



# How our FOOD changes the WORLD

We Eat responsibly

What kind of planet  
are we leaving behind  
for our children?



# Using more than we are entitled to



Source: Global Footprint Network, Earth Overshoot Day, 2012



As few as 3,200 wild tigers exist today. Join me in helping WWF double this number by 2022.







Getty Images

What kind of planet  
are we leaving behind  
for our children?



What kind of children  
are we leaving behind  
for our planet?

# Us, our lifestyles and the world















# Think before you print!



**SAVE  
TIGERS  
NOW** WWF

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$$d\Omega dF dz d^n p$$

$$\sim \frac{10[z(z)]^{\frac{1}{2}} \left[ \frac{F}{F(z)} \right]^{\frac{1}{2}} f(z)}{r^2}$$

$$\frac{(1+z)^2 \sqrt{1+2q\phi^2}}{r^2}$$



✓ EFE - photog - spectra (9)

THE SOLUTION IS  $x = \frac{c}{g} (\cosh)$

$F_2 = F_1$

# What if?

$$\partial p + \vec{\nabla}_r \cdot \left( p + \frac{p_{th}}{c} \right) \leq 0$$

$$\frac{d\Omega}{dt} \frac{d\Omega}{dE} = -\vec{\nabla}_r \cdot \Omega \sim R^3$$

$\rho$  - MATTER DENSITY OF THE UNIVERSE

- Ricci Flat

$R$  tensor PROPORTIONAL



$t'_2 = t'_1$

$\Delta t_{app}$

$\Delta t_{app}$

INTERVAL APPEAR LONGER

# What if

there was an important part of our everyday life that played a crucial role in addressing global challenges?

and that this part was largely underestimated?

# Food is at the center of global challenges



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## LIVELIHOODS

Act today for a better future

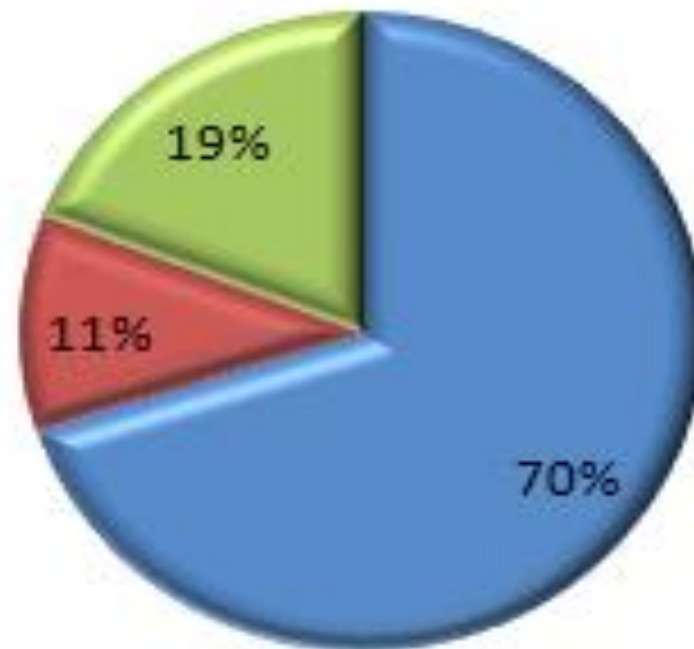
# Food is at the center of global challenges







