Beans is How

A Roadmap to Double Global Bean Consumption

The Beans is How Theory of Change

The Global FoodBanking Network
Brian Otieno

Beans is How

Beans is How is an ambitious campaign mobilised by the SDG2 Advocacy Hub to double the global consumption of beans (as well as peas, lentils and other pulses) by 2028. To reach this ambitious goal, the campaign seeks to amplify and make visible the importance of beans as a simple, affordable solution to our global financial, health and environmental challenges while uplifting policy and academic research and galvanising significant stakeholder action.

Why Beans?

Beans Are Nutritious!
Beans are nutrient-dense, rich in protein and dietary fibre, which is great for gut health. They have no cholesterol, are low in fat and rich in micronutrients including iron, potassium, and B vitamins like folate.

Beans Are Good For The Planet!
Incorporating beans into agricultural practices can improve soil and water quality. Beans reduce the need for synthetic fertilisers by converting atmospheric nitrogen into a plant usable form. They use less water than many other crops, helping to conserve water.

Beans are Affordable, Versatile & Delicious!
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. You can purchase them dry, canned or jarred and they are shelf-stable and store for long periods of time. They are versatile and can be prepared and incorporated into a variety of foods, including meals, desserts, snacks, sauces, spreads and even beverages.

Learn more:
www.beansishow.org
@beansishow #beansonthemenu

Foreward

The humble bean. Tiny but mighty. What started as a simple idea Chef Sam Kass and I shared during the UN Food Systems Summit in 2021 - genuinely wanting to make a tangible difference for people and planet -- has evolved into a growing coalition of over 60 organisations coordinating energy, effort, and resources around a common goal: to affirm Beans is How.

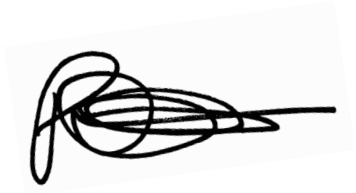
The launch of this report is a critical step towards providing a campaign ethos and methodology, grounding it in evidence and evaluation. It is essential to the ambitious goal we have of doubling bean consumption globally and establishing the importance of beans in the wider ecosystem of food systems transformation. I am grateful for the expert guidance of the Science and Innovation Advisory Council in validating and bringing this framework to life, as well as their leadership and excitement at the possibility of achieving this mutual goal.

I am also grateful to the many hours of work, sweat, debates, enthusiasm and ideas from the SDG2 Advocacy Hub team who have guided and supported this campaign to get it to where it is today: staff who have since moved on to work in other areas or fields, and staff who continue to work on the emerging campaign. Special mention and thanks to Kristin Gutekunst for taking on the role of the Beans is How Project Lead – a very big task – for managing all the concurrent processes, together with support from Alyson Greenhalgh Ball and Chelsea Didinger to get the Theory of Change to the current format you see before you.

We are hopeful this framework will help us all to pilot and learn, as we seek to scale up campaign activations and efforts, to drive the change that is critical to achieving SDG2 by 2030.

Keep on bean-ing a champion!

Paul



Paul Newnham
Chief Beans Officer, Beans is How
Executive Director, SDG2 Advocacy Hub

In this decisive decade for charting a sustainable future for people and planet, we need positive examples of how individual behaviour can have societal impacts. Beans and other pulses are powerful catalysts in our pursuit of a sustainable food system, offering solutions to the climate-nature-nutrition nexus and bolstering livelihoods, particularly for smallholder farmers. Often underestimated, they are nutrient-dense and environmentally friendly, addressing health, environmental, and societal concerns whilst being affordable in many regions of the world.

Despite their immense potential, the consumption and production of beans, peas, lentils and other pulses is lagging. This publication not only highlights this gap but also calls for a concerted effort to bridge it.

This Theory of Change outlines how coordinated global efforts can deliver diet shift at scale. It recognizes the urgency of amplifying beans' role in our global narrative and the need to transform public perceptions of beans, ultimately reshaping consumer behaviour and driving widespread demand. Creating an enabling policy environment is also vital for the global approach's success. To build a compelling case for beans, robust data and research are pivotal components of the campaign's strategy.

The call for cross-sectoral collaboration resonates deeply with our values. We believe impactful and sustained change emerges from partnership and a shared vision. Governments, researchers, civil society, private sector actors, and food champions must unite in their pursuit of sustainable food systems, with beans at the epicentre of this transformative journey. The challenges we face are interconnected, and the solutions we seek demand the convergence of diverse expertise and networks.

In conclusion, we commend the dedication poured into this Theory of Change, particularly by our colleagues on the Science & Innovation Advisory Council. As we embrace the insights shared here, we renew our commitment to contributing towards the mission of doubling global bean consumption by 2028. Together, we can chart a course toward a more sustainable and resilient future.

Sincerely,

The Science & Innovation Advisory Council Co-Chairs

Dr. Andy Jarvis
Director of the Future of Food
Bezos Earth Fund

Jean Claude Rubyogo
Global Bean Program Leader and
Pan-Africa Bean Alliance (PABRA) Director,
Alliance of Bioversity International and
CIAT& Pan-Africa Bean Research Alliance (PABRA) , CGIAR

Executive Summary

Beans and other pulse crops are a cornerstone of the transition towards a more sustainable agri-food system with the potential to address the climate-biodiversity-nutrition nexus whilst increasing the resilience of local and global food systems. Beans offer a simple, affordable solution to our global financial, health, climate and environmental challenges.

Beans are nutrient-dense; on average, 100 calories of beans packs about 7g of protein and 7g of dietary fibre, which is beneficial for gut health. They have no cholesterol, are low in fat and are rich in micronutrients including iron, potassium and B vitamins like folate. Moreover, beans are an environmentally-friendly crop with multiple benefits for the planet." Incorporating beans into agricultural practices can improve soil and water quality. Beans reduce the need for synthetic fertilisers by converting atmospheric nitrogen into a plant usable form. They use less water than many other crops, helping to conserve water. In addition, beans are delicious, versatile, culturally-responsive, and can improve livelihoods. They have been part of many global cuisines for millennia, and can boost incomes for small-scale farmers, many of whom are likely to experience poverty and hunger. There are hundreds of varieties of beans and their versatility means they can be prepared or incorporated into a variety of foods for breakfast, lunch, dinner, desserts, snacks and even beverages. You can purchase them in numerous forms - such as dry, canned or jarred - and they are shelf-stable and store for long periods of time.

However, overall global bean intake is low at about 21 grams/day/capita globally in 2016, (although intake is higher in some countries, such as Burundi in sub-Saharan Africa at about 80 grams/day/capita of pulses). Beans is How was created with the mission of doubling global bean consumption, reversing declines in consumption and production and advancing sustainability through the lenses of people, planet, and prosperity.

