

VEGANISM IN A MODERN TIMES

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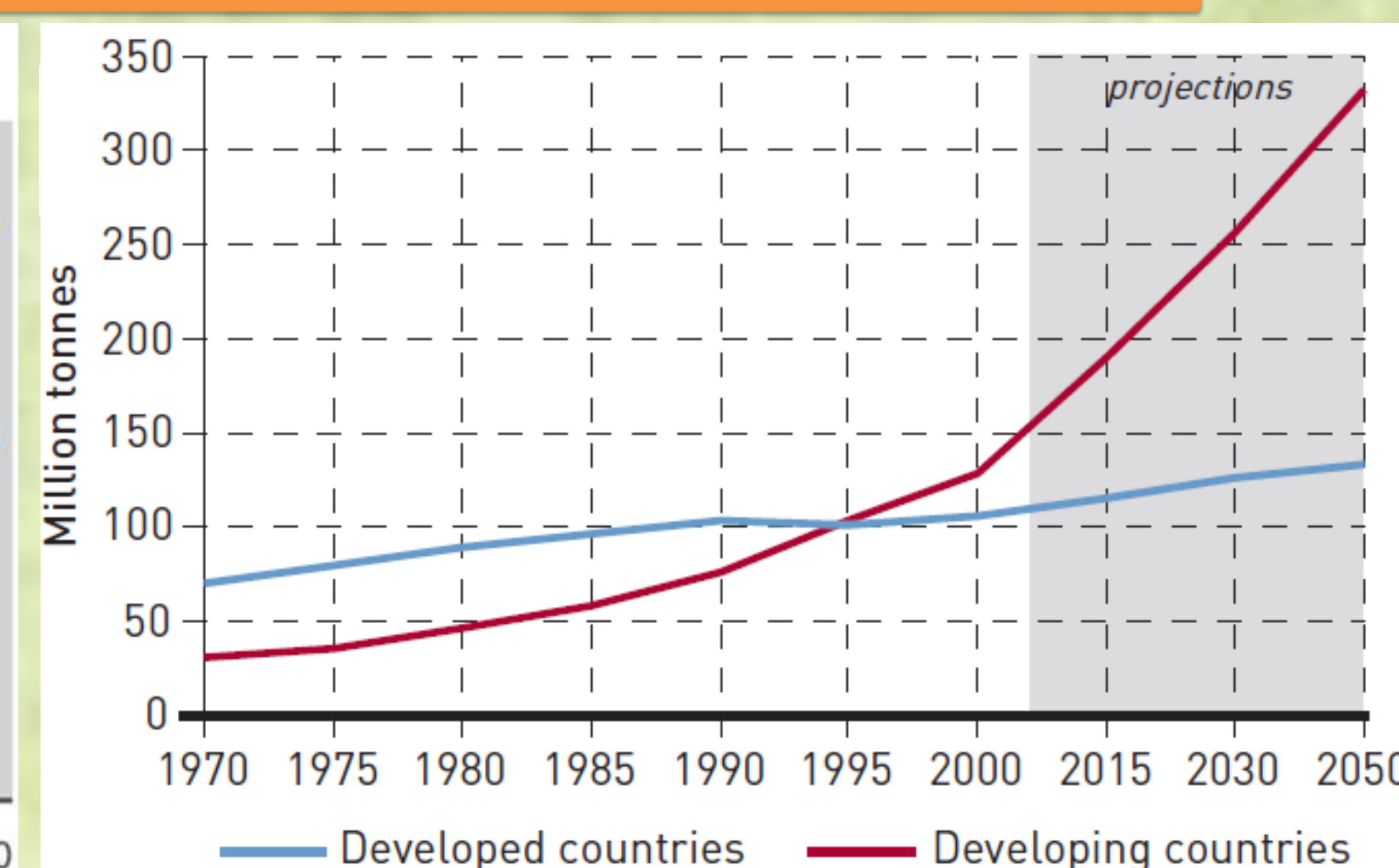
