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Rações para ser omnívoro. Pela tua  
saúde e a do planeta



Évora, Mar 2024



Criação de gado é principal causa da desflorestação na região amazônica

WELECTRIC



MD SAÚDE

SOCIEDADE globo.com

**“Quanto maior o consumo de carne, maior o risco de novas pandemias”**

GALILEU

REVISTA DIGITAL NOTÍCIAS MEIO AMBIENTE CULTURA SAÚDE

MEIO AMBIENTE

**Vacas são mais responsáveis pelas mudanças climáticas do que você pensa**

A produção de carne bovina e laticínios emite mais gases do que os meios de transporte

<https://www.publico.pt/2014/07/22/p3/noticia/mais-um-estudo-revela-por-que-comer-carne-faz-mal-ao-planeta-1820638>

Workbook: Eltano S... AHDS Home | AHDS Dashboard Page Elenco Login - Empl...

AMBIENTE

**Mais um estudo revela por que comer carne faz mal ao planeta**

Economic Policy

The Washington Post

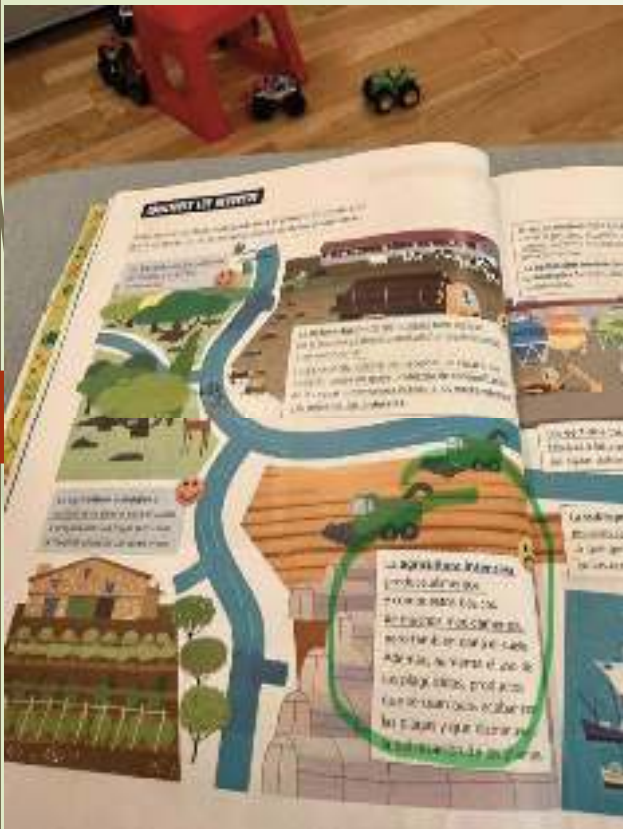
**Meat is horrible**

Naciones Unidas

Noticias ONU

Mirada global Historias humanas

La ganadería produce más gases contaminantes que el transporte



Sostenibilidad

**¿SOSTIENE LA GANADERÍA INDUSTRIAL?**

Según el informe, tanto si nos movemos en la granja, como si vamos a la tienda, el consumidor debe saber que la carne que consume y los huevos que consume son el resultado de un proceso de producción que puede ser muy sostenible o muy insostenible, dependiendo de cómo se produzca.

La ganadería industrial, que produce carne y leche, está basada en la explotación de una ganadería muy concentrada, en un solo país de origen (Estados Unidos) y se basa en un modelo de producción que genera un alto nivel de contaminación y que genera un alto nivel de emisiones de gases de efecto invernadero.

El uso de antibióticos para obtener la carne es necesario para controlar los diversos focos de infección.

**La producción mundial de carne de cerdo**

Año	Producción (millones de toneladas métricas)
1975	~10
1980	~12
1985	~14
1990	~16
1995	~18
2000	~20
2005	~22
2010	~24
2015	~26

**La modernización de la ganadería**

La ganadería ha experimentado importantes cambios en las últimas décadas:

- Se ha producido una **mecanización** de las explotaciones, lo que ha provocado una **intensificación**, la **reducción de mano de obra** y la **desaparición** de explotaciones tradicionales, como la trashumancia.
- Las **razas autóctonas**, menos productivas pero muy adaptadas a su entorno, han dado paso a **razas foráneas**, seleccionadas por su mayor productividad.
- Las pequeñas **explotaciones tradicionales**, en las que se criaban varias especies a la vez, se han transformado en **explotaciones especializadas**, centradas en el aprovechamiento de una única especie ganadera.

La causa de estos cambios está asociada a la sustitución de la ganadería para el autoconsumo hacia una actividad orientada a la **venta en mercados exteriores**.

La modernización de la ganadería ha generado un **aumento de la producción cárnica**, con lo que se mejora de la alimentación humana en los países desarrollados.

Pero el aspecto negativo de este proceso es visible a través de varios **problemas**: uso de hormonas para el crecimiento del ganado, fabricación de piensos de mala calidad, malas condiciones de vida de los animales, y extensión de enfermedades, como el caso de los vacos locos o la gripe aviar.