Downturns in consumption and production have been driven by a myriad of factors, including an overreliance on animal protein and a few food crops - like wheat, corn and rice -- as well as much lower public and private research investments in beans compared to cereal grains. This has constrained productivity of beans and other pulse crops, resulting in them being "locked out" of food and farming, with beans only cultivated on a small percentage of arable land. Whilst the need to move towards sustainable food systems is drawing attention towards the need to enable further bean consumption and production, the transition has been slow and hampered by many cultural, societal, political and economic impediments.

To create long-term behaviour change, a multi-pronged effort must ensue to make beans visible, desirable and available. This can be achieved through sustained collaboration with retail, restaurants, catering, public institutions - including schools, hospitals and other government funded institutions -- and other partners to achieve a successful reappraisal of beans whilst making easy, delicious bean options available in the form of whole beans and in innovative, healthful foods. Stakeholders can encourage intake of beans as part of a healthy and environmentally-friendly diet, generating interest in both common and heirloom bean varieties and investment in a multitude of novel bean-based products (e.g., drinks, meat replacement, snacks). Marketing and outreach efforts that showcase the numerous benefits of beans will be key in gaining consumer interest, in conjunction with how to cook and incorporate beans into delicious everyday foods and diet. Food champions, including chefs and

other influencers can highlight the versatility and desirability of beans. This can help create long-lasting shifts in consumer behaviour and attitudes, such as increased awareness about and concern around the impacts of food, along with prioritisation of foods that can simultaneously promote the well-being of people and planet.

It is also imperative that both consumption and production are addressed equally to create long-term, viable opportunities for beans. Coordinated efforts through systemic interventions across the full value chain (e.g., production, post-harvest processing, consumption) will be required to break out of the agricultural and food system status quo. Whether farmers choose to grow more beans depends on numerous factors, including market opportunities, the development of supply chains, policy support including subsidies and livelihood security. Decisions are also impacted by technical improvements in bean production, such as breeding new varieties with high, consistent yields that are also tolerant to conditions seen with climate change.

Importantly, a transdisciplinary approach with collaboration across sectors - including the food sector, researchers, government, civil society, the healthcare community and consumers - must be adopted. Governments must provide more production support and incentives for producers, for instance through subsidies and new regulations and trade incentives. Governments can also help increase demand for a wide variety of local, diverse bean varieties by incorporating beans into their dietary guidelines and positive public procurement policies, ensuring beans are served in meal programs, such as government canteens, social protection programs, school meals, health systems and hospitals and in humanitarian responses.

The Beans is How Theory of Change approach begins with shifting consumer attitudes toward beans as a desirable food, ingredient, and alternative protein source through innovative communications, champion work, and the convening of diverse stakeholders. This will be supplemented by coordinated advocacy for strong policy that increases access and affordability while enabling production, providing equitable support for growers, and ensuring an abundance of biodiverse varieties. Actively engaging diverse stakeholders in the co-development and ownership of impact pathways will be necessary to successfully work together to create accountability and sustained change. It will also be important to enable new research around consumption habits, and behaviour change to inform our efforts across a variety of markets. Through this coordinated approach, we believe we will help create a successful model for how food behaviour shifts can improve the health and livelihoods of people, food systems, and the planet.

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Part I

Key Outcomes

Guiding Principles and Scope

The Beans is How mission is to double global consumption of beans by 2028.

Beans is How is an inclusive, apolitical campaign which strives to convene and connect stakeholders from all backgrounds to catalyse action towards our mutual mission of doubling global bean consumption. Our efforts will be evidence-based, ensuring we can serve as a critical friend to challenge assumptions with positive intent. While we are global, we understand that our impact and interventions will be local, with a no one-sized fits all approach.

Overall, we underscore that the principles of our campaign will be firmly grounded in the principles of the Sustainable Development Goals, ensuring that our efforts are focused towards increasing equity, inclusion, and the transition to more sustainable, biodiverse agri-food systems that support healthy people and planet with sustained results.

Although our branding leads with beans, we will include peas, lentils and the broader pulse family. Pulses are the dry, edible seeds of non-oilseed legumes. The Food and Agriculture Organization (FAO) of the United Nations recognizes eleven types of pulses: dry beans, chickpeas, lentils, cowpeas, dry peas, pigeon peas, dry broad beans, Bambara beans, vetches, lupins and pulses nes (i.e., not elsewhere specified - minor pulses that don't fall into one of the other categories).

Additionally, we encourage positive developments in the larger legume family Fabaceae. All varieties within the legume family confer both nutritional and environmental benefits, while holding traditional roles in global cuisines. These benefits are dependent upon the consumer, growing practices, and location.