## Global sum of all withdrawals



■ Agricultural ■ Municipal ■ Industrial

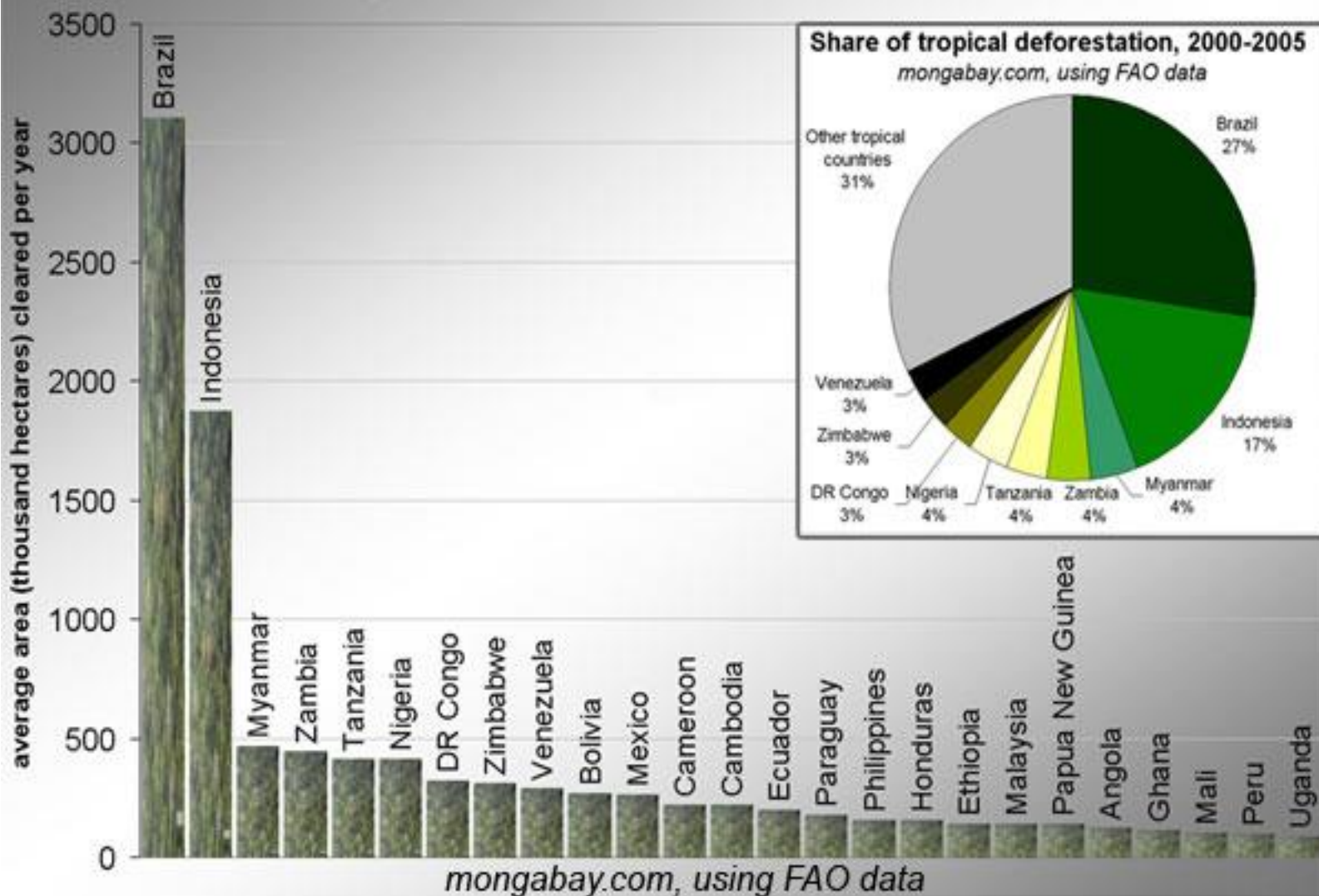
Source: FAO-Aquastat

**Think before you print!**





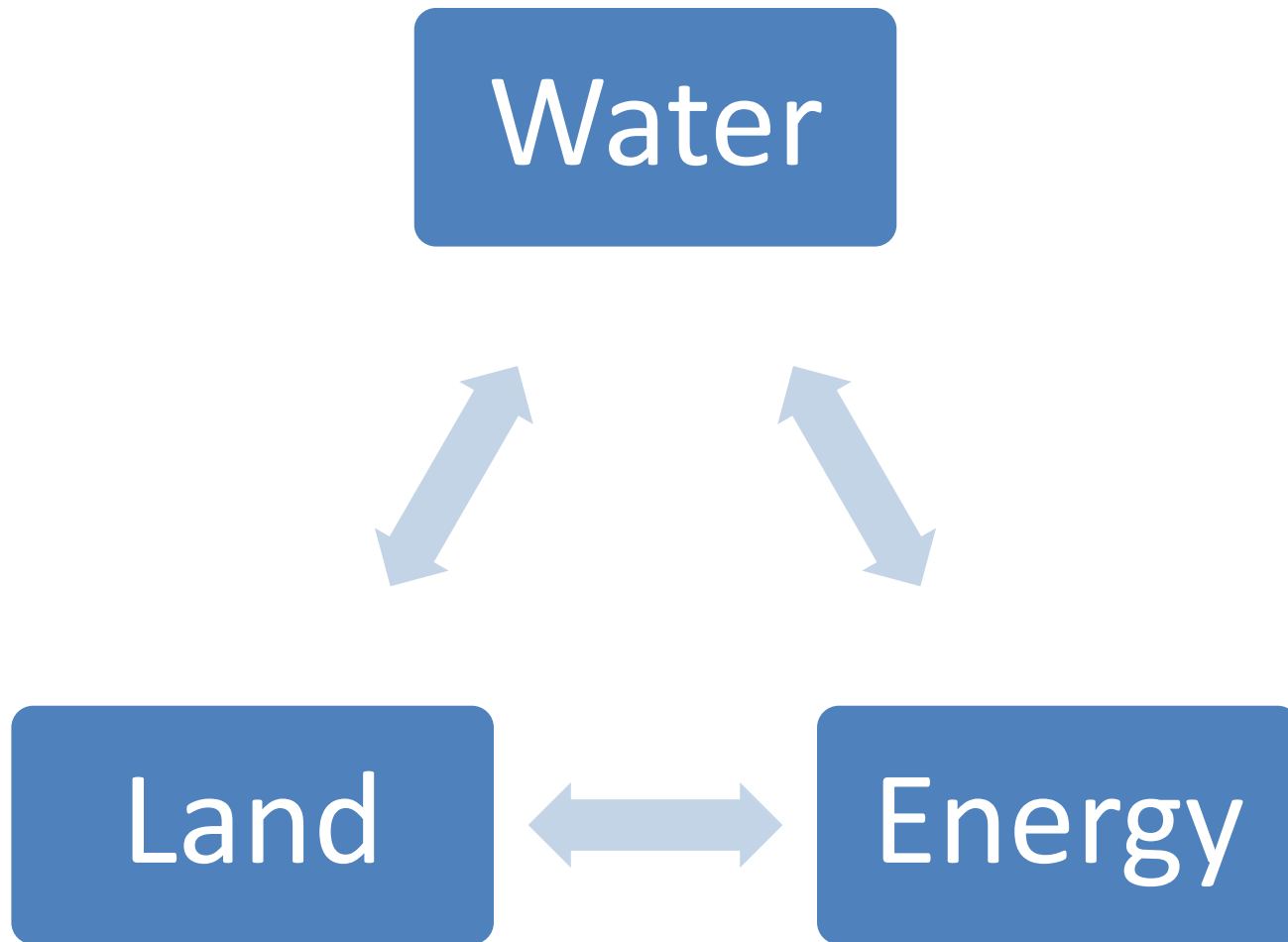
## Tropical deforestation rates, 2000-2005







