



 Beans  
is How

# Proof Points



Beans have been part of many global cuisines for millennia and are one of the most widely consumed food types in many low-income settings. They have a rich role in global cuisines and are staples in many traditional dishes.

Beans are versatile and can be prepared and incorporated into a variety of foods, including meals, desserts, snacks, sauces, spreads and even beverages. The diversity of pulses has important contributions to people, planet and prosperity.



# Background

Beans Is How is an ambitious campaign to double global bean consumption by 2028.

Why? Quite simply, beans can help us fix the future.

We currently face a raft of unprecedented challenges. It is estimated that between 690 and 783 million people in the world faced hunger in 2022. This is 122 million more people than before the COVID-19 pandemic and 2.4 billion people, comprising relatively more women and people living in rural areas, did not have access to nutritious, safe and sufficient food all year round. (FAO, IFAD, UNICEF, WFP and WHO, 2023). In addition, one-third of all food produced is going to waste, while the food system itself is responsible for around 30% of greenhouse gas emissions (Stagnari et al, 2017)

Beans is How is a game-changing campaign which brings together a global coalition of partners to fix the food system, one bean meal at a time. Together we can work to end the malnutrition crisis, enjoy meals that don't cost the earth and tackle climate change from our dinner tables.





# People

**Pulses like beans, lentils and peas are good for people's health.**

- Beans are nutrient-dense, providing one of the best natural sources of dietary fiber and an excellent source of plant protein and healthy carbohydrates with a low glycemic index. They are very low in fat and contain no cholesterol. They are also rich in vitamins and minerals, including potassium, iron, and B vitamins like folate. (Hall & Cassandra, 2017).
- Nutrient content varies among types of pulses, with differences in protein, amount and types of dietary fiber, vitamins, and minerals. Even within the same type of bean, nutrient content can vary based on variety (i.e., genotype) and growing conditions (i.e., environment). The diverse colors of beans can have different bioactive properties, such as antioxidant activity (Ganesan & Xu, 2017) which also impact bioavailability, or the amount of the nutrient present in a food that is readily available for the body to absorb and use.
- Beans are associated with numerous health benefits (Didinger and Thompson, 2022) such as the promotion of healthy weight maintenance and gut health and the reduction of the risk for several chronic diseases, including type 2 diabetes, cardiovascular disease, and cancers like colorectal cancer.
- Not only does chronic disease prevention improve the duration of Healthy Life Years (HLY), but it also brings significant co-benefits for health care and societal cost savings ( Abdullah, et al, 2017)



# Planet

**Beans and other pulses are known for providing numerous environmental benefits, ranging from improving soil health to reducing greenhouse gas emissions.**

- Beans can help mitigate climate change because bean production results in much lower greenhouse gas emissions than other sources of protein (Peoples et al, 2019).
- Beans play an important role in crop rotation and can fix nitrogen into soil (Menegat & Ledo, 2022), reducing the need for nitrogen fertilizers. This can help save farmers money and reduce negative environmental impacts associated with overapplication of fertilizers, such as greenhouse gas emissions and runoff into water systems.
- Beans require less water to grow than other sources of protein (Our World in Data, 2018).
- Including beans in cropping systems can improve biodiversity and help reduce threats to maintaining nature and biodiversity through reduced greenhouse gas emissions, eutrophication, and land required for production. (Peoples et al, 2019).
- The long shelf-life of beans can also help reduce food waste and the associated climate impacts. Currently, food loss and waste at the supply chain and consumer levels is responsible for 6% of total global emissions (Our World in Data, 2020).



# Prosperity

**Beans can promote prosperity, as they play a critical role in improved nutrition security in populations around the world, are a culturally responsive food - they form a part of traditional global cuisines for millenia, create economic opportunities for smallholder farmers - many of whom are women, and they can be used in diverse dishes and products, creating further market opportunities.**

- Beans are economically accessible, which contributes to improved food and nutrition security. However, prices may be higher than for cereals (Joshi & Rao, 2017), which may result in pulses being less economically accessible to those with limited financial resources. This is both a challenge and an opportunity - if production of beans increases, the availability and cost of beans could decrease, making them more accessible.
- Beans have been grown in countries around the world for millennia, simultaneously making them culturally responsive and providing opportunities to develop a wide range of cuisines through bean-centric dishes.
- Many people depend on beans as a primary staple and important source of protein in their diets. In regions such as sub-Saharan Africa, beans are cultivated mainly by women, empowering them to provide nutrition for their families and creating a potential income source (Buruchara et al, 2021).
- The diversity and culinary versatility of beans allows them to be used in a wide variety of dishes and bean-based products, including meals, snacks, desserts, sauces, and beverages.
- Beans have a long shelf-life, helping prevent food waste and allowing them to be stored for a long time.