Beans and other pulses are our priority focus

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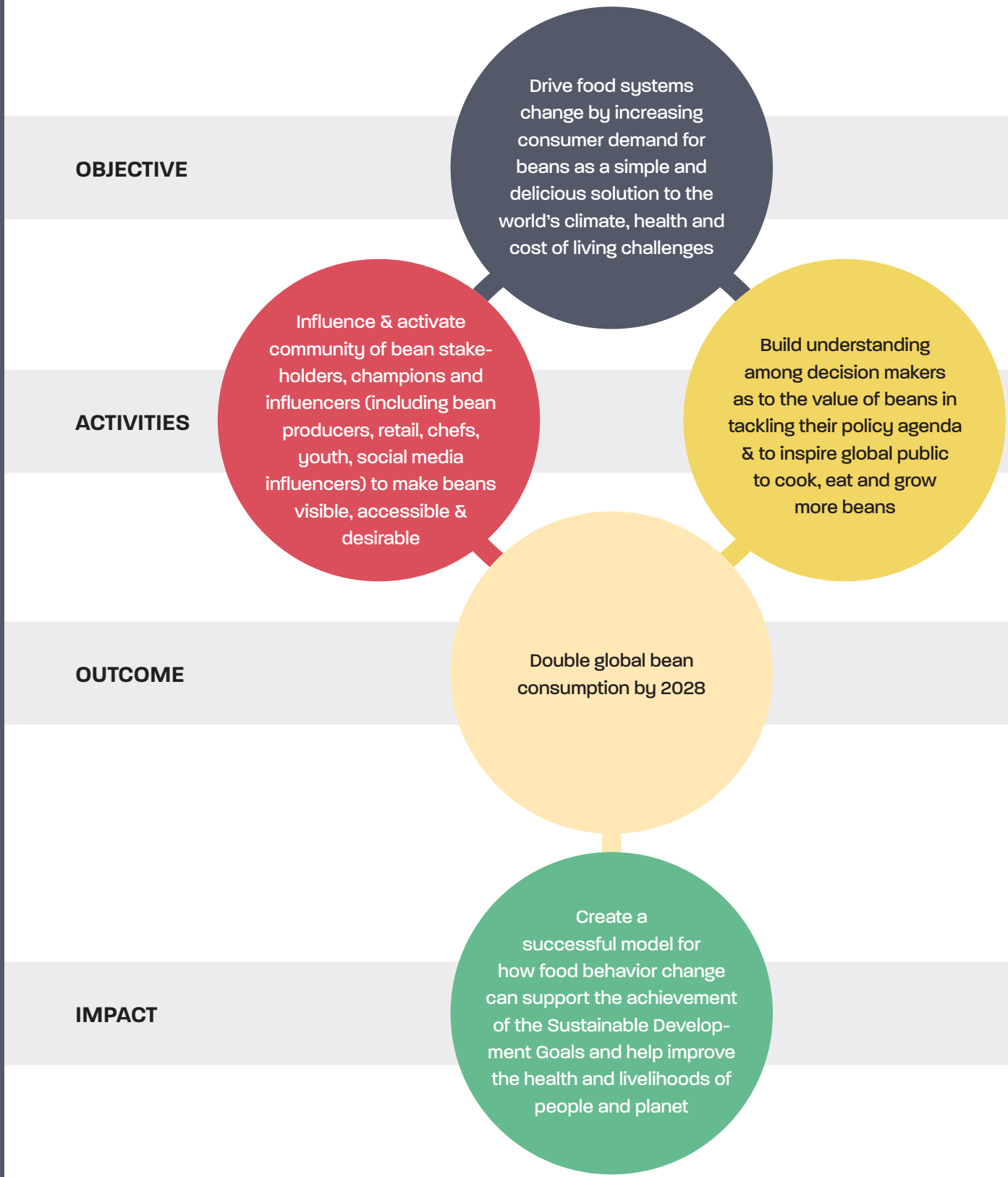
Beans is How

Theory of Change Diagram



Identified Gaps and Key Opportunities

While conducting our extensive literature review and building our Theory of Change, a number of gaps have emerged, along with key opportunities to advance our efforts.

1

We must rally the global community around big communications initiatives to shift the perception of beans, raising their profile in public discourse, increasing affordability, accessibility and visibility in the food architecture, and thereby shifting the demand and interest in consuming beans.

- **Solution:** Collaborate with global and regional celebrities that allow messaging to cut through, inspiring conversation and interest in beans, promoting their inherent benefits, and fighting against myths and preconceived notions that may cause barriers to intake.
- **Solution:** Scale the Bean Menu Challenge to top influencers
- **Solution:** Increase quality and quantity of digital campaign materials, such as TikTok videos, educational and awareness materials, coordinated social media marketing with the Bean Coalition
- **Solution:** Coordinate out-of-home marketing campaigns in strategic metro locations, such as London, New York, Nairobi and New Delhi to brand billboards, metro stations, etc.

2

We must continue to build critical partnerships that can accelerate our progress and goals while identifying pathway champions. Being partner-led acknowledges the diversity of situations and capitalises on local knowledge while also allowing for more sustainable, longer term change through reinforcing local advocates and the integration of beans into programs that address targeted audience needs.

- **Solution:** Conduct extensive stakeholder mapping to identify critical gaps in representation on the Bean Coalition. Cultivate new relationships and explore opportunities to align on common agendas. Examples of those identified include the School Meal Coalition, Healthy Cities Initiatives, Eat Lancet (v2), Ikea Foundation, Rockefeller Foundation and the FAIRR initiative.
- **Solution:** Convene and rally partners around key issues while providing innovative marketing and communications tools and campaigns that can be jointly leveraged. This includes toolkits for adoption by industry leaders, governments and the public sector.
- **Solution:** Increase outreach to partners in the Global South, including in Central and South America. Individuals in these countries may face a different set of barriers to bean consumption, and it is important to arrest declines in consumption. Many of these countries traditionally had higher levels of consumption, but now there is a negative perception that beans are food for the poor, and as people earn more money, they transition to a more Western diet, relying more heavily on animal protein.

3

We require better data and research to understand global pulse consumption levels, while projecting and predicting the impact of our campaign on multilateral efforts to achieve the SDGs. This includes consensus on the methodology and indicators for measuring consumption data, while securing subsequent resources both human and financial to monitor at the agreed frequency. More reliable data on intake that is regularly updated is necessary to more accurately assess changes to consumption in studies over time.

- **Solution:** Explore opportunities to co-convene a working group and/or academic forum creating a high-impact research coalition to explore partnerships, address research gaps and develop co-funding opportunities.
- **Solution:** Work with the *Global Diet Quality Project* and other data platforms to begin to collect more granular data and use collected data (e.g., from 24-hour recalls) to have a better understanding of consumption on multiple levels: global, country, and regions and audiences within countries. Explore opportunities to co-design tools and strategies to gather, compile, and evaluate this data requires funding.
- **Solution:** In order to build out the evidence base supporting our Theory of Change, an exercise to model the impacts of increased bean consumption and production would clearly demonstrate the positive impact to governments, policymakers, investors, partners, etc.
- **Solution:** Investigate potential proxy indicators that can serve to fill in research gaps, such as production, inventory, sales, product innovation and other retail data, while combining with qualitative case studies in an annual report.

4

We require targeted behaviour change research and analysis of food trends, barriers, and the influence of socio-cultural norms and perceptions to gain key insights and uncover opportunities. Insights will differ across geographies and population groups, so it is important to be context specific and to conduct research in a variety of locations. This research will inform our communications and advocacy approach in each region, allowing us to effectively partner with organisations to reach target audiences with culturally sensitive and effective messaging.

- **Solution:** Inclusion of a pilot study to evaluate the impact on behaviour change on a test consumer group across priority markets for both consumption and production. (This could, for example, be an analysis of the behavioural & attitudinal changes resulting from a cohort of 500,000 people learning how to grow beans including related food empathy outcomes).
- **Solution:** Collaborate with Bean Stakeholders to share and analyse consumer marketing insights and trends.

5

We must create an enabling environment through policy and advocacy to effectively support the scale and localization of our global approach, emphasising the five key asks: subsidies, research, data, dietary guidelines, and positive procurement.