**LA TRASHUMANCIA**





C40  
CITIES





## O Gado recicla



# O Gado recicla



Sugar beet pulp



Molasses



Citrus fruit



Dried citrus pulp pellets



Sunflower seeds



Sunflower oil cake pellets



Soybeans



Soybean meal

# O gado recicla: o exemplo da cerveja



# O Gado desforesta?

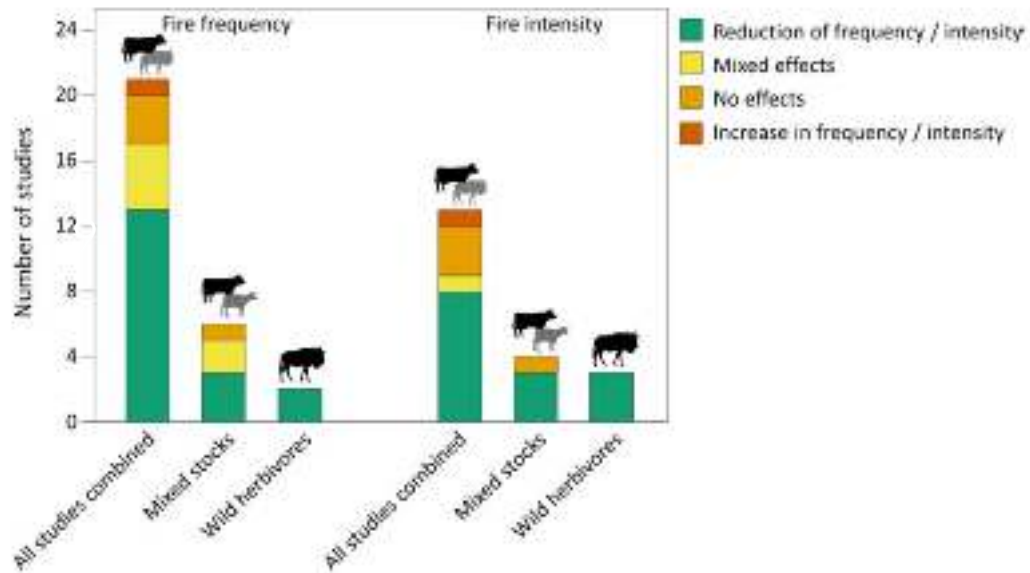


FIGURE 3 Effect of different herbivores on fire intensity/frequency reported in reviewed studies

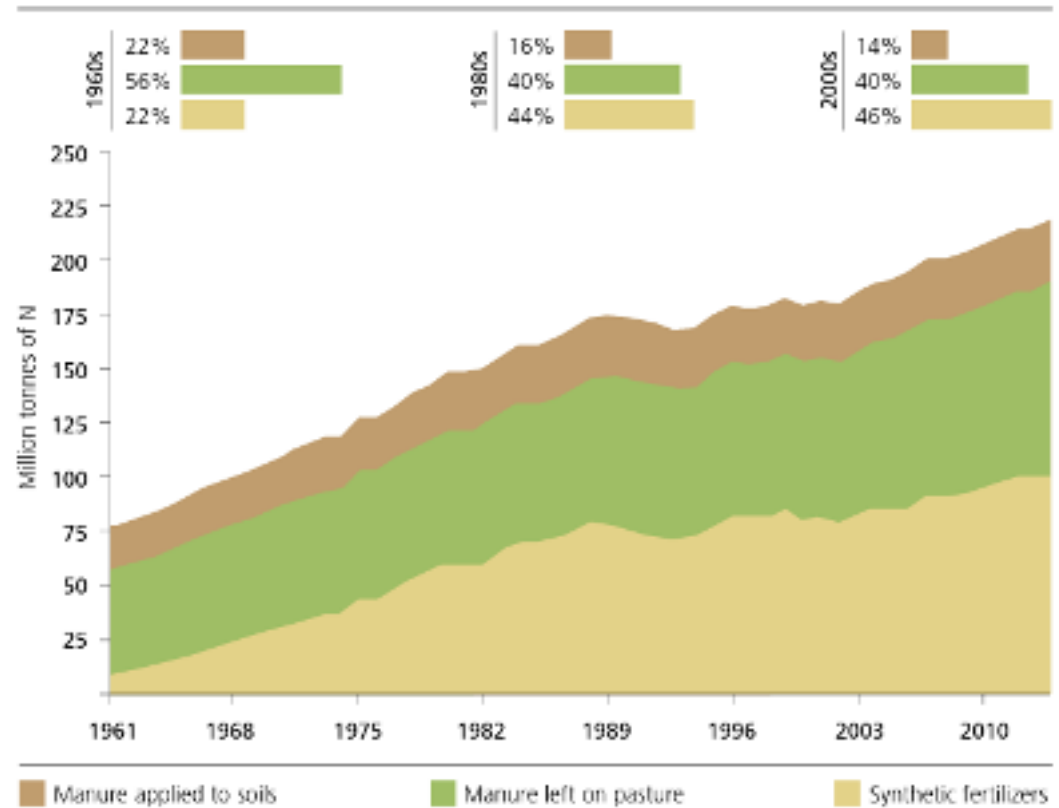


# O gado fertiliza as colheitas do mundo

- El 50% dos fertilizantes usados globalmente são a base de estrume
- Sem animais deveríamos aumentar em um 100% a síntesis de fertilizantes químicos
- O estrume é usado para a produção de biogas, equivalente ao 10% do gas natural utilizado en Alemanha



FIGURE 6: CUMULATIVE GLOBAL N INPUT FROM LIVESTOCK MANURE AND SYNTHETIC FERTILIZERS, 1961-2014. Bar charts represent decadal average shares for 1960s, 1980s and 2000s.



1. Nitrogen inputs to agricultural soils from livestock manure New statistics. FAO 2018
2. Implementation of bioenergy in Germany – 2021 update

# Falemos das emissões. O dato mata o relato

**O gado emite mais  
que o transporte**

**Emissões pecuárias globais: 12%**



<https://news.trust.org/item/20180918083629-d2wf0>

# Comparemos emissões!

Consumo carne Portugal/hab/ano:  
19 Kg bovino = 456 Kg CO<sub>2</sub> eq  
42 Kg capoeira = 235 Kg CO<sub>2</sub> eq  
43 Kg suino = 204 Kg CO<sub>2</sub> eq

TOTAL: 895 Kg CO<sub>2</sub> eq

Emissões  
Totais

1 voo NYC-LHR = 900 Kg CO<sub>2</sub> por  
passageiro  
Fazer 1000 Km carro (4L/100 Km) =  
187 Kg CO<sub>2</sub>

Emissões  
Direitas



## Danger CO<sub>2</sub>W

Climate change is a real problem and airlines are partly responsible.