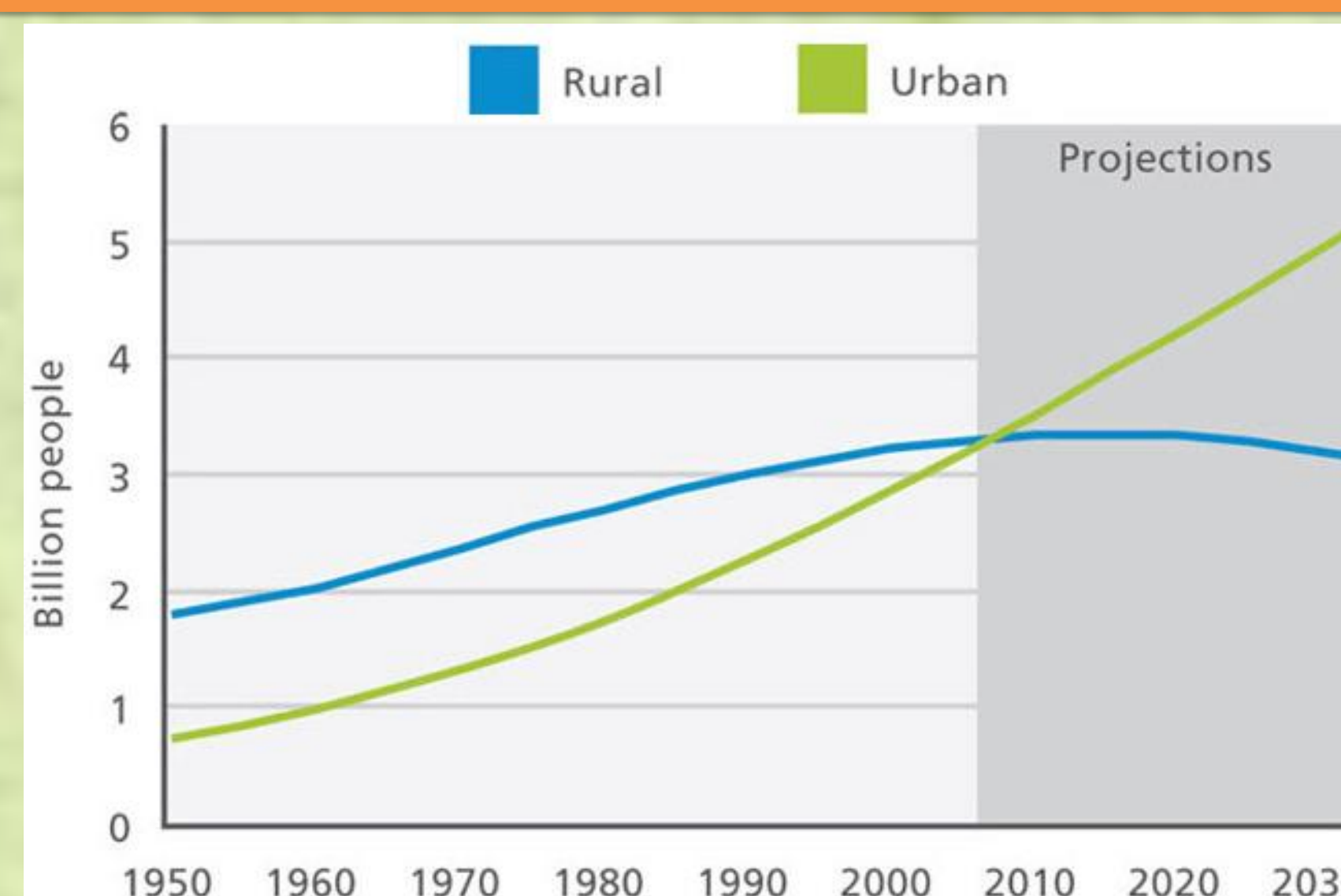
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Aims