- **Solution:** Convene stakeholder summits, curate expert panels, map partners, and define key policy engagement opportunities and asks to create an action framework for priority countries.
- **Solution:** Build and assemble a policy toolkit that can be deployed at key advocacy moments, with a consistent clarion call and specific asks for all Governments. Such an effort would help incorporate the bean agenda into key global platforms projects/ campaigns/ efforts and can unlock further partnerships and funding. All Science and Innovation Council Members, as well as other Coalition Members would be equipped with this toolkit and key messaging to ensure consistent call to action.
- **Solution:** Advocate for an increase in the recommended daily intake of pulses in country dietary guidelines. Notably, doubling bean consumption aligns well with the EAT-Lancet Commission's universal healthy reference diet, which promotes human and environmental well-being. This diet suggests 100 grams of legumes per day, with 50 grams of pulses (Note: this is grams of DRY, raw beans and lentils, so it would be more than 50 g when cooked), 25 g of soy, and 25 g of peanuts (*Lancet*). Another ongoing initiative is the Coalition for the Advancement of Pulses (CAP) in the US.
- **Solution:** Convene conversation with government and policy leaders to analyse the necessary policy shifts that may enable further support to production, particularly smallholder farmers, women and youth. This includes seed sharing, capacity building and training, favourable subsidies, and connection to market opportunities.

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Part II

Roadmap to Doubling Global Bean Consumption

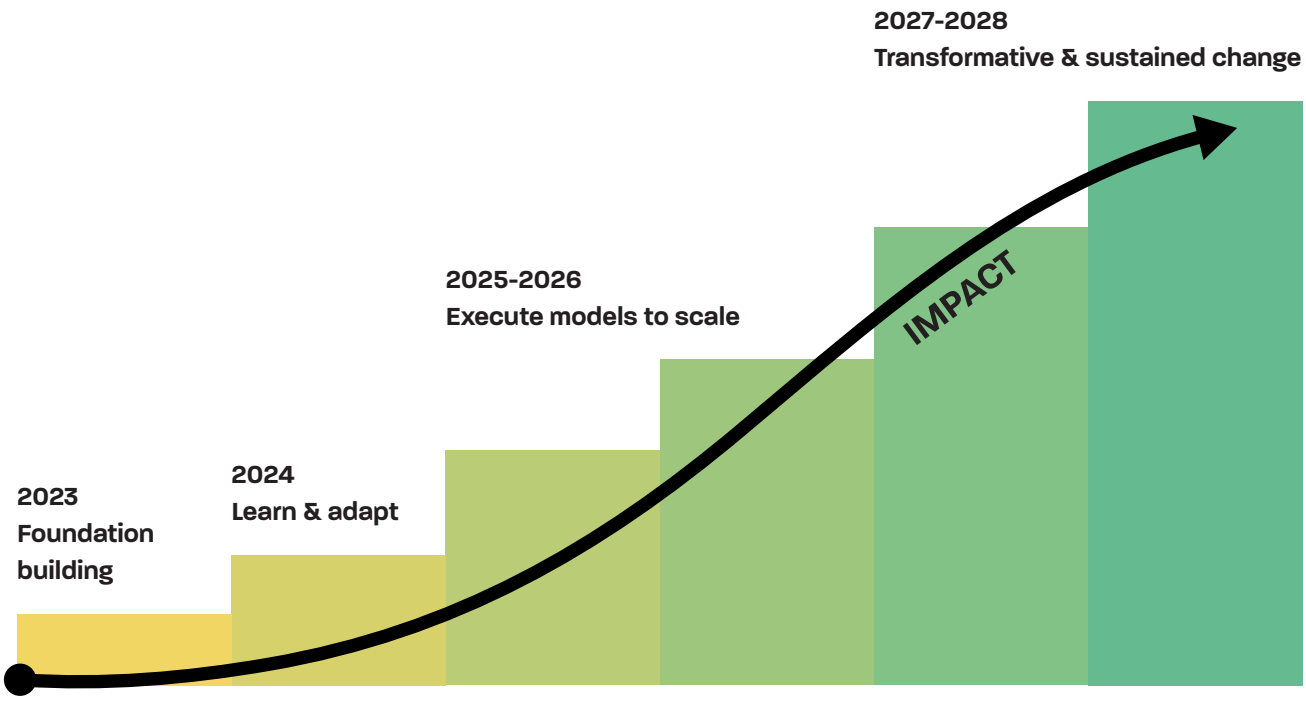
Building a Model to Scale

Beans is How was first announced by President Paul Kagame of Rwanda in Kigali at the AGRF Summit in September 2022 at a Gala event attended by past and present African Heads of State. Subsequently, the official campaign brand, founding Coalition members, and Science and Innovation Advisory Council were officially launched at COP27 in Egypt.

Following an initial year of fundraising, brand awareness, coalition building, and research to validate our methodology and approach, Beans is How is pleased to present this Theory of Change.

In the next year, we will pilot test and hone our demand-creation initiatives in an initial set of priority countries, learning rapidly and testing our model while further building out our coalition network. We will incorporate these lessons and apply these methodologies to rapidly scale into other markets through significant stakeholder action.

This model will enable a shift in bean visibility, availability and desirability while ensuring equitable and sustainable production and supply. This long-term perception and behaviour changes will include mass adoption of healthier eating habits that will sustain improved lifestyles, (health, diet, performance), increased production and supply of a diverse range of pulses, and improved food systems for the planet.



Initial Priority Countries

An initial set of priority countries have been identified that will allow the campaign to compile foundational insights and learnings that can be reapplied and scaled in other markets for 2024. These countries will provide the testing ground for new initiatives, and have been chosen due to Bean Coalition and partner density, donor interest and opportunities and activities underway.

Following the methodology set out, Beans is How will convene and rally stakeholders to develop a joint-action framework while defining champions along impact pathways. Following the identification of opportunities along a calendar year, these partners will engage in a rapid roll out plan to quickly combine their efforts to scale and proliferate messaging to the defined target audiences. Through this model, we aim to rapidly drive consumer attention and demand while collaborating with policymakers and other stakeholder for longer term shifts that may ensure sustained change.

U.K.

A variety of systemic interventions are underway that aim to shift policy and food trends to incorporate beans into school meals and new food development. There are also many engaged partners from retail and food service, as well as boutique production, localised growers, chefs and influencers.

U.S.A.

With an emphasis on the New York area at the outset, the campaign will align with existing local government efforts to insert beans in the public procurement shift towards plant-forward foods, harness the momentum of New York City Climate Week and UNGA, as well as the thriving restaurant scene and influencer community to roll out the Bean Menu Challenge. Beans is How is also aligned with the American Pulse Association, the US Dry Beans Council, and many other partners who are collaborating to tackle consumer demand, support for production, dietary guidelines and other policy and advocacy.