# Use of resources (WEL nexus)



# Hidden water

1 glass of milk



200  
litres

1 cup of tea



35  
litres

1 cup of coffee



140  
litres

1 orange



50  
litres

1 apple



70  
litres

1 glass of wine



120  
litres

1 potato



25  
litres

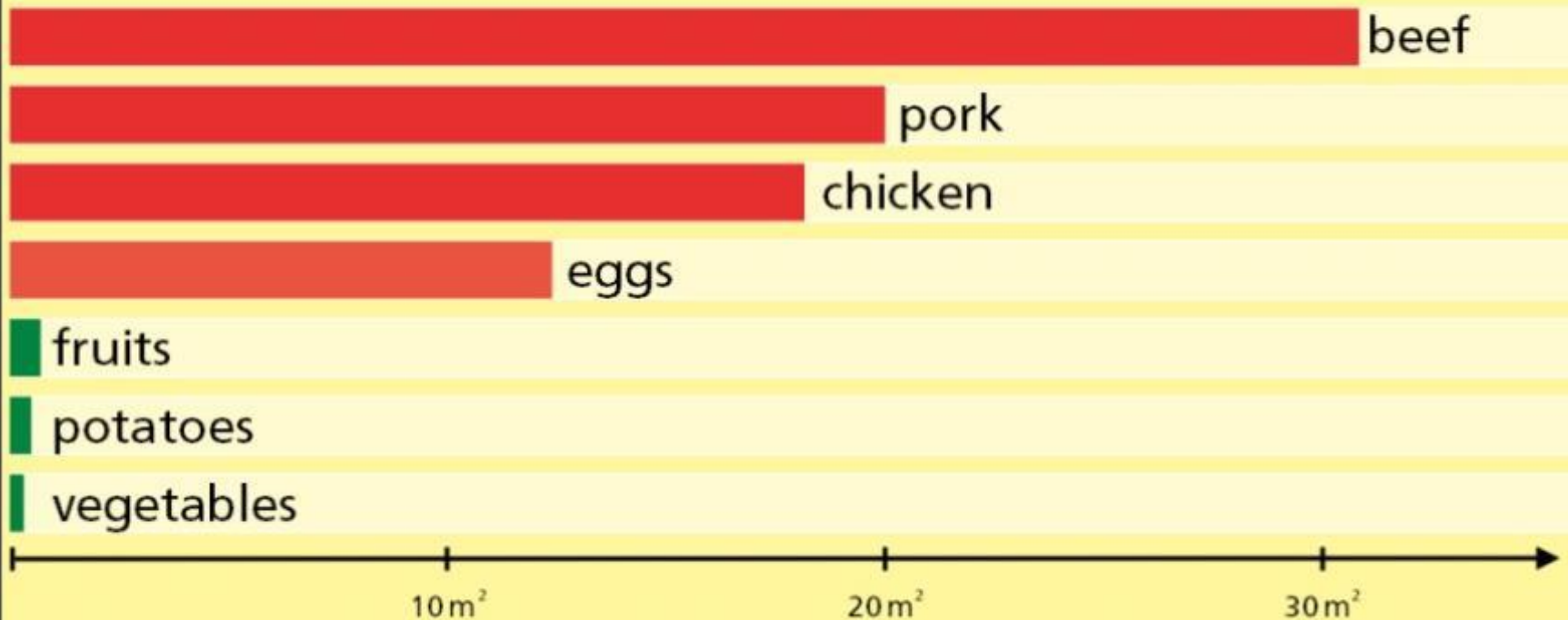
1 hamburger



2400  
litres

# Hidden Land

Land needed for the production of 1 kilo food:

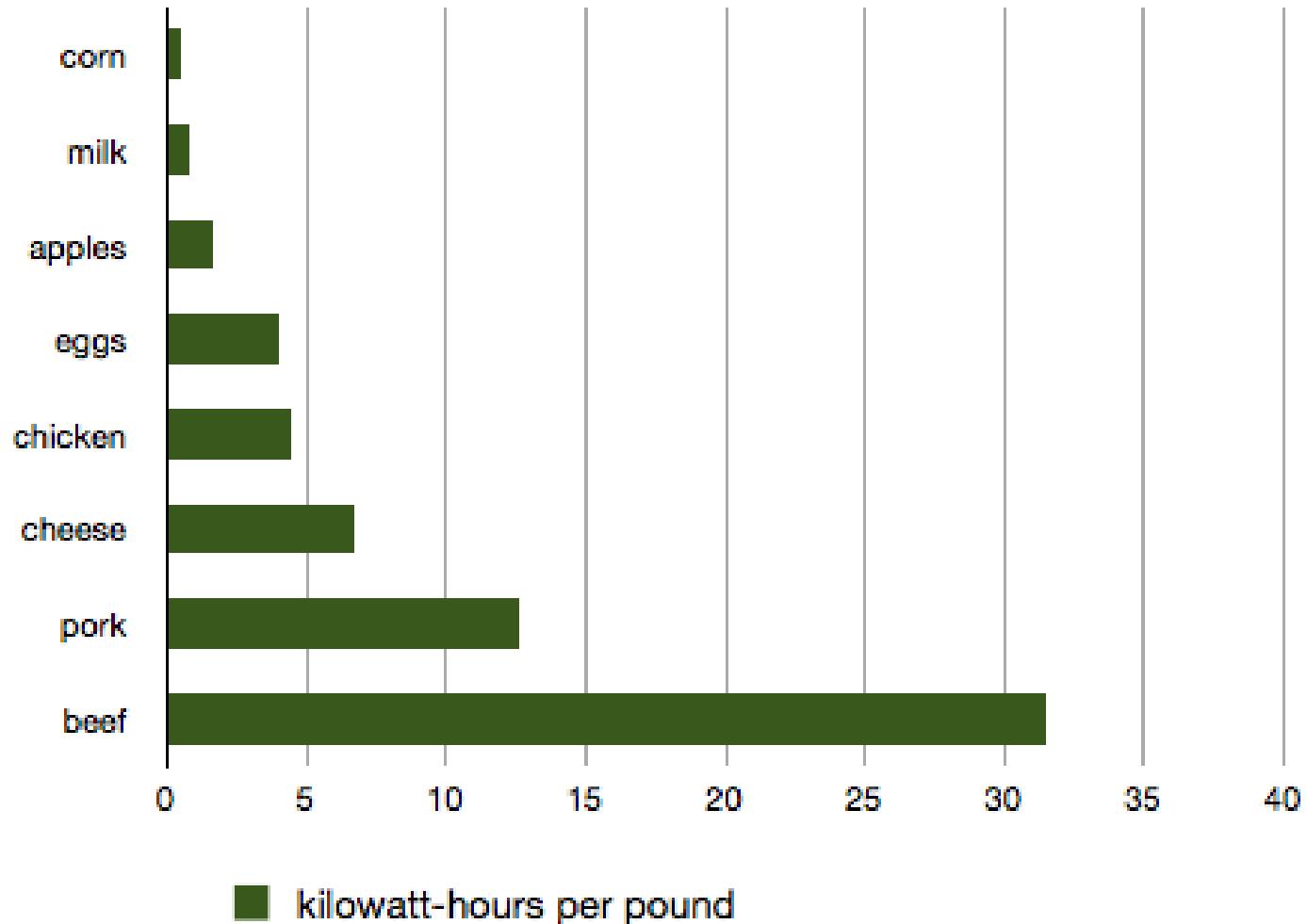


Source: Ökologie & Landbau, 159,3/2011, pages 40-42, [www.soel.de](http://www.soel.de) - Diagram: SVV, [www.vegetarismus.ch](http://www.vegetarismus.ch)



# Hidden Energy

Energy Required to Produce one Pound



# Connecting the WEL Nexus to food production and consumption

Some foods are more resource-intensive than others.