Air transport produces 2% of global CO<sub>2</sub> emissions. But it might surprise you to know that this is actually less than the CO<sub>2</sub> produced worldwide by cattle.

Nevertheless, we're working hard to limit the environmental impact of flying by investing in new, more fuel-efficient aircraft and pushing for shorter routes and improved air traffic control.



Flying's a wonderful thing

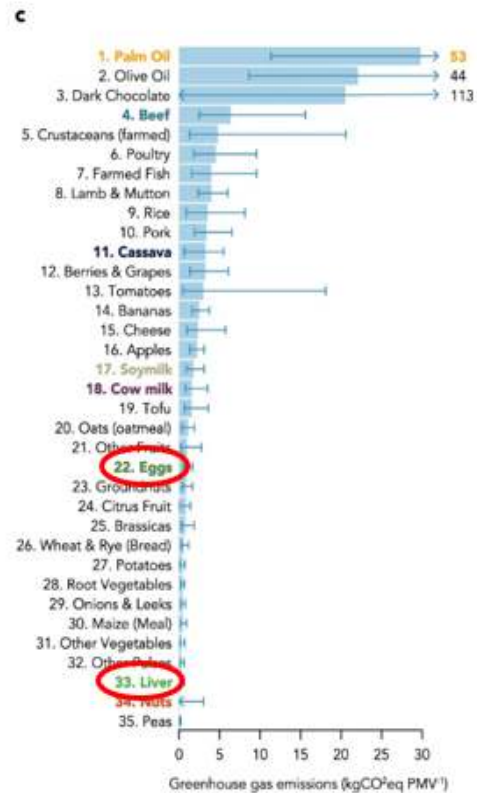
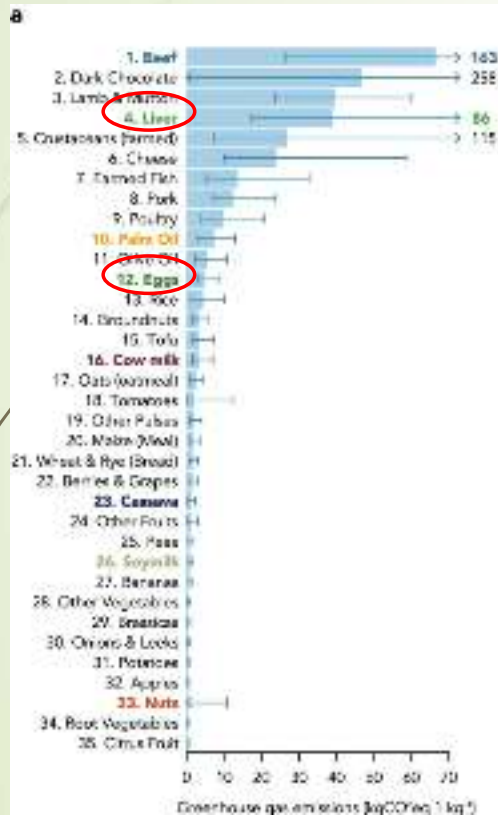


A Great Way to Fly

# Midiendo emissões



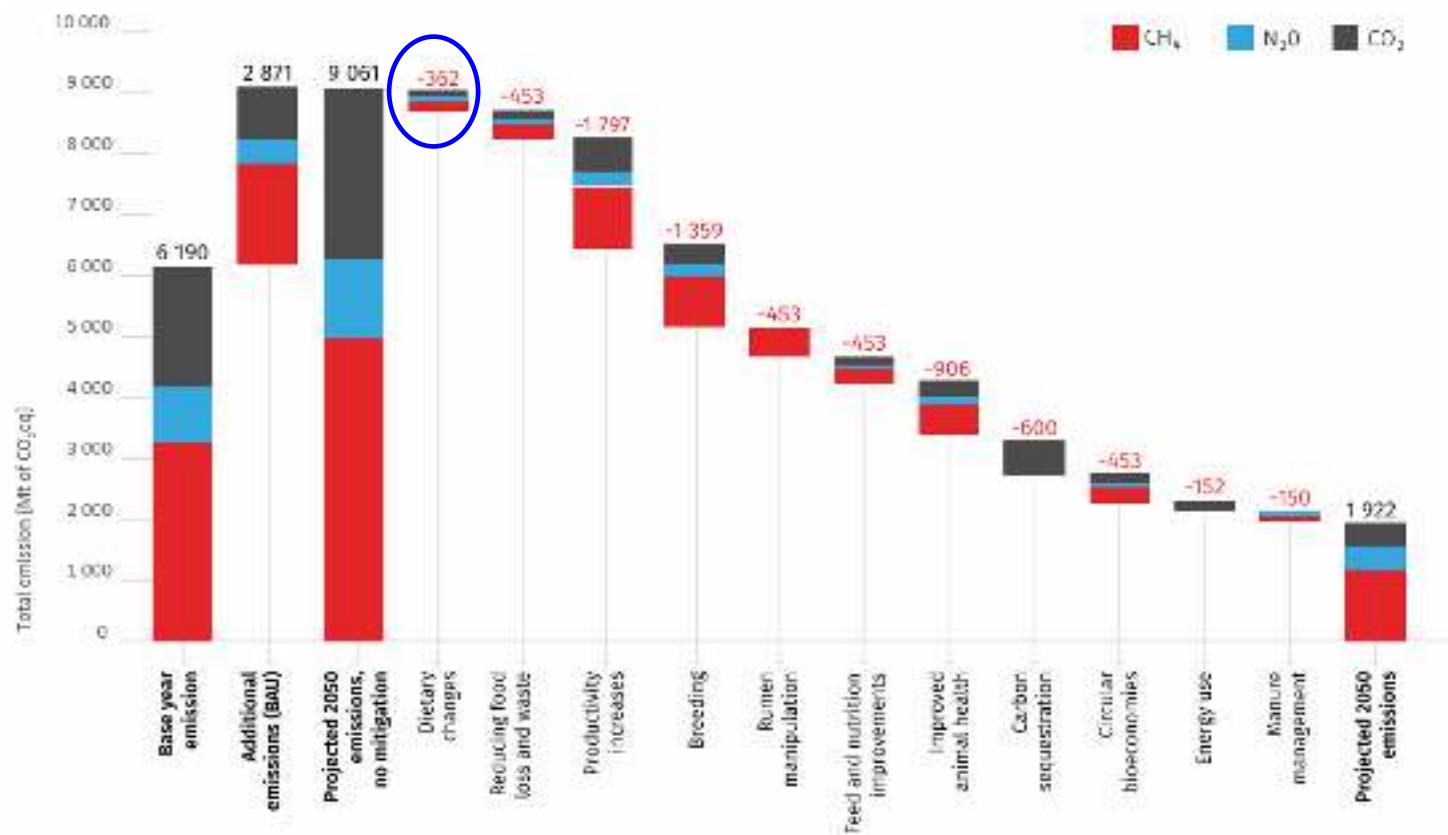
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# El problema de la media aritmética