# Bean Consumption

- The Global Economy of Pulses, published by FAO in 2019, reported that in the last three decades, global consumption of pulses has remained stagnant at about 21 grams per capita per day, although there are regional differences in consumption.
- In western Kenya, Rwanda, and Burundi, people eat more than 30 kilograms, or about 100 grams per day per capita — some of the highest consumption levels in the world. Yet the benefits of beans as a rich source of protein, iron, and other micronutrients are spread unevenly across the continent. In Zambia, for example, consumption is relatively low at just 10kg per capita per year (Rubyogo,2023).



# References:

1. FAO, IFAD, UNICEF, WFP and WHO. 2023. The State of Food Security and Nutrition in the World 2023. Urbanization, agrifood systems transformation and healthy diets across the rural–urban continuum. Rome, FAO. <https://doi.org/10.4060/cc3017en>
2. Hall, Clifford, Cassandra Hillen, and Julie Garden Robinson. "Composition, nutritional value, and health benefits of pulses." *Cereal Chemistry* 94.1 (2017): 11-31. (<https://onlinelibrary.wiley.com/doi/abs/10.1094/CCEM-03-16-0069-FI>)
3. Ganesan, Kumar, and Baojun Xu. "Polyphenol-rich dry common beans (*Phaseolus vulgaris* L.) and their health benefits." *International journal of molecular sciences* 18.11 (2017): 2331. (<https://www.mdpi.com/1422-0067/18/11/2331>)
4. Didinger, Chelsea, and Henry J. Thompson. "The role of pulses in improving human health: A review." *Legume Science* (2022): e147. (<https://onlinelibrary.wiley.com/doi/full/10.1002/leg3.147>)
5. Abdullah, Mohammad MH, et al. "Canadian potential healthcare and societal cost savings from consumption of pulses: A cost-of-illness analysis." *Nutrients* 9.7 (2017): 793. (<https://www.mdpi.com/2072-6643/9/7/793>)
6. Peoples, Mark B., et al. "The contributions of legumes to reducing the environmental risk of agricultural production." *Agroecosystem diversity*. Academic Press, 2019. 123-143. (<https://www.sciencedirect.com/science/article/abs/pii/B978012811050800008X>)
7. Stagnari, Fabio, et al. "Multiple benefits of legumes for agriculture sustainability: an overview." *Chemical and Biological Technologies in Agriculture* 4.1 (2017): 1-13. (<https://chembioagro.springeropen.com/articles/10.1186/s40538-016-0085-1>)
8. Our World in Data. Greenhouse gas emissions per 100 g protein. <https://ourworldindata.org/grapher/ghg-per-protein-poare>
9. Menegat, S., Ledo, A., & Tirado, R. (2022). Greenhouse gas emissions from global production and use of nitrogen synthetic fertilisers in agriculture. *Scientific Reports*, 12(1), 14490. (<https://www.nature.com/articles/s41598-022-18773-w>)
10. Peoples, Mark B., Henrik Hauggaard-Nielsen, and Erik S. Jensen. "The potential environmental benefits and risks derived from legumes in rotations." *Nitrogen fixation in crop production* 52 (2009): 349-385. (<https://access.onlinelibrary.wiley.com/doi/abs/10.2134/agronmonogr52.c13>)
11. Our World in Data. Scarcity-weighted water usage. <https://ourworldindata.org/grapher/scarcity-water-protein-poare>
12. Our World in Data. Freshwater withdrawals. <https://ourworldindata.org/grapher/water-per-protein-poare>
13. Our World in Data. "Food waste is responsible for 6% of global greenhouse gas emissions." (2020). <https://ourworldindata.org/food-waste-emissions>
14. Joshi, P. K., and P. Parthasarathy Rao. "Global pulses scenario: status and outlook." *Annals of the New York Academy of Sciences* 1392.1 (2017): 6-17. (<https://nyaspubs.onlinelibrary.wiley.com/doi/full/10.1111/nyas.13298>)
15. Foyer et al. 2016: Foyer, Christine H., et al. "Neglecting legumes has compromised human health and sustainable food production." *Nature plants* 2.8 (2016): 1-10. (<https://www.nature.com/articles/nplants2016112>)
16. Buruchara, Robin A., et al. "PABRA means partnership: Transforming agriculture in Africa together." (2021). (<https://cgspace.cgiar.org/handle/10568/113037>)