The actual amount of hidden resources depends on:

- methods of production
- processing
- distance between where it is produced and where it is consumed

# Methods vary widely









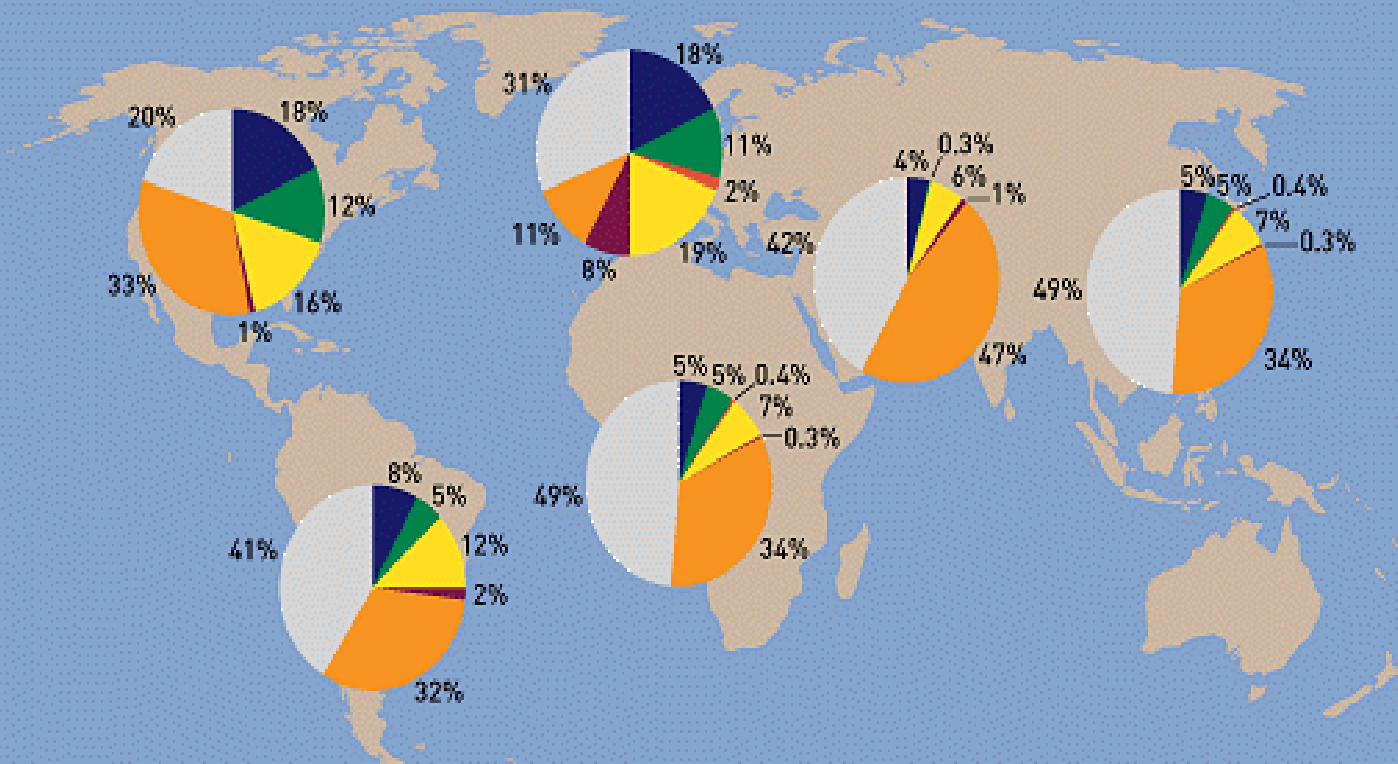


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this number by 2022.

# STATUS OF FARM ANIMAL BREEDS



Categories of risk status



# Food is at the center of global challenges









# Highly interconnected

Food  
production

Climate  
change







# Food is at the center of global challenges



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# LIVELIHOODS

Act today for a better future



40% of the world population works in agriculture



Smallholder farmers produce nearly 75 % of the food consumed worldwide.













© SWNS.com



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# Food is at the center of global challenges



**LIVELIHOODS**  
Act today for a better future

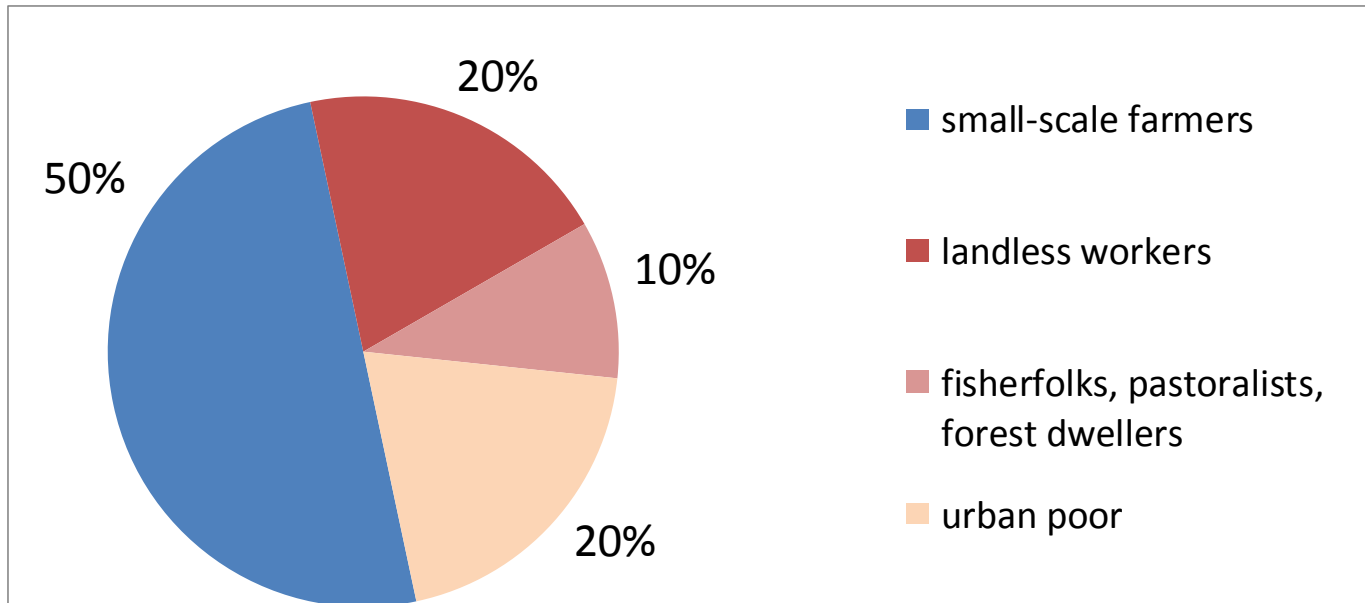


795.000.000

SIGN ONLINE PETITION



Who are the hungry?





795.000.000

1.900.000.000

42 million children under the age of 5 were  
overweight or obese in 2013



One in three adults in the world (1.45 billion) were overweight or obese in 2008, up by 23% since 1980



**1 IN 3 ADULTS**  
ARE OVERWEIGHT OR OBESE

Source: Derived from WHO statistics

[cdt.org/futurediets](http://cdt.org/futurediets)

What is food security?