1. Understand the concept and origin of veganism.
2. Compare the impact of veganism and high animal consumption diets on the environment.
3. Look into the nutritional disadvantages of veganism.
4. Know the health benefits of veganism and its social implications.

Demographic evolution

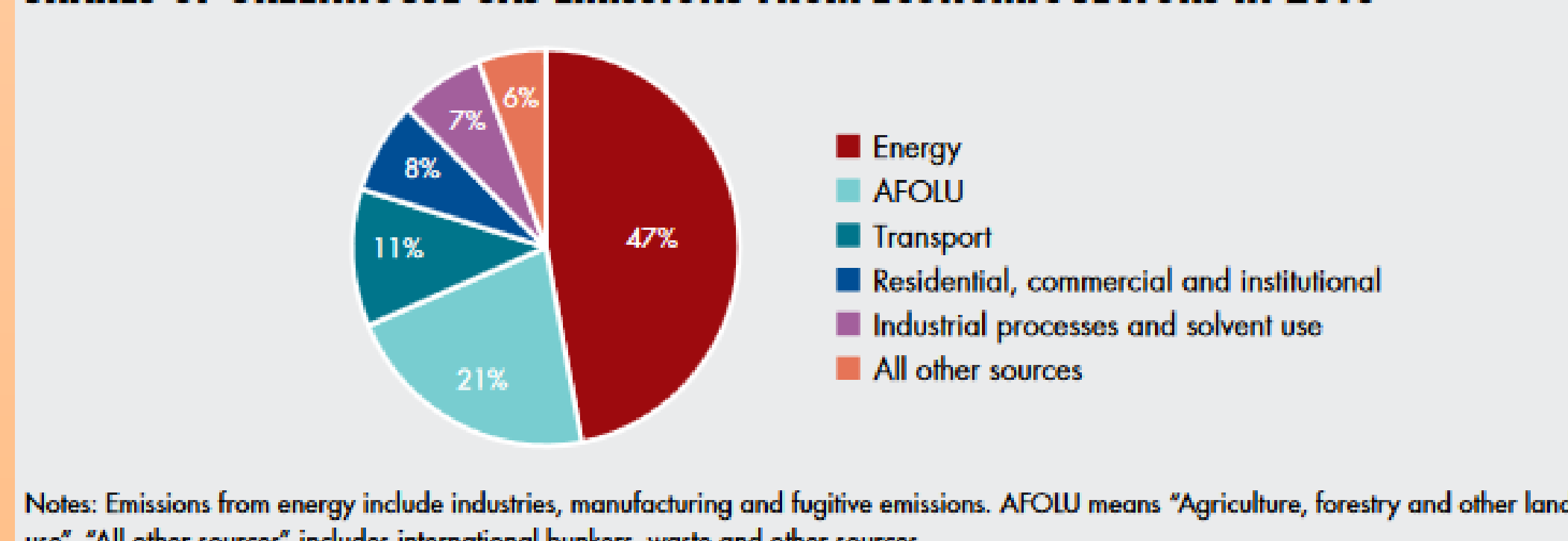
Since 2008, more people live in urban areas than in rural areas. This implies an increase of the consumers and a decrease of the producers. FAO has warned about the risk that meat industry compete against poor people for cereals¹.



Greenhouse Emission

Agriculture constitutes 21% of overall emissions, of which livestock is 14'5%. It's expected they reach 40% by 2050².

SHARES OF GREENHOUSE GAS EMISSIONS FROM ECONOMIC SECTORS IN 2010



Notes: Emissions from energy include industries, manufacturing and fugitive emissions. AFOLU means "Agriculture, forestry and other land use". "All other sources" includes international bunkers, waste and other sources.

Global emissions from agriculture (crops & livestock) continued to increase in the last 50 years