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Kenya

With significant donor and partner interest and support, Kenya will provide the opportunity to test existing efforts in both rural and urban populations in East Africa. The campaign will align with existing efforts, such as the Bean Corridor and the Rockefeller Foundation and AGRA's efforts to promote high-iron bean consumption, particularly for school meals. It will aim to leverage moments such as Nairobi Restaurant Week to roll out the Bean Menu Challenge and new champion work. Successful implementation will serve as a model to scale to other countries in the Bean Corridor project.

India

There is a large opportunity to shift consumption, and production towards more pulse consumption with a large, and growing population, especially of young people. While there are donor and partner opportunities, work will need to be done to build further stakeholder support, and determine the best approach for reaching a varied population with unique languages and dietary consumption (emphasis on lentils and chickpeas, for instance). The initial focus will prioritise New Delhi.

We will continue to support additional countries, while exploring options to exchange best practices and scale through the development of toolkits, case study capture and through promoting the campaign at a variety of forums.

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Convening a Community of Practice

The Beans is How mission is to double global consumption of beans by 2028.

To achieve this mission, we will convene a global community of practice which is open, diverse and inclusive to support existing relationships and catalyse new ones across the global food system. Together we will showcase beans as a simple, affordable solution to the world's climate, health and economic problems, while making beans visible, available and desirable.

Beans is How is structured around four key supporting groups:

Bean Coalition

A multi-sector network collaborating to spread awareness, increase momentum and adopt localised engagement strategies to achieve goals

Bean Science & Innovation Advisory Council

A council of experts that ensure the communication and advocacy strategy sits firmly on a trusted evidence base

Bean Board

The governance mechanism to steer, support and help resource Beans is How

Bean Champions

Advocates who champion bean messaging and goals within and beyond their significant spheres of influence

When striking into new markets, we will conduct a detailed stakeholder mapping and outreach strategy to ensure representation and identify areas of collaboration to drive the agenda forward. Beans is How is a global campaign, but it is critical that countries and partners feel a sense of ownership. The challenges faced in different regions and countries, and among diverse audiences, are unique and will require targeted approaches. We must ensure the principles of equity and inclusion are firmly embedded into our approach, promoting the biodiversity of beans for consumption and production while supporting smallholder farmers and ensuring crops are able to make it to market.

Furthermore, we will engage these diverse stakeholders to ensure the success of the campaign, with consumers or people at the centre. This will require efforts by the core Beans is How team alongside numerous partners within the broader Coalition.

Defining Target Audience(s)

In each effort, the target audience must be clearly defined, with activities tailored to accommodate the various approaches required to reach them, including the global north and south; urban, peri urban and rural populations, socioeconomic background; education; gender; age; digital literacy; etc.

For instance, a stronger emphasis may be placed on shifting food trends - collaborating with influencers or rolling out public awareness campaigns in certain markets. In others, there may be a need for more policy work to increase access and affordability, while combining efforts to support a healthy production. The messaging and activities to address these nuances will be different with each target market.

It is also important to note that our model empowers our community of practice to further our efforts to their own niche markets. Therefore, it is important that our campaign efforts create resources which may be tailored for different languages, and with different messaging as is best determined through consumer trend data, direct customer polling, behaviour change insights, or trial and testing.

A snapshot of the varied target audiences:

- Consumers, especially young people
- Food champions and social media influencers, including chefs, creatives, nutrition and health experts, and community leaders including faith based
- The private sector, farmers, and others along the food value chain, including retail and trade, food service operators
- Key data, research and other academic partners
- Governments, especially local governments

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Arhantika Rebello

Identifying Proposed Activities & Opportunities

There are many activities that can support our global efforts. These activities will be achieved through the combined efforts of the stakeholders as laid defined in an action framework.

Collaborate with the private sector, nutrition and health experts, creatives, food champions and consumers to enable innovative public-facing behaviour change campaigns:

- Create innovative engagement activations, while mobilising new voices to help rebrand beans as a superpowered ally, promoting the nutritional and environmental benefits of beans.
- Engage youth (e.g., kindergartens, schools, youth networks) and consumer groups to help foster knowledge of the benefits of beans and healthy eating habits from a young age, developing educational materials and emphasising outreach in cities, which are centres of demand generation. Encourage trial and reappraisal through provision of foods and potential opportunities to grow and learn.
- Inspire communications across the global food system to address barriers to consumption. Engage with retailers, manufacturers, chefs and food service to advance the positive reappraisal of beans while increasing consumption through the Bean Menu Challenge, retail marketing, the promotion of cooking tips, recipe sharing, etc.
- Highlight regions and audiences around the globe that already have higher levels of bean consumption as a positive example, whilst also working to ensure higher consumption is maintained.
- Explore targeted efforts to involve dietitians as champions, particularly those within healthcare settings and foodservice settings. Share best practices discovered to communicate around the nutritional benefits of beans.

Engage in government, private sector and policymaker advocacy:

- Utilise opportunities with key governments and high-level decision makers to influence policies and increase accountability towards increased funding for bean innovation, research, production and consumption, demanding a positive bias for beans to make up for decades of funding gaps and favouring of crops like cereal grains and soybeans.
- Create favourable public procurement and supportive agricultural subsidies and policies to drive production and support open dialogue and knowledge transfer.
- Increase transparency and sustainability in bean supply chains while empowering and incentivising farmers to grow more beans with a special focus on smallholder, women and youth farmers and access to knowledge, technology, and affordable and accessible seed sources.

- Inspire a wider appealing array of healthful and affordable pulse-based foods, thereby providing a wide array of options to support increased sales and consumption.
- Identify governance opportunities and trade interventions (e.g., public-private partnership to enhance bean / pulse value chains).

Work with key research partners to ensure a strong evidence-based foundation:

- Support and strengthen the evidence base, academic engagement and collaboration while identifying research gaps to support the role of doubling global bean consumption
- Design a methodology for tracking progress and enabling bean production and consumption monitoring over time
- Identify technology and innovation solutions
- Engage in systemic learning about how to successfully create positive dietary shift in the general population, creating an approach or model that could be subsequently used for other food groups

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Developing an Action Framework & Impact Pathways

Once a robust stakeholder mapping has been conducted to convene the community of practice, and opportunities and activities have been identified that will enable outreach and behaviour change with a target audience, a subsequent exercise will create a tailored action plan along defined impact pathways. These demonstrate how various activities can produce outcomes in country and regional markets.