“when all people, at all times, have physical and economic access to sufficient, safe, nutritious food to meet their dietary needs and food preferences for an active and healthy life“

World Food Summit, 1996





9 billion

health

nutrition

cutting our dependence on fossil fuels

climate

Rural services

carbon sequestration

protection of soil and water

Small scale farmers

biodiversity

Women empowerment

What is food security?



“when all people, at all times, have physical and economic access to sufficient, safe, nutritious food to meet their dietary needs and food preferences for an active and healthy life“



World Food Summit, 1996



What kind of children  
are we leaving behind  
for our planet?

QUIZ

Four 3D rectangular blocks are arranged in a horizontal line, spelling out the word "QUIZ". From left to right: a blue block with a white lowercase 'q', a red block with a white lowercase 'u', a yellow block with a white lowercase 'i', and a green block with a white lowercase 'z'. The blocks are slightly tilted and cast soft shadows on the white background.

# QUIZ

1/ Based on the world food trade data, can we say that

- A) The EU27 countries feed developing countries
- B) Developing countries feed the EU27 countries

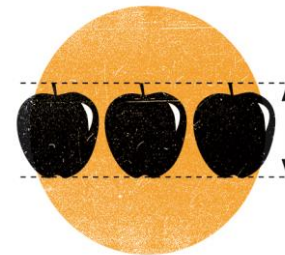
# Who is feeding whom?

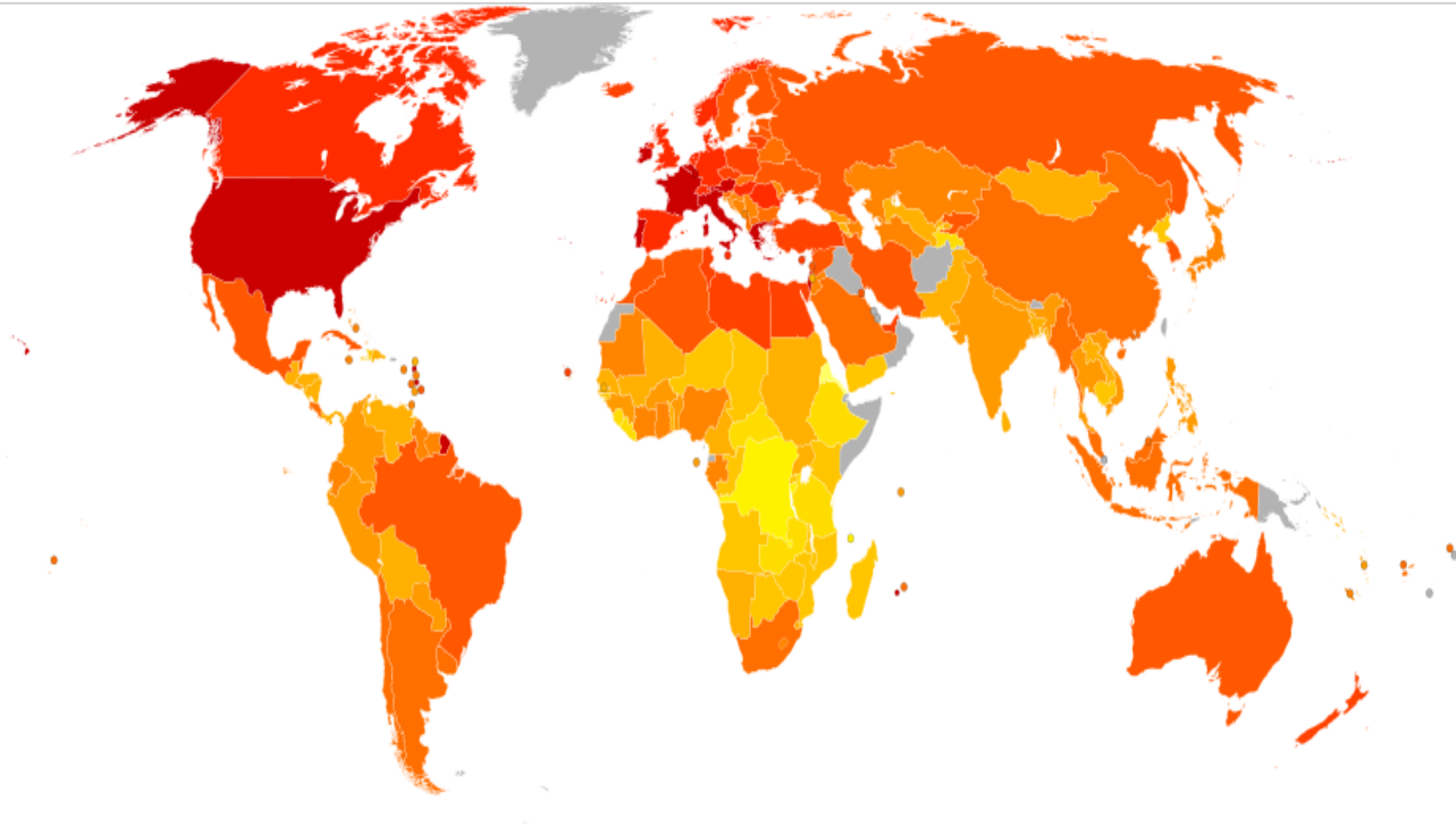
**20% of the world population uses 40 % grain & 40 % animal protein (meat, fish, dairy products) of the world's production**





# How our food changes the world?





"World map of Energy consumption 2001-2003" by Lokal\_Profil.

# Big portions



# Big portions



*Across the world, the average caloric intake varies widely.*

- *2,120 kcal in least developed countries,*
- *2,640 kcal in developing countries*
- *3,430kcal per person in developed countries.*

*Do you know that Czech Republic is rated among the highest food consumption level in the world and that a Czech person eats 3320 kcal per day in average?*





795.000.000

1.900.000.000

42 million children under the age of 5 were  
overweight or obese in 2013

# Too much meat & dairy products



Worldwide,  
our diets contain  
more meat



And less and less cereals, potatoes and pulses



# QUIZ

2/What is the Slovenian average consumption of meat per person per year?