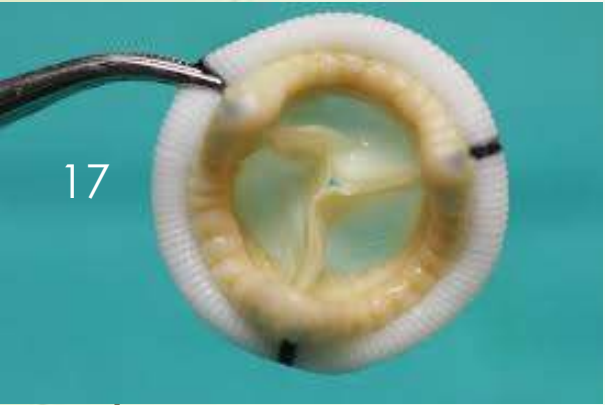
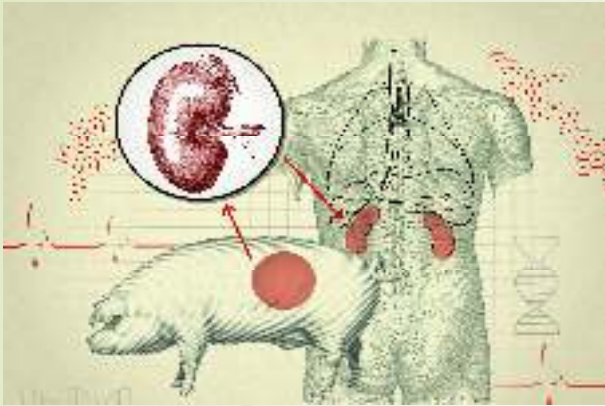


# Cómo reduzir as emissões?



Base year and projected emissions from livestock systems shown as a waterfall chart with a range of mitigation measures applied to 2050 with their technical potential





# Dieta e saúde



## Dietas sem produtos animais san mais sanas

19



## 14 sociedades médicas lo desmienten A OMS tambien

The European Society for Paediatric Gastroenterology, Hepatology and Nutrition states that 'vegan diets have generally been discouraged during complementary feeding because the risks of failing to follow advice (for supplementation) are severe, including irreversible cognitive damage from vitamin B12 deficiency and Axaal' (Newell et al. 2017).

The German Nutrition Society does not recommend a vegan diet for pregnant women, lactating women, infants, children or adolescents as it is difficult or impossible to obtain an adequate quality of some nutrients (Vetter et al. 2016).

The German Society for Pediatrics and Pediatric Nutrition states that a vegan diet is disallowed during all periods with intense growth and development and warns that children on a pure vegan diet need ongoing elaborate dietary strategies and continuous supplementation or an app similar to nutritional management for children with metabolic disorders (Kunze et al. 2015).

The German Society for Paediatric and Adolescent Medicine argues that 'children with vegan or vegetarian diets need to take vit. B12 supplements, preferably combined with other critical nutrients such as Fe, Zn, I, vit. D3 & Omega 3, to prevent serious clinical complications' (Kunze et al. 2015).

The Swiss Federal Commission for Nutrition does not recommend a vegan diet for pregnant and lactating women, infants, toddlers, adolescents, and elderly or people with debilitating diseases (FCN 2015).

The Belgian Royal Academy of Medicine states that a vegan diet comes with identified problems and is not suitable for pregnant and lactating women, infants, children, and adolescents, and can therefore not be recommended (ARNO 2019).

The Belgian Superior Health Council warns for a risk of various nutrient deficiencies (vitamins B9, B12, vit. D and vit. E, Fe, Zn, I, Cu), increasing with dietary restrictiveness. Vegan diets are not recommended for pregnant and lactating women and their infants and children (<math>N</math>), as they likely do not meet nutritional requirements. Due to the often avoided consumption of certain foods, the Council also warns for an increased exposure to potentially food components, including acrylamide, heavy metals, pesticides, mycotoxins, a toxin in algae and fish, and - especially - aflatoxin (BNC 2020).

The Spanish Paediatric Association agrees with AHO that a vegetarian diet is not necessarily unsafe but finds it nevertheless 'inadequate for infants & young children to follow an omnivorous diet or, at least, an ovo-lacto-vegetarian diet' (Izquierdo-Fernandez et al. 2019).

The Israeli Society for Obstetrics and Gynecology (ISOG) has issued a warning that the trend towards more vegetarian and vegan diets poses a serious risk to female infants (ISOG 2020).