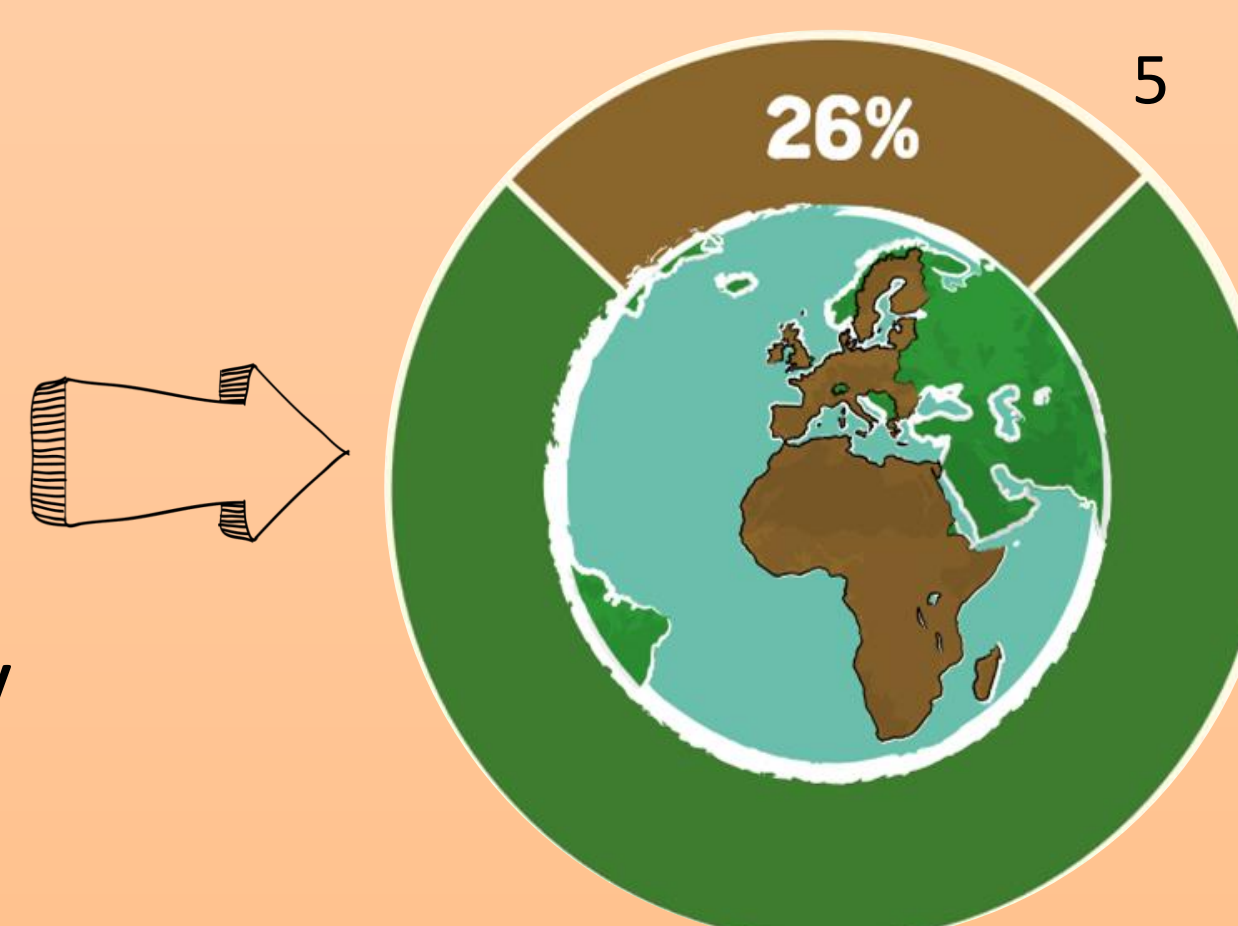


The largest emitters in agriculture are:



Deforestation

The area used to feed livestock equals approximately

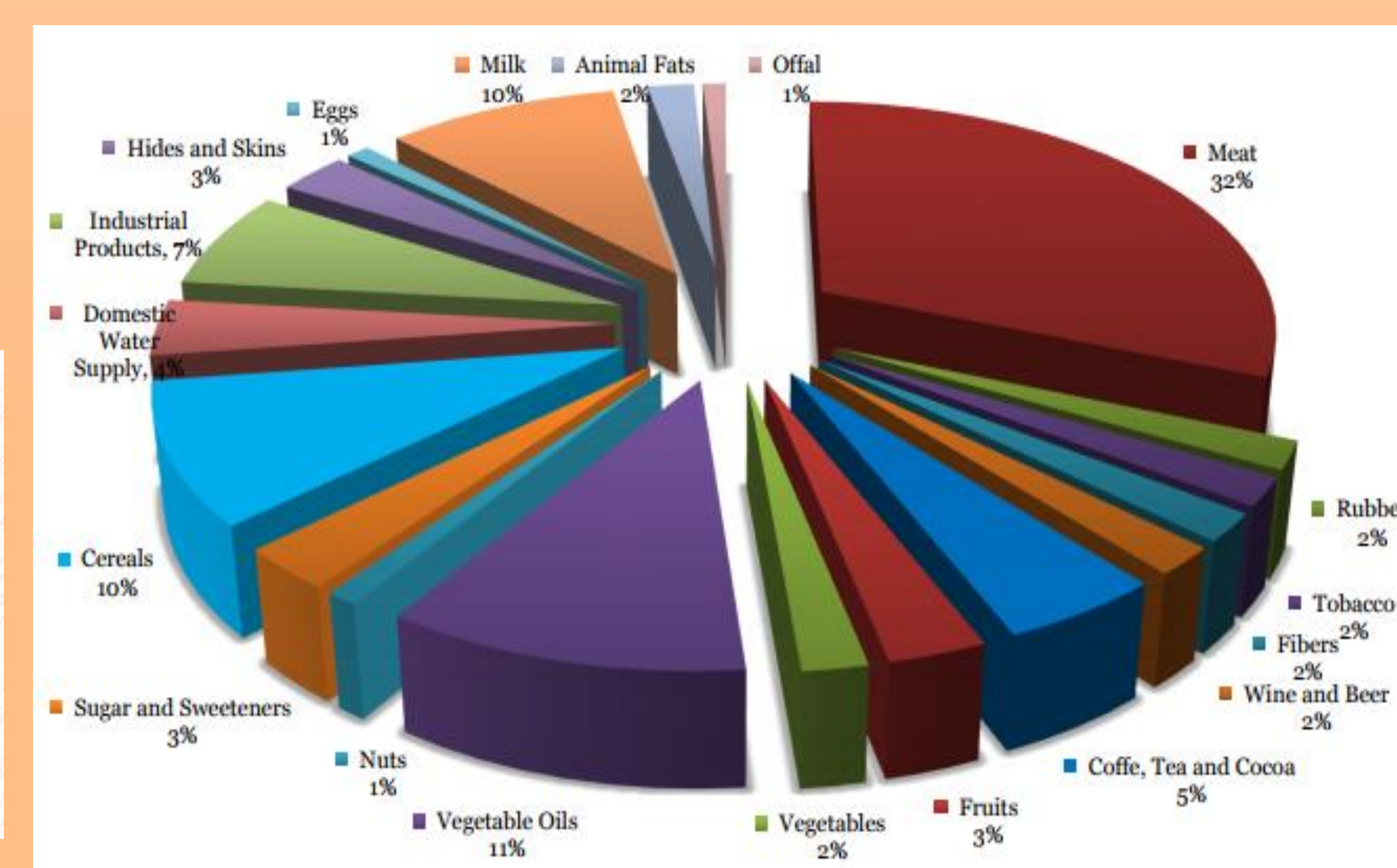
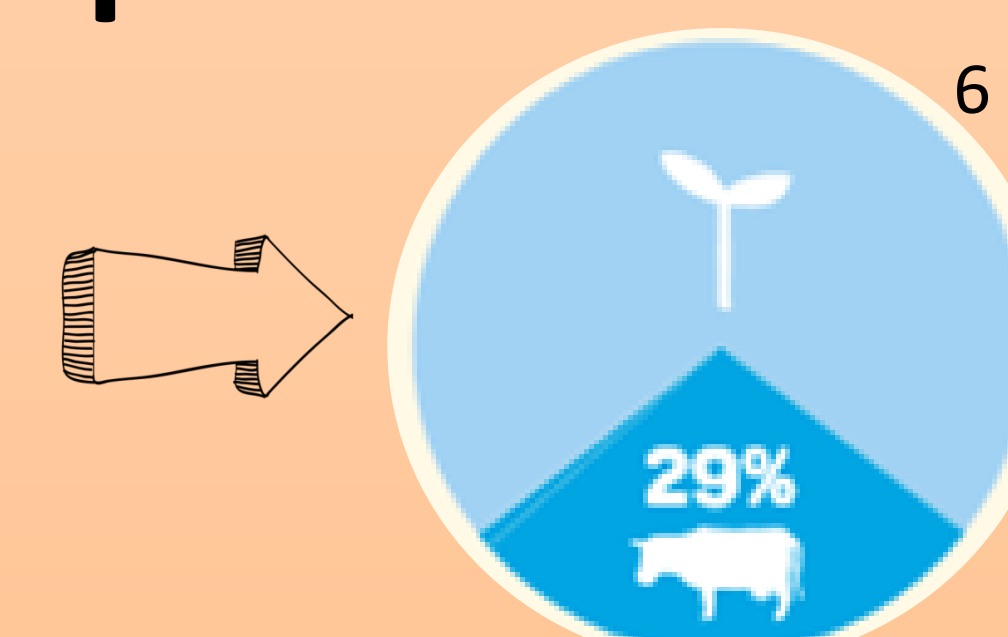