A) 33kg

B) 67kg

C) 82kg



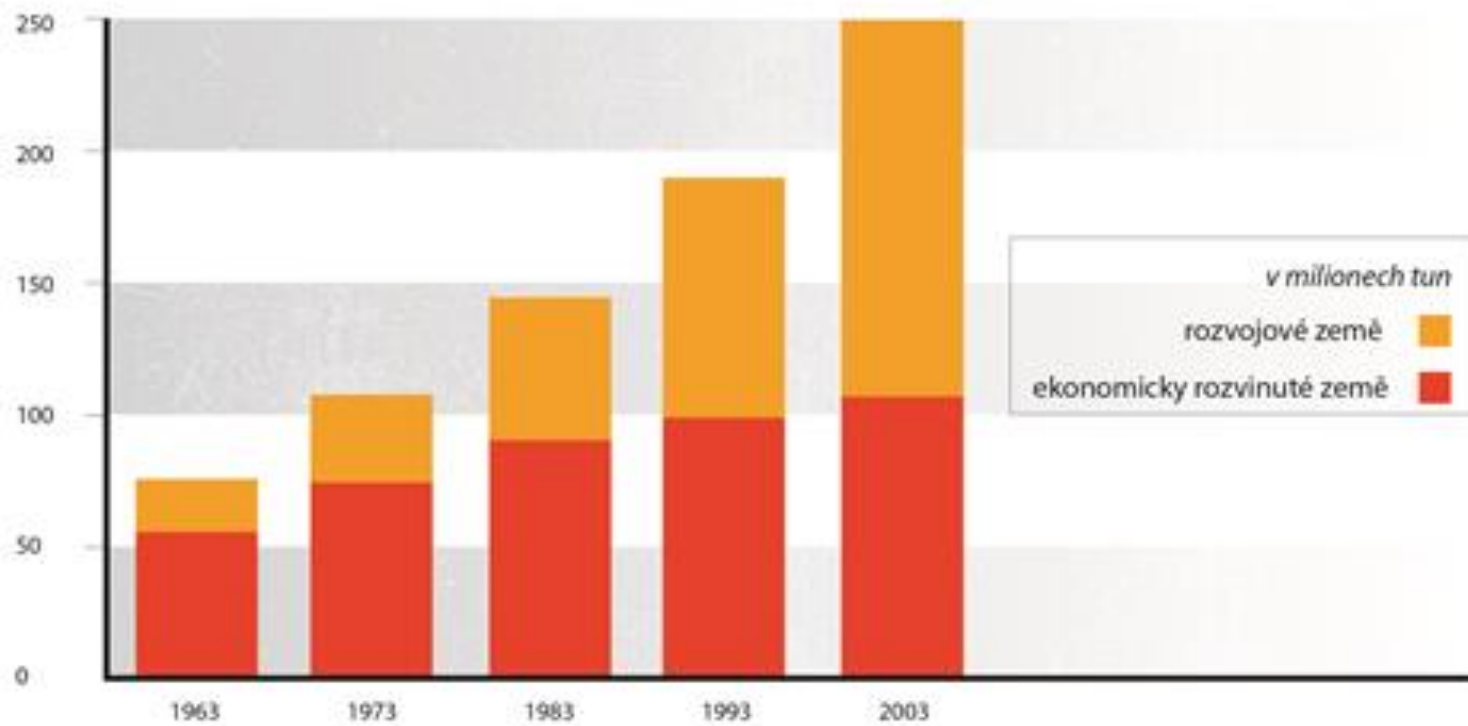
# QUIZ

3/What is the world average consumption of meat per person in India?

A) 5, 2kg

B) 18,2kg

C) 28,2kg



4/ With a field of one hectare, how many people will I feed for a year if I produce lamb or beef?

- Around 1 person
- Around 3 people
- Around 6 people

5/ With a field of one hectare of potatoes, how many people can I feed for a year?

- Around 10 people
- Around 20 people
- Around 30 people





**Think before you print!**







# Too much meat and dairy products

Once a week or more could we replace meat with grains, legumes & vegetables?

And choose meat which doesn't come from intensive farming?



# Space and time gaps in our food



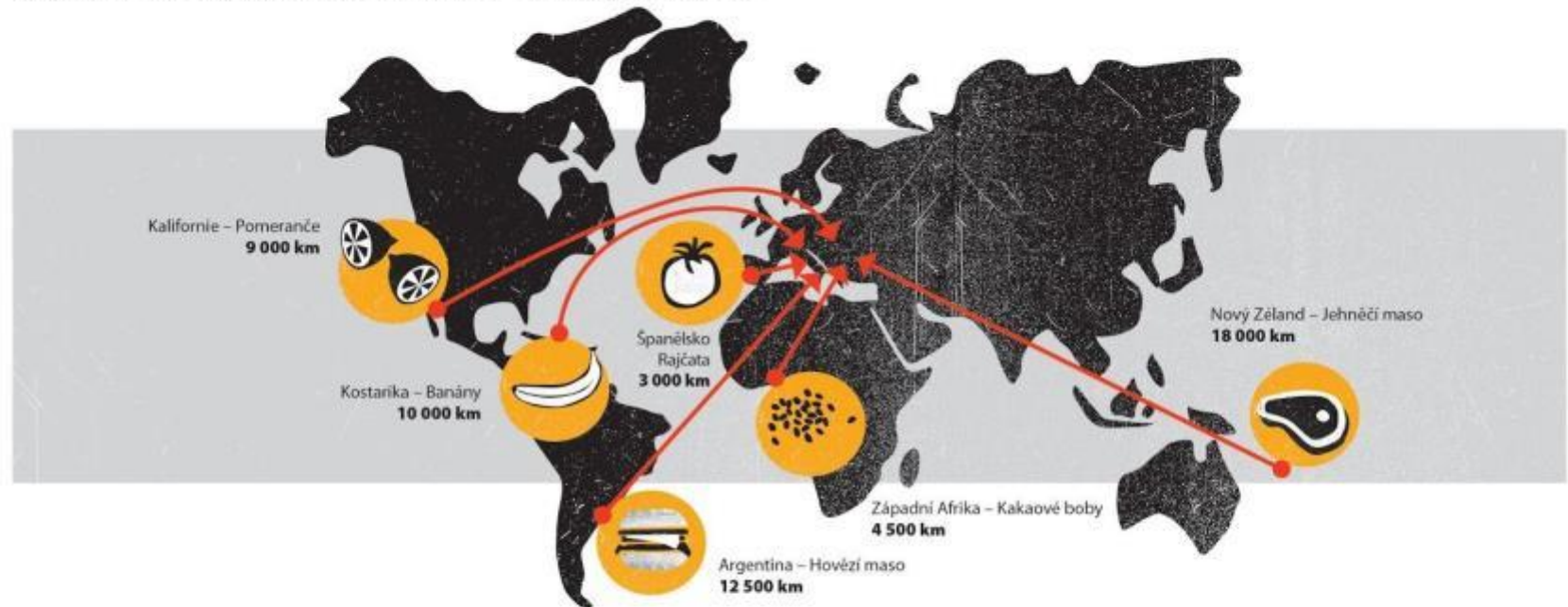
# QUIZ

6/ When is the harvesting season for eggplant in Slovenia?