The American Medical Association and the American Academy of Pediatrics both underline the importance of choline during pregnancy and lactation because choline is a 'strong micronutrient' in animal-derived foods. Vegetarians and vegans may have a greater risk for malnutrition (Wallerstein et al. 2018).

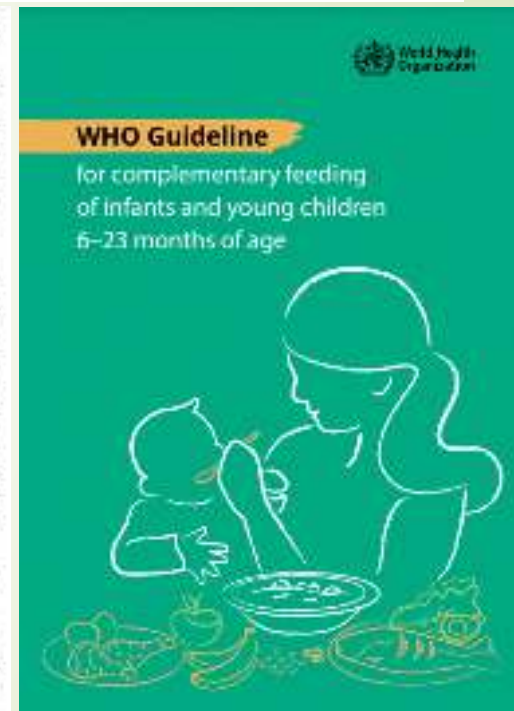
The North American Society for Pediatric Gastroenterology, Hepatology and Nutrition states that plant-based diets should not replace breast milk, formula, or cow's milk for infants (<math>N</math>) (NASPGHAN et al. 2020).

The Danish National Health Authorities disallows vegan diet when feeding young children (Lund 2019).

The French Paediatric Gastroenterology, Hepatology and Nutrition Group (GPHN) claims that the 'trend for vegan diets has an effect on the ability to breastfeed and that it does not provide all nutritional requirements and exposes children to... deficiencies that can have serious consequences' (Lévy et al. 2019).

The Food Safety Authority of Ireland emphasizes the importance of vitamin B12 and vit. D, as well as other nutrients, and encourages plant-based diets for 1-5 year olds (FSAI 2020).

The Scientific Italian Society of Paediatric Preventive Medicine (SIPPE), the Italian Society of Paediatric Nutrition (ISPN) and the Italian Society of Paediatric Nutrition (ISPN) have issued in a joint position paper that 'vegan and vegetarian diets are inadequate for the correct neuro-psychic-motor development of children, whereby lack of B12, Fe, and Zn can cause irreversible damage. In addition, vegan diets cannot be recommended as they do not meet optimal calcium and vitamin D supply' (SIPPE, ISPN, ISPN 2019).



# Anemia:

- É uma autêntica epidemia para as mulheres da África e Índia
- Muito alta em países desenvolvidos:
  - Incidência do 13% em Europa
- A Sociedade Espanhola de Ginecologia e Obstetricia publicou um documento alarmada pelas dietas con baixa quantidade de alimentos animais entre as adolescentes:

<https://www.gndiario.com/dietas-veganas-vegetarianas-causan-anemia>



Anaemia

Percentage of girls and women aged 15–49 years with anaemia, global, 2019



Number of girls and women aged 15–49 years with anaemia, global, 2019

571 million

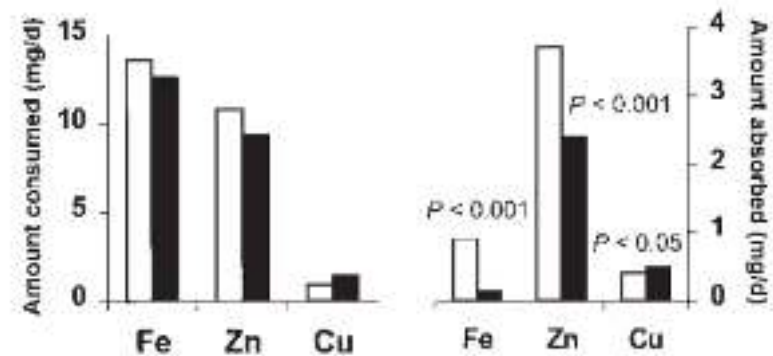
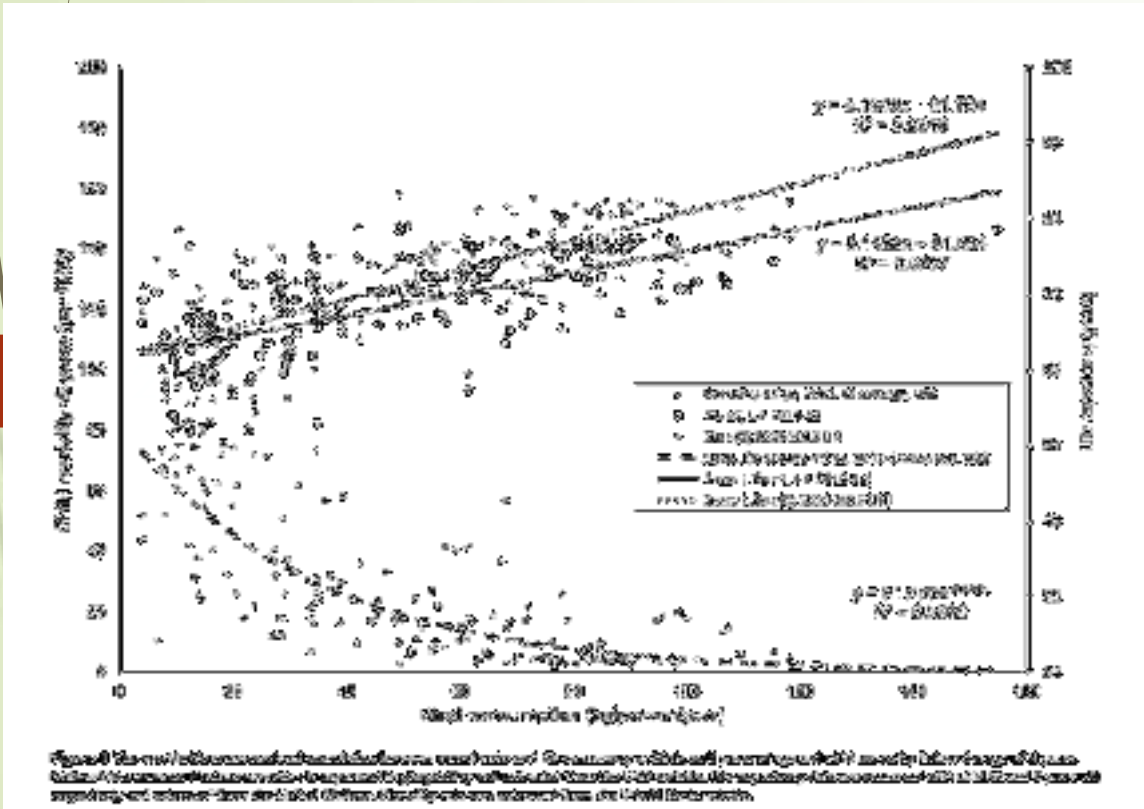