The following main impact pathways have been identified through consultation with the Beans is How Science and Innovation Council. These impact pathways will help provide a springboard to drive meaningful change and successfully double global bean intake:

Create demand and shift behaviours through public engagement

- Improve awareness, desirability and reappraisal of the value of beans: Bean Menu Challenge, Myth-busting, Champion and influencer work
- Develop impactful media, marketing and advertising: out of home, digital, and print
- Inspire consumer engagement in growing as an activity to influence behaviour & demand

Create an enabling environment for increased consumption and production through policy and advocacy

- Increase recommendations on pulse consumption in dietary guidelines
- Enable positive public procurement
- Enable support for data, research, innovation
- Increase financing and market support: subsidies, trade and regulations
- Ensure support for agriculture and farmers: seed distribution, climate, nature, biodiversity, carbon and soil, nitrogen economy
- Influence product innovation, including the role of beans as an ingredient in processed and packaged foods, along with improved food choice architecture: retail, food companies and manufacturers

For example, the Bean Menu Challenge is an activity within the Reappraisal Impact Pathway. Outputs include assembling a group of chef bean champions and recipe innovation. One outcome would be beans being more present on restaurant menus, which plays a role in improving the public perception of beans and provides easier access when eating outside the home, ultimately contributing to Beans is How's mission.

As we have no one size fits all approach, these impact pathways will be tailored into an Action Framework, which will outline a series of requirements to increase demand and create an enabling environment, ensuring buy-in and commitments, including people/time, tool development, and financial for regional and country-level implementation.

Beans is How mission:

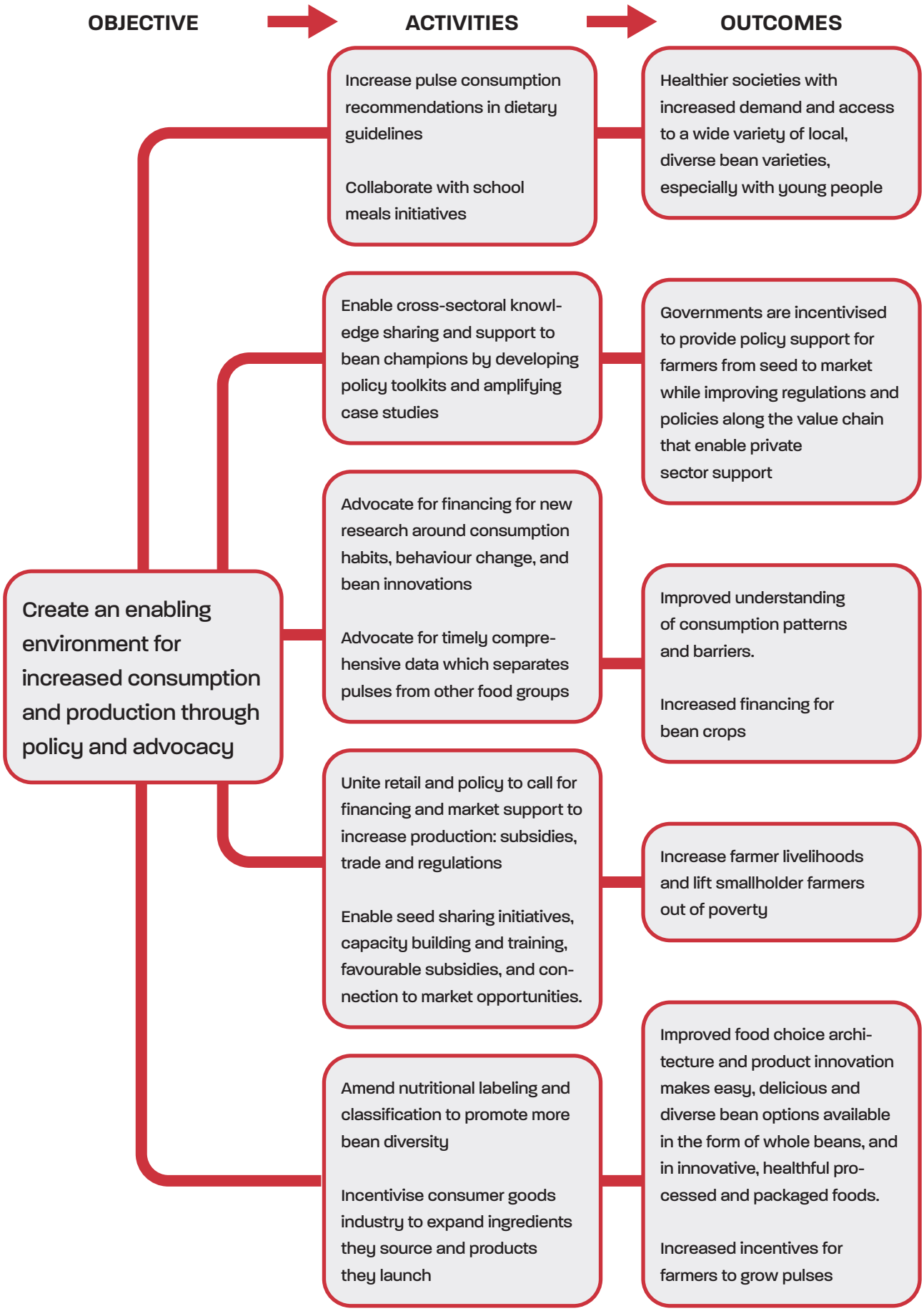
To fix the future by doubling global bean consumption by 2028

GLOBAL IMPACT

Progress made on people, planet and prosperity to address the Sustainable Development Goals.	**Successful model for how food behaviour shifts can improve the health and livelihoods of people, food systems, and the planet.**	**Long-term behaviour change through a multi-pronged effort to make beans visible, desirable, and available.**	**Both consumption and production are addressed equally to create long-term, viable opportunities for beans.**

OBJECTIVE	ACTIVITIES	OUTCOMES
Actively engage diverse stakeholders	Define joint action frameworks and convene cross-sectoral meetings Provide range of tools and resources	Healthy ecosystems of actors aligning to create accountability and sustained change

OBJECTIVE	ACTIVITIES	OUTCOMES
Create demand and shift behaviours through public engagement	Develop impactful media, marketing and advertising: out of home, digital, and print Encourage #beansonthemenu with chefs and food service providers Design digital campaigns and toolkits, ie: bean mythbusting Develop champion and influencer strategy Consumer engagement in growing as an activity to influence behaviour & demand	Consumer attitudes shift toward beans as a desirable food, ingredient, and alternative protein source through innovative communications and champion work Beans are more visible and desirable, sparking new food trends and culinary innovation