7/ Which of the following accounts for the largest portion of a food item's carbon footprint ?

- Production and processing
- Packaging
- Transportation

Jak dlouhou cestu musí urazit jídlo, než se dostane na náš talíř





# Case of Asparagus in Peru



7

8

# Space and time gaps in our food

Are imports from the south beneficial for people?

- What about wages?
- What about model of development?
- What about resources?



# Space and time gaps in our food

Do we know the actual seasons of fruit & vegetable types?

Do we consider if our food is produced with a minimal impact on people & natural resources?

Do we know that methods of production has bigger impact than food miles?









# More processed food



8/ What is the percentage of processed food products containing palm oil?

- 20 percent
- 50 percent
- 80 percent

9/ The total land needed for palm oil production in the world represents

- 1 time Slovenia
- 3 times Slovenia
- 6 times Slovenia



# More processed food



Palm oil is

- the most used vegetable oil in Europe
- in 2000, most traded vegetable oil in the world
- used in 50% of processed foods, cosmetics, detergents, animal feed and fuel
- Only 15% of palm oil is certified



# More processed food

Do we know about palm oil? Do we consciously look for products that don't contain palm oil?

If we see that our favorite products use palm oil, we can write to their producers to urge them to change recipe, or to use palm oil with the highest standard of certification.

# Huge food wastage





10/ How much food is wasted in the world?

- One fifth all food produced
- One third of food produced
- One half of food produced

11/ If I don't finish my hamburger and throw a third of it, how much water do I waste?

- 600 liters
- 700 liters
- 800 liters

# Food waste



## Facts

- One third of the world's food is wasted.
- In developing countries: 6–11 kg a person
- Industrialized countries: 95–115 kg

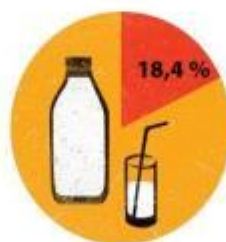
Přibližně jedna třetina vyprodukovaného jídla ve světě se nedostane na náš talíř, protože je vyhozena.



**obiloviny**  
780 680 000 t



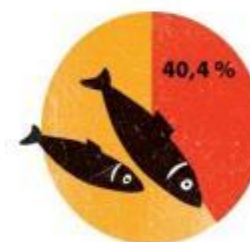
**ovoce a zelenina**  
851 947 000 t



**mléko**  
62 813 000 t



**maso**  
54 720 000 t



**ryby a mořské plody**  
124 680 000 t

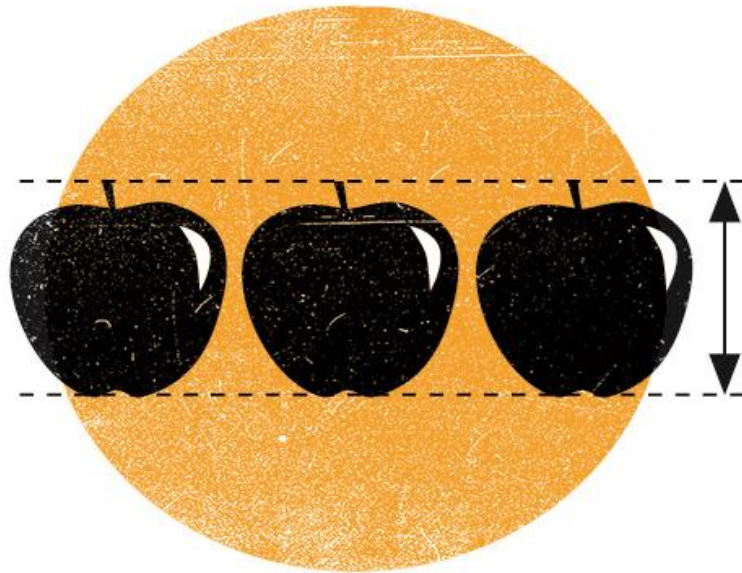


# Food wastage

Do we notice if we waste food?

What strategies do we put in place to diminish food wastage? Do we work with leftovers? Do we ask for doggie bag? Etc.