FIGURE 1. Contrast between the relative trace element content and the trace element bioavailability of experimental nonvegetarian (□) and vegetarian (■) diets. Data are from references 7–9.

1. Janet R Hunt. Bioavailability of iron, zinc, and other trace minerals from vegetarian diets, The American Journal of Clinical Nutrition, Volume 78, Issue 3, September 2003, Pages 633S–639S
2. United Nations Children's Fund (UNICEF). Undernourished and Overlooked: A Global Nutrition Crisis in Adolescent Girls and Women. UNICEF Child Nutrition Report Series, 2022. UNICEF, New York, 2023.

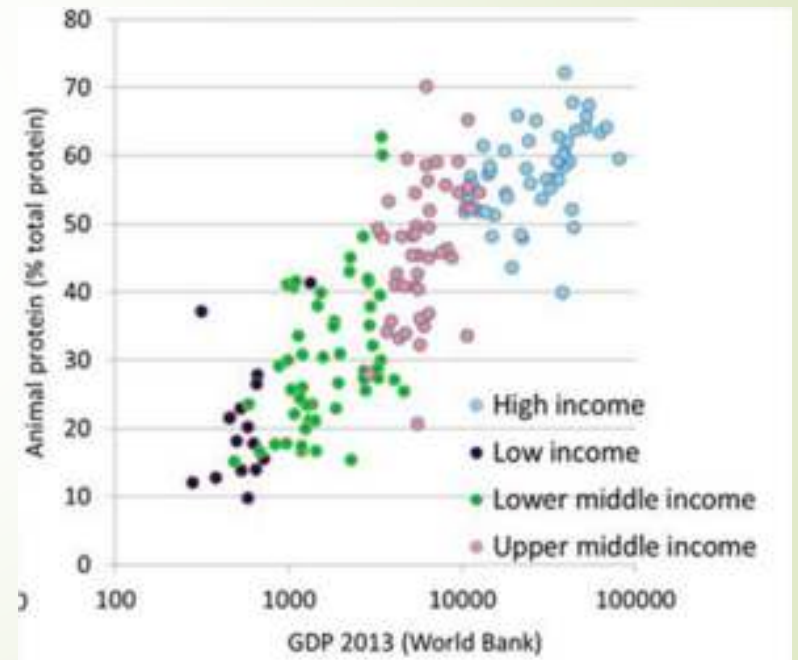
# Esperança de vida e performance acadêmica

