreciate the whole creature!

Help protect the oceans and fish populations – look for sustainability and origin labels



- **Pick a day of the week to enjoy your burger.** Nutritionists recommend that Germans cut their meat consumption by about half for health reasons alone. There are many ways to eat less meat without giving it up altogether. Every step toward a lower-meat diet counts – for your and our planet's health.
🔗 www.wwf.de/fleischratgeber
- **Nose to Tail:** Modern meat consumption unfortunately focuses only on the choicest bits, e.g. chicken breast or steaks. Appreciation for the animal as whole has been lost widely, and with it, a bit of diversity on our plates. There is another way: the concept “nose to tail” aims at using all edible parts of a slaughtered animal.
🔗 www.oekolandbau.de/bio-im-alltag/einkaufen-und-kochen/trends-und-tests/crowdbutching
- **Enjoy cheese, cream, butter, milk, and other dairy products with moderation.** The EAT Lancet Commission recommends paying more attention to these animal-based foods and consume them as treats, not as basic fare. Try integrating alternatives like oat milk into your daily diet.
- **Pick the right fish.** The environmental footprint of fish often varies significantly depending on its origin and catch method. Selective fishing methods like handlines and pole-and-line involve little bycatch. Smaller fish like herring or anchovy are less susceptible to overfishing than large predatory fish, tuna, cod, salmon, and swordfish. More often than not, larger and older predatory fish are contaminated with harmful heavy metals and thus not recommended for consumption. Find out which fish are preferable in our WWF fish guide:
🔗 fischratgeber.wwf.de
- **If it flew here, eat it only on special occasions.** One kilogram of food transported by air produces up to 170 times as many greenhouse gas emissions as the same amount of food transported by ship. Perishable foodstuffs in particular are transported by air, including fish from Africa, venison from New Zealand, hare from Argentina, asparagus from Peru, and beans from Kenya. Exotic fruits such as papayas, guavas and mangos are also flown in.

- **Regional and seasonal make the best combination.** Products produced and sold regionally are preferable for a number of reasons: they don't have to be transported over long distances, buying them supports the regional economy, and they don't require water withdrawals in regions with less water availability than Germany (e.g., central or southern Europe). However, regional is not the same as sustainable. Even intensively produced vegetables grown in a heated foil tunnel or chickens from a factory farm with 40,000 animals may be of regional origin. The same applies to seasonal products. Rule of thumb: the more transparent the supply chain, the higher the classification of the farm.
- ↓ Seasonal calendar: wwf.de/saisonkalender

Every initiative counts and makes a difference. Act now and try something new!

Commitment wanted

- **Get involved!** Wield your power as a consumer, e.g., by asking at your supermarket about the origin and production methods of their food products.
- **Join an initiative for sustainable agriculture.** Anyone who wants to campaign for more sustainable agriculture and more regional food will find numerous initiatives. Here are a few that we recommend:
 - 🔗 www.solidarische-landwirtschaft.org
 - 🔗 marktschwaermer.de
 - 🔗 ackercrowd.de
- **Check out your local food council.** Food councils are working on a comprehensive turnaround of our food system at the local level. Developing new local food policy solutions and approaches takes the combined creativity and expertise of as many stakeholders as possible, from farmers to consumers.
 - 🔗 ernaehrungsraete.org

Weekly menu for "Besseresser"*



- **With the Besseresser menu** we show tangible what it means to eat planetary-culinary for a week. A week full of delicious and easy-to-prepare dishes that take into account the recommendations of the EAT-Lancet Commission. The menu is an example of how we can set our table in the future: sustainable, colourful, delicious and healthy.
 - 🔗 wwf.de/wochenmenu

More tips for consumers

- **Save the world with carrots:**
- ↓ wwf.de/weltretten-mohrrueben

* people who want to improve their eating habits



More publications
in our "WWF Wissen" app.
Download now!



iOS



Android



Also accessible
via a browser.

Support WWF

IBAN: DE06 5502 0500 0222 2222 22



Why we are here

To stop the degradation of the planet's natural environment and
to build a future in which humans live in harmony with nature.



WWF Germany

Reinhardtstr. 18 | 10117 Berlin | Germany

Tel.: +49 30 311 777-700

info@wwf.de | wwf.de