# Loss of varieties







eyevine



# Svalbard Global Seed Vault (Arctic)

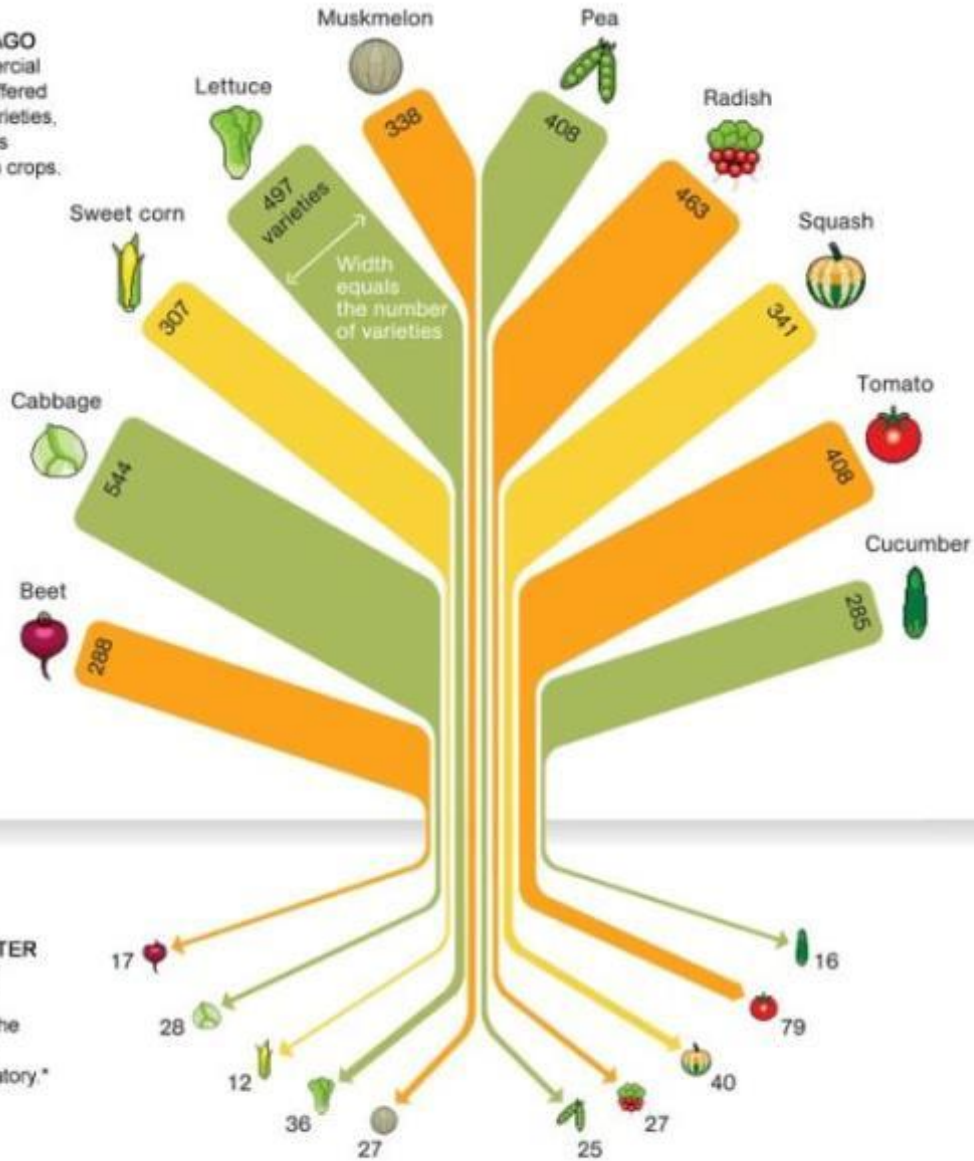




# QUIZ

- 12/ Out of the 80.000 edible plant species, how many do we cultivate?
- 150 species
- 1.500 species
- 15.000 species

**A CENTURY AGO**  
 In 1903 commercial seed houses offered hundreds of varieties, as shown in this sampling of ten crops.

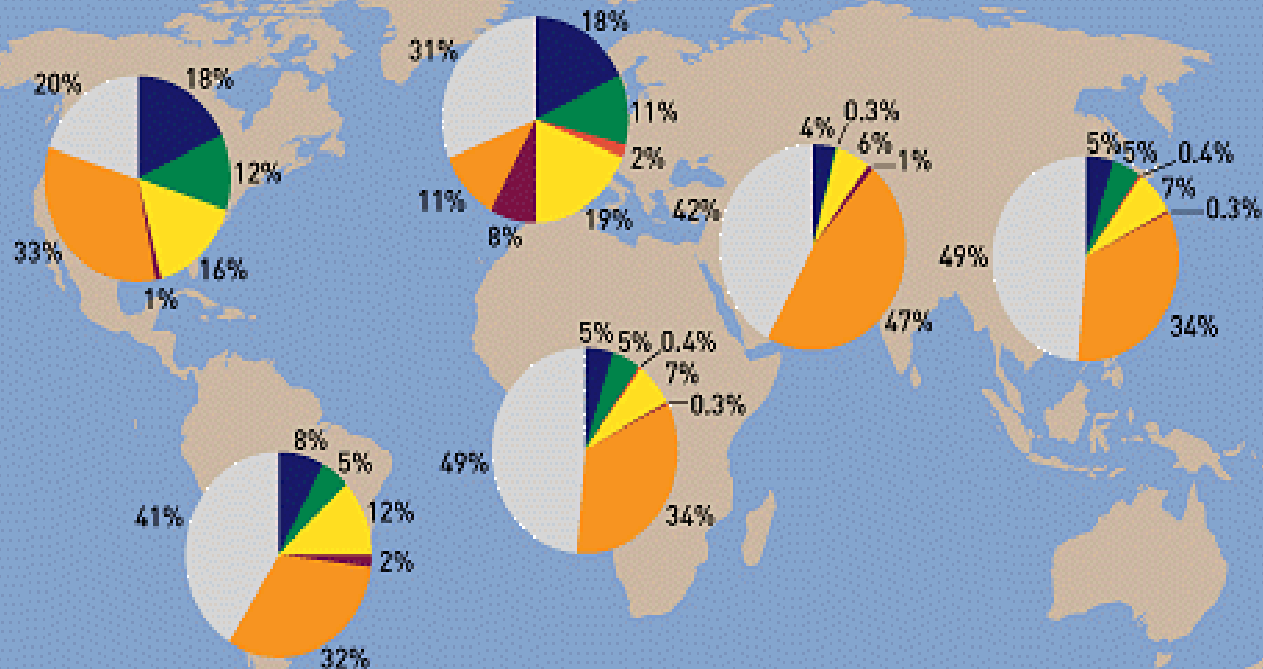


**80 YEARS LATER**  
 By 1983 few of those varieties were found in the National Seed Storage Laboratory.\*

\* CHANGED ITS NAME IN 2001 TO THE NATIONAL CENTER FOR GENETIC RESOURCES PRESERVATION

JOHN TOMANIO, NGM STAFF. FOOD ICONS: QUICKHONEY  
 SOURCE: RURAL ADVANCEMENT FOUNDATION INTERNATIONAL

# STATUS OF FARM ANIMAL BREEDS



Categories of risk status





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# Loss of varieties

Can we sustain the richness of our system of resources by discovering forgotten types of fruits & vegetables?

Do we value variety & encourage farmers to continue to grow?

# What's next?



What kind of children  
are we leaving behind  
for our planet?



# Raising global, responsible and active citizens?



Education is the most powerful weapon which  
you can use to change the world.

(Nelson Mandela)

[izquotes.com](http://izquotes.com)



# What is responsible food consumption?



# Healthy diet =

A key feature of a healthy diet is dietary diversity consuming a variety of foods across and within food groups to ensure intake of essential nutrients. Fruits, vegetables, quality carbohydrates, nuts, fish, healthy vegetable oils and modest amounts of dairy products are emphasized. Sugar, trans fats, processed meats and foods should be limited.

(Nugent et al., 2011)

# Sustainability =

Sustainability implies a state where the needs of the present and local population can be met without diminishing the ability of future generations or populations in other locations to meet their needs or without causing them harm to environment and natural assets.

(Foresight, 2010)

# Sustainable diet =

Sustainable Diets are those diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy; while optimizing natural and human resources.

(FAO/Bioversity International, 2012)

# Responsible diet =

„Consumption is responsible when it takes into account its impact on the quality of human life in its every dimension: health, natural resource management, the economy, spatial planning, the environment, the fight against poverty and social exclusion, social life, culture, etc.“

Council of Europe, 2006



# Guiding questions of a responsible food consumer

- HOW MUCH do I eat?
- HOW MUCH do I waste?
- WHAT do I eat?
- HOW was my food produced?
- WHERE does my food come from?



Thank you for your attention

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