OBJECTIVE
ACTIVITIES
OUTCOMES
Create an enabling environment for increased consumption and production through policy and advocacy
Increase pulse consumption recommendations in dietary guidelines
Collaborate with school meals initiatives
Healthier societies with increased demand and access to a wide variety of local, diverse bean varieties, especially with young people
Enable cross-sectoral knowledge sharing and support to bean champions by developing policy toolkits and amplifying case studies
Governments are incentivised to provide policy support for farmers from seed to market while improving regulations and policies along the value chain that enable private sector support
Advocate for financing for new research around consumption habits, behaviour change, and bean innovations
Advocate for timely comprehensive data which separates pulses from other food groups
Improved understanding of consumption patterns and barriers.
Increased financing for bean crops
Unite retail and policy to call for financing and market support to increase production: subsidies, trade and regulations
Enable seed sharing initiatives, capacity building and training, favourable subsidies, and connection to market opportunities.
Increase farmer livelihoods and lift smallholder farmers out of poverty
Amend nutritional labeling and classification to promote more bean diversity
Incentivise consumer goods industry to expand ingredients they source and products they launch
Improved food choice architecture and product innovation makes easy, delicious and diverse bean options available in the form of whole beans, and in innovative, healthful processed and packaged foods.
Increased incentives for farmers to grow pulses

Part III

Measuring Impact

Monitoring & Evaluation

To measure the growth and success of our Campaign, we plan to measure our campaign's success via quantitative and qualitative data. Quantitative efforts will be achieved by partnering with existing efforts, such as census data or ongoing survey work, through specifically commissioned work, or through various case studies from partners. Qualitative data will complement, highlighting influential awareness building through individuals or cultural and social moments that have the potential for large reach for example. A list of planned measurements is as follows:

- **Assess changes in bean consumption and production on an annual basis (or semi-annual if possible - this may be possible at least on a regional level in some areas with high partner concentration and support and more regular monitoring)**
- **Collect inventory and Sales data for beans and pulses products, through retail and food service partners involved in the Beans is How campaign, Menu Challenge, etc. that tracks bean occurrence in menus or packaged goods.**
- **Define awareness and uptake success, such as:**
    - # coalition members joined and # regions/countries involved
    - Website & social media traffic
    - Recipes developed & recipe downloads
    - Beans is How branding added to products
    - Events hosted and number in attendance, along with data from any associated surveys
    - Media monitoring, including number of media mentions, op-eds, articles featuring Beans is How, etc.
- **Measure success of the Bean Menu Challenge**
    - Quantity of chefs and organisations
    - Estimated number of dishes served compared to baseline, or percentage increase of beans in dishes
    - Mentions of #beansonthemenu online
    - Number of influencer accounts documenting efforts
- **Conduct qualitative surveys and focus groups with coalition members, key partners, and the general public etc.**
    - Conduct detailed monitoring of priority impact pathways with pathway champions, assessing outlined indicators, analytics, and storytelling generated through impact tracker and partner efforts
    - Send surveys to a wider audience to assess how participation in the Coalition influenced their bean consumption habits, how they shared about Beans is How with others, capture some quotes that can be used on social media, etc.
    - Organise focus groups with a few key individuals and/or for certain projects to provide more in-depth understanding of impacts and richer qualitative data. For example, could do both surveys and focus groups with chefs for the Bean Menu Challenge.

Global Bean Consumption Baseline Data and Indicators

Beans is How acknowledges that there are constraints in available data to define a holistic picture of global consumption. We will use several existing data sources to inform our baseline data, and aim to use proxy data or commission specific research where necessary - particularly in priority countries.

Some challenges we are seeking to address:

- Dietary intake data does not always extract pulses and beans from legumes or other food groups. We are keen to work closely with data organisations to improve data collection tools to articulate consumption in terms of grams and also to separate pulses from other categories, such as nuts and seeds.
- Available data is not always current, standardised or updated in regular intervals. We are keen to work with stakeholders to identify methods to secure global data, and to define data limitations in measurement scope (as per above).

We propose using the following numbers and sources for baseline values and to track changes in consumption:

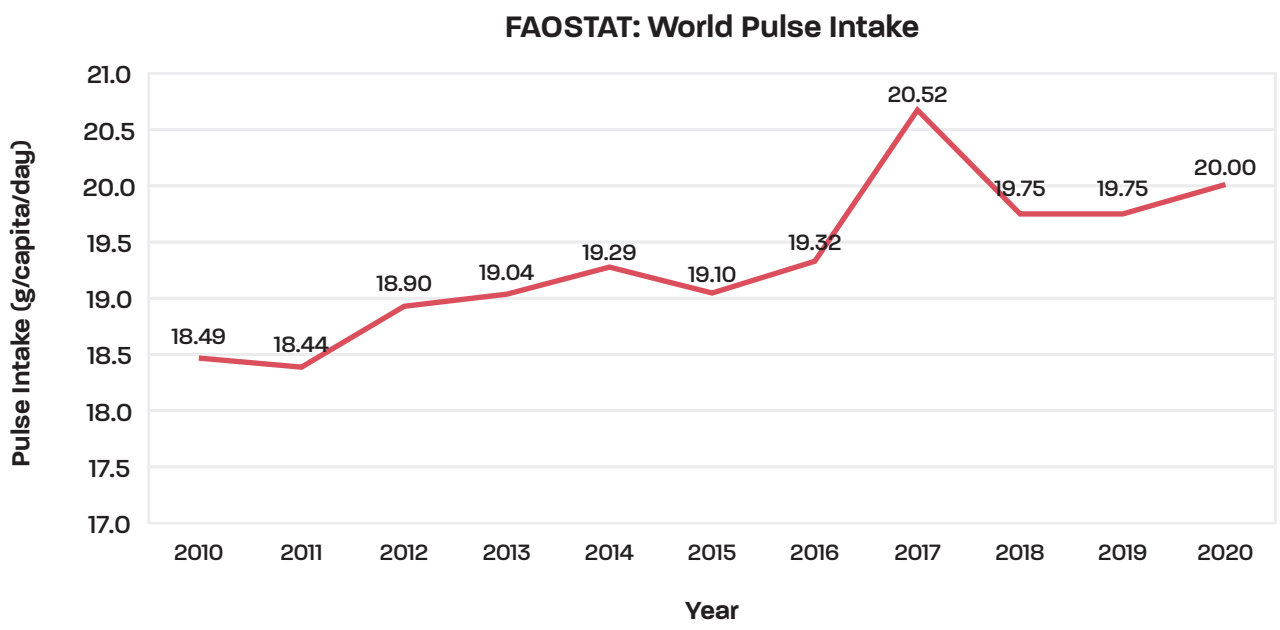
- The Global Economy of Pulses, published by FAO in 2019 reported that in the last three decades, global consumption of pulses has remained stagnant at about 21 grams per capita per day, although there are regional differences in consumption and across socioeconomic classes: *https://www.fao.org/documents/card/en/c/i7108en*