There is a high inefficiency in meat production³.

Land (in ha) needed to produce 20 kg protein per year (sufficient for one adult)			
Beans	0.25	Dairy cows	1 - 3
Grass	0.3 - 0.6	Chickens	3
Cereals	0.6	Sheep	2 - 5
Potatoes	0.7	Pigs	5
		Beef	3 - 6

Water footprint

Of the total agricultural 29% is used for livestock⁴.



Deficient nutrients

Inhibitors

Culinary practices

Lower bioavailability

Calcium

- Fitates and oxalates

Proteins

- Correct daily caloric intake.

Iron

- Low absorption

Zinc

- Fitates

Vit. D

- Fortified aliments
- Sunbathe

Iodine

- Correct daily doses

Vit B₁₂

- Supplementation
- Fortified aliments

EPA/DHA

- Correct daily doses



Obesity: Lower BMI levels (body mass index)



Type II diabetes: 62% less probabilities



Osteoporosis: Increase in risk due to the low levels of Vit. D and Calcium



Cancer: Lower risk of colorectal, prostate and other



Cardiovascular disease: Reduction of cholesterol, stroke, heart attack, hypertension and other



Special attention



Iron and zinc
Vit. D and B₁₂
Omega 3



Iron and zinc
Vit. D and B₁₂
Calcium



Proteins
Vit. D and B₁₂
Calcium

Conclusions

- A change of mentality is needed to consume less meat, in order to reduce greenhouse emissions and waste of natural resources.
- It's important to take attention to the daily intake levels of the nutrients that used to be deficient in veganism diets and supplement them if necessary; and pay special attention to vulnerable groups.
- Many of the beneficial effects of veganism are the result of the high intake of healthy nutrients. However, it's important not to forget that there are diseases such as osteoporosis, which may appear if you don't ingest the necessary calcium and Vit. D, for example.
- As a personal experience, we don't have to judge people for the type of diet they chose, but try to see how we can contribute to improve the sustainability of our planet.

¹ Steinfeld, H., & Chilonda, P. (2006). Old players, new players, Livestock Report 2006, 3–14. *Animal Production and Health Division, FAO, Rome, Italy.*

² Food and Agriculture Organization of the United Nations. (2014). *Emissions of greenhouse gases from agriculture, forestry and other uses of land.*

³ Bender, A (1992) *Meat and Meat Products in Human Nutrition in Developing Countries.* FAO Food and Nutrition Paper no. 53. Rome: FAO.

⁴ Hoekstra, A. Y., & Mekonnen, M. M. (2012). The water footprint of humanity. *Proceedings of the national academy of sciences*, 109(9), 3232.

^{5,6} GreenPeace (2018) *Less is more: Reducing meat and dairy for a healthier life and planet.* Greenpeace Research Laboratories Technical Report (Review) 03-2018.