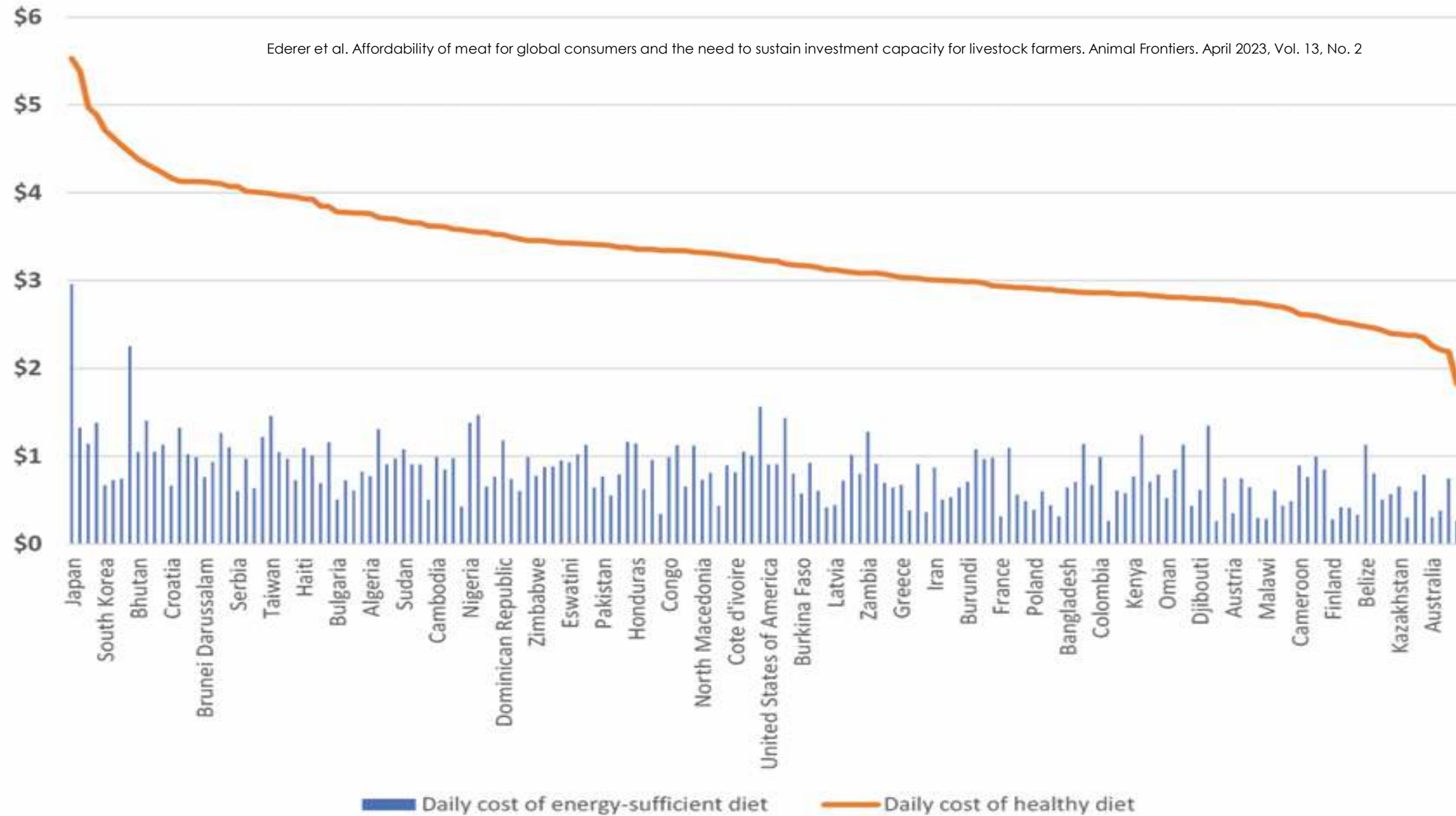


Relato: Temos que comer menos carne

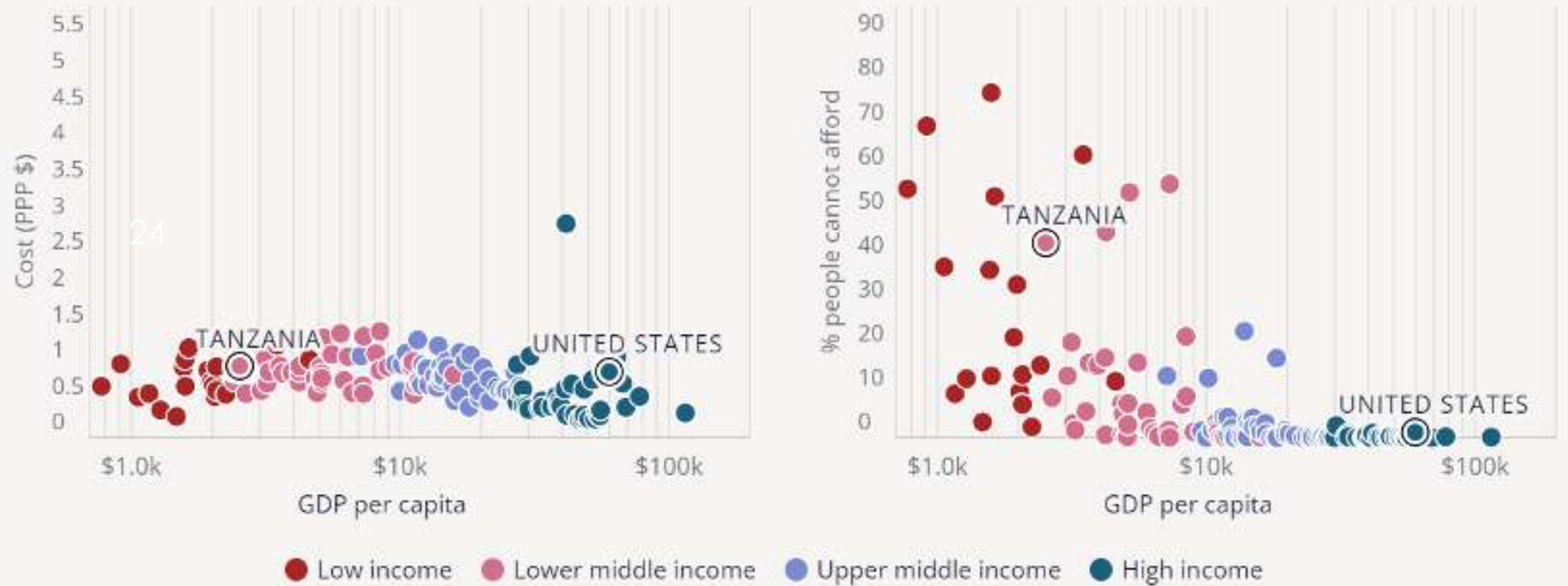


Dato: O mundo precisa mais carne

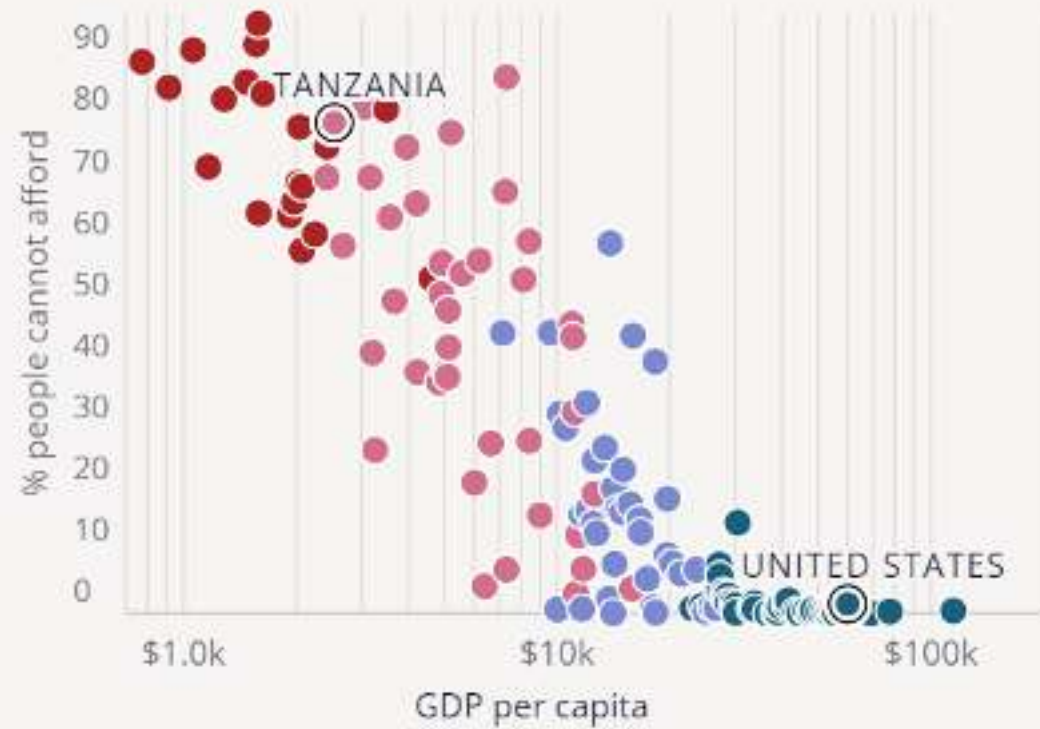
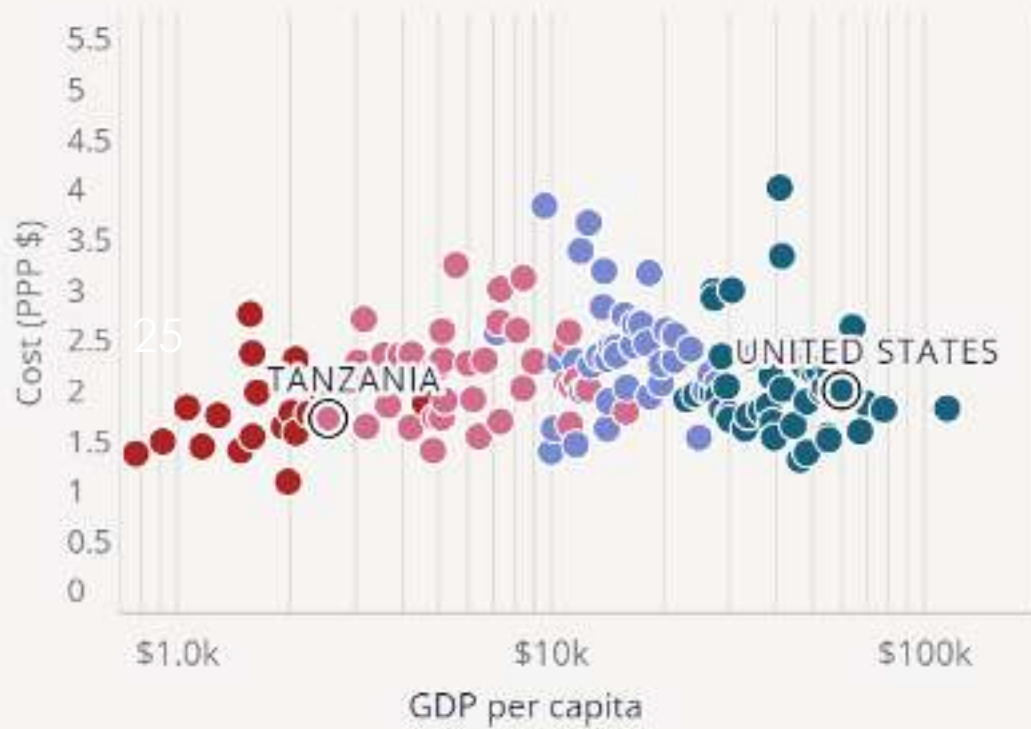




## Energy-sufficient diet



## Nutrient-adequate diet



● Low income ● Lower middle income ● Upper middle income ● High income



Foto cortesía Antonio González de Bulnes

## Benestar animal

- sondas de temperatura, humedad y concentraciones de anhídrido carbónico y amoníaco para asegurar las mejores condiciones ambientales y de bienestar
- B) alimentadores de precisión para asegurar una correcta dosificación de la dieta diseñada por especialistas en nutrición y evitar subnutrición, sobrenutrición o despilfarro de alimentos
- C) antenas para evaluar los movimientos y el comportamiento de los lechones entre si y con respecto a la madre y así saber si están bien, si tienen frío o calor, si comen o no, si presentan signos tempranos de enfermedad
- y...tipo de suelo, de la plancha térmica para los lechones, del control de consumos de alimento y agua, de los muestreos sistemáticos de saliva para evaluar salud/enfermedad y bienestar...

# Igualdade de género



- Las mujeres, en ciertas regiones, tienen difícil acceso a la tierra, pero pueden poseer ganado menor y aves
- Esto permite cierta independencia económica y acceso a créditos
- Las mujeres invierten estos recursos en el hogar: nutrición y educación
- Auto-estima
- Desarrollo económico de la comunidad
- El ganado es visto como el 1<sup>er</sup>-2<sup>o</sup> factor para salir de la pobreza



# O dato mata o relato

*Se não como animais, não os matam nem os maltrato*



*Pode haver mais mortes num prato sem animais*



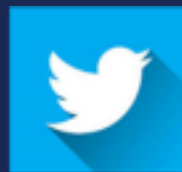


**16ª JORNADAS**  
INTERNACIONAIS  
HOSPITAL VETERINÁRIO  
MURAI HA DE FVCSA

Muito obrigado!!!



Juan Pascual



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