Average per capita per day consumption of pulses, and its contribution to protein and calorie intake, by region, 2011-2013

Region	Average Consumption (grams)	Share in total protein intake	Share in total dietary energy
Oceania	12	2%	1%
East Asia	4	1%	0%
Southeast Asia	9	3%	1%
South Asia	33	11%	5%
West Asia	19	6%	3%
Caucasus and Central Asia	1	0%	0%
Europe	7	2%	1%
North Africa	19	5%	2%
Sub-Saharan Africa	33	12%	5%
Latin America and the Caribbean	34	9%	4%
North America	11	2%	1%
World	21	6%	3%

Source: FAOSTAT data

- The Global Dietary Quality Project recently updated its indicators to extract pulses from seeds and nuts. As of June 2023, the percentage of population who had consumed at least one pulse the night before was highest in Nicaragua at 87%, Kenya at 52%, USA 39%. Example (June-18-2023): *https://www.dietquality.org/indicators/pulses/map*
- FAO Statistical Yearbook Food Balance Sheet presents a comprehensive picture of the pattern of a country's food supply during a specified reference period. It is updated annually, however; one identified challenge is that pulses are grouped with roots and tubers: *https://www.fao.org/faostat/en/#data/FBS*



- FAO's Global Individual Food Consumption Data Tool: has baseline numbers for pulses amongst other food groups for Daily diet: grams per person per day extracted by country: *https://www.fao.org/gift-individual-food-consumption/data/en*

Guided by our Science and Innovation Council, we have found the following additional sources useful:

- Food Systems Dashboard: *https://www.foodsystemsdashboard.org/* & *https://www.foodsystemsdashboard.org/indicators/supply-of-pulses/map*
- Our World in Data provides information on bean production, which relates to consumption: *https://ourworldindata.org/grapher/bean-production*
- IFAD: *https://www.ifad.org/en/evaluation*
- Dietary guidelines & public health-related publications for some countries
- Gro-Intelligence

Annex

Acknowledgement

Over the next five years, Beans is How will utilise this Theory of Change as a roadmap to achieve our mission of doubling global bean consumption by 2028.

The outcomes of this report have been compiled through the coordinated input of the Beans is How Science and Innovation Advisory Council:

- **Dr. Caspar Chater**, Research Leader in Crops and Global Change, Royal Botanic Gardens, Kew
- **Dr. Michael Clark**, Senior Researcher, University of Oxford
- **Dr. Jeffrey Ehlers**, Senior Program Officer, Bill & Melinda Gates Foundation
- **Alyson Greenhalgh-Ball**, Founder, Conscious Impact
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- **Betty Kibaara**, Director, The Rockefeller Foundation
- **Professor Jacqueline McGlade**, Co-Founder and Chief Scientific Officer, Downforce Technologies, Downforce Technologies
- **Dr. Christine Negra**, Senior Advisor, United Nations Foundation
- **Jean Claude Rubyogo**, Global Bean Program Leader and Pan-Africa Bean Alliance (PABRA) Director, Alliance of Bioversity International and CIAT& Pan-Africa Bean Research Alliance (PABRA)
- **Andrew Rzepa**, Partner, Gallup
- **Professor Kadambot Siddique**, Hackett Professor of Agriculture Chair and Director, The UWA Institute of Agriculture
- **Dr. Gunhild Stordalen**, Founder and Executive Chair, EAT
- **Eve Turow-Paul**, Executive Director, Food for Climate League

It would not have been possible without the extraordinary effort of several individuals, including lead authors, **Alyson Greenhalgh-Ball**, **Chelsea Didinger** and **Kristin Gutekunst**, along with the guidance and leadership of **Paul Newnham** and **Chilufya Chileshe**. A special thanks also to **Cody Pearson** for the expert graphic design.

We acknowledge that to achieve our mission, we will need to be agile, advocating for increased research and data that will inform our evidence-based approach, along with the support of our Bean Coalition members and our Bean Board. Subsequent versions of the Theory of Change may be developed to incorporate new evidence and research in the future.

September, 2023

The Benefits of Beans: People, Planet, Prosperity

Beans is How is framing the benefits of beans to align with three of the *P's of sustainability* that shape the Sustainable Development Goals: people, planet, and prosperity.

1. **People (nutrition and human health benefits)**
    - Beans are highly nutrient-dense, providing one of the best natural sources of dietary fibre 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 also are rich in vitamins and minerals, including potassium, iron, and B vitamins like folate. A 100 kilocalorie portion of beans contains about 7 grams of fibre - which is 2 to 3 times more than whole grains - and approximately 7 grams of protein, which is generally more than double the protein content of grains. For example, the same caloric portion of rice or corn tortillas only contains about 2 grams of protein.
    - Beans are associated with numerous health benefits, 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.

2. **Planet (environmental benefits)**
    - Beans can help mitigate climate changes because bean production results in much lower greenhouse gas emissions than other sources of protein. For example, legumes can generate up to 250 times less emissions per gram of protein than ruminant meats.
    - Beans play an important role in crop rotation and can fix nitrogen, reducing the need for nitrogen fertilisers. This can help save farmers money and reduce negative environmental impacts associated with overapplication of fertilisers, such as greenhouse gas emissions and runoff into water systems. Also, the amount of nitrogen fixed by legumes saves about US$8-12 billion (in 2016).
    - Beans play a critical role in crop rotation and can improve soil health. When cereal grains are planted after a legume crop, the nitrogen use efficiency (i.e., the plant's ability to use nitrogen to produce biomass), productivity, and protein content of the cereals are higher, providing benefits for food security and economies.
    - Beans require less water than other sources of protein. For example, it can take ten times more water to produce 1 kilogram of protein from beef than it does to produce 1 kilogram of protein from beans.
    - 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.
    - Beans can help promote efficient land use in agriculture, for instance through requiring less land to grow than other sources of protein, e.g., 1 kilogram of protein from beef can require approximately eighteen times more land than 1 kg of protein from beans.

3. **Prosperity (affordability, nutrition security, culinary versatility, taste)**
    - Beans are economically accessible, which contributes to improved food and nutrition security.
    - Beans have been grown in countries around the world for millennia, simultaneously making them culturally responsive and providing opportunities to explore other 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.
    - 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.

Further Reading

All the facts and information contained herein are based on an extensive literature conducted between April and May 2023, a series of interviews with the Science and Innovation Advisory Council Members from April - May 2023, and input from the Bean Board and Bean Coalition.

Complementary works include:

Beans is How Proof points

Beans is How Mythbusting

These further references are available at *www.beansishow.org*

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