

# The Challenge Ahead, Change Makers And The Pathways They Create To Increased Consumption




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**Paul Newnham**  
Beans is How



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Conscious Impact



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**Cathy Powers**  
Culinary Nutrition  
Associates



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**Javier Berterreche**  
Bridge2Food





# Beans is How

A campaign to fix the future by doubling  
global bean consumption by 2028

**#beansishow**  
**@beansishow**

**Paul Newnham**  
**@paulnewnham**





In the next 5 years, we aim to make beans:

**NECESSARY & VISIBLE**

**EXCITING & DESIRABLE**

**A FOOD OF THE FUTURE**







# How to Get Involved!

1

Join the Coalition



2

Spread Bean-spiration



3

Help get #beansonthemenu



4

Bring Beans to Your Next Event



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# School Meals in the United States



30 million lunches daily

15.5 million breakfast daily





# School Meals are the Healthiest

*Trends in Food Sources and Diet Quality Among US Children and Adults*



Liu J, Micha R, Li Y,  
Mozaffarian D. **Trends in  
Food Sources and Diet  
Quality Among US Children  
and Adults, 2003-2018. *JAMA  
Netw***

*Open.* 2021;4(4):e215262.

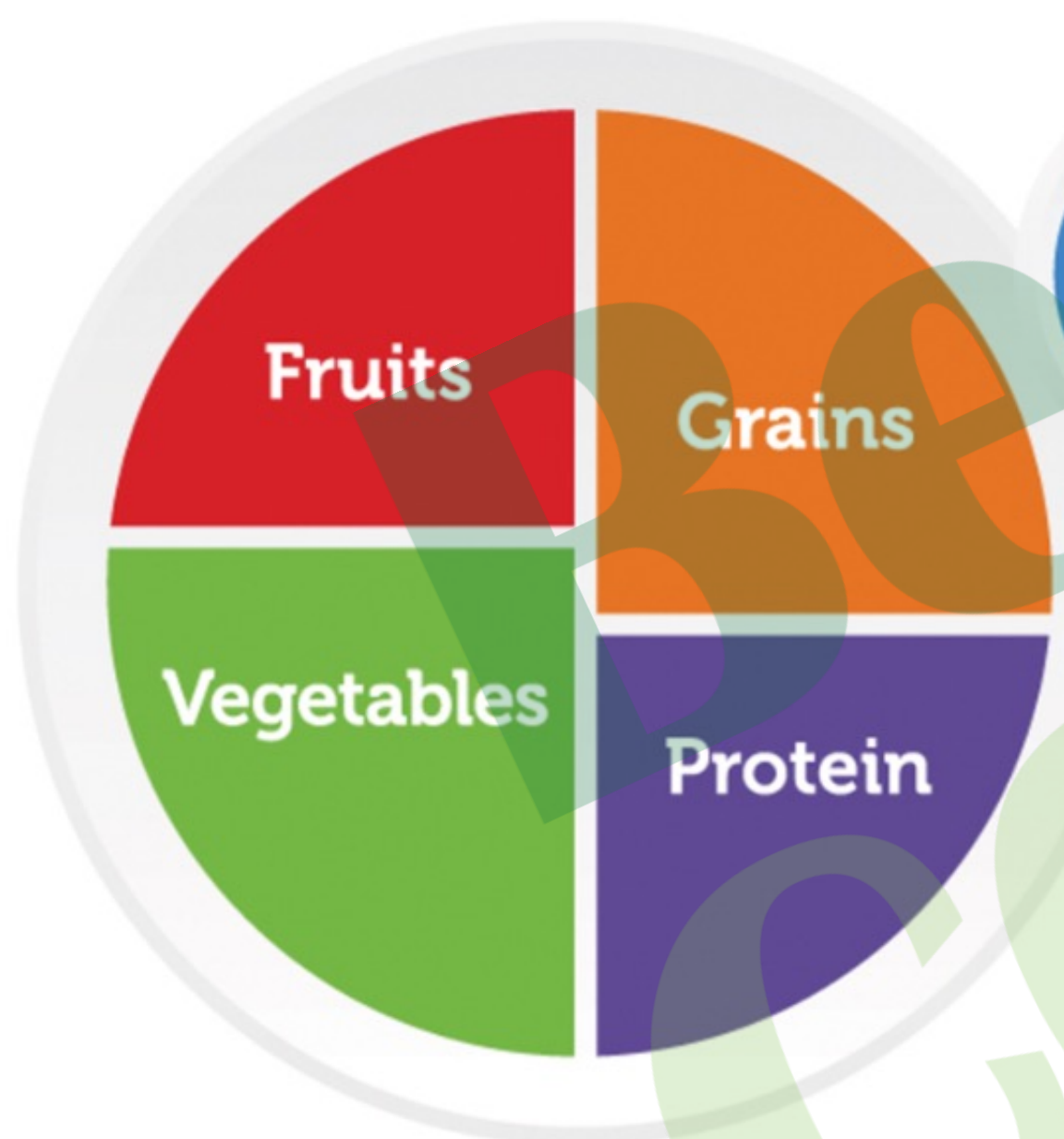
doi:10.1001/jamanetworkopen.  
2021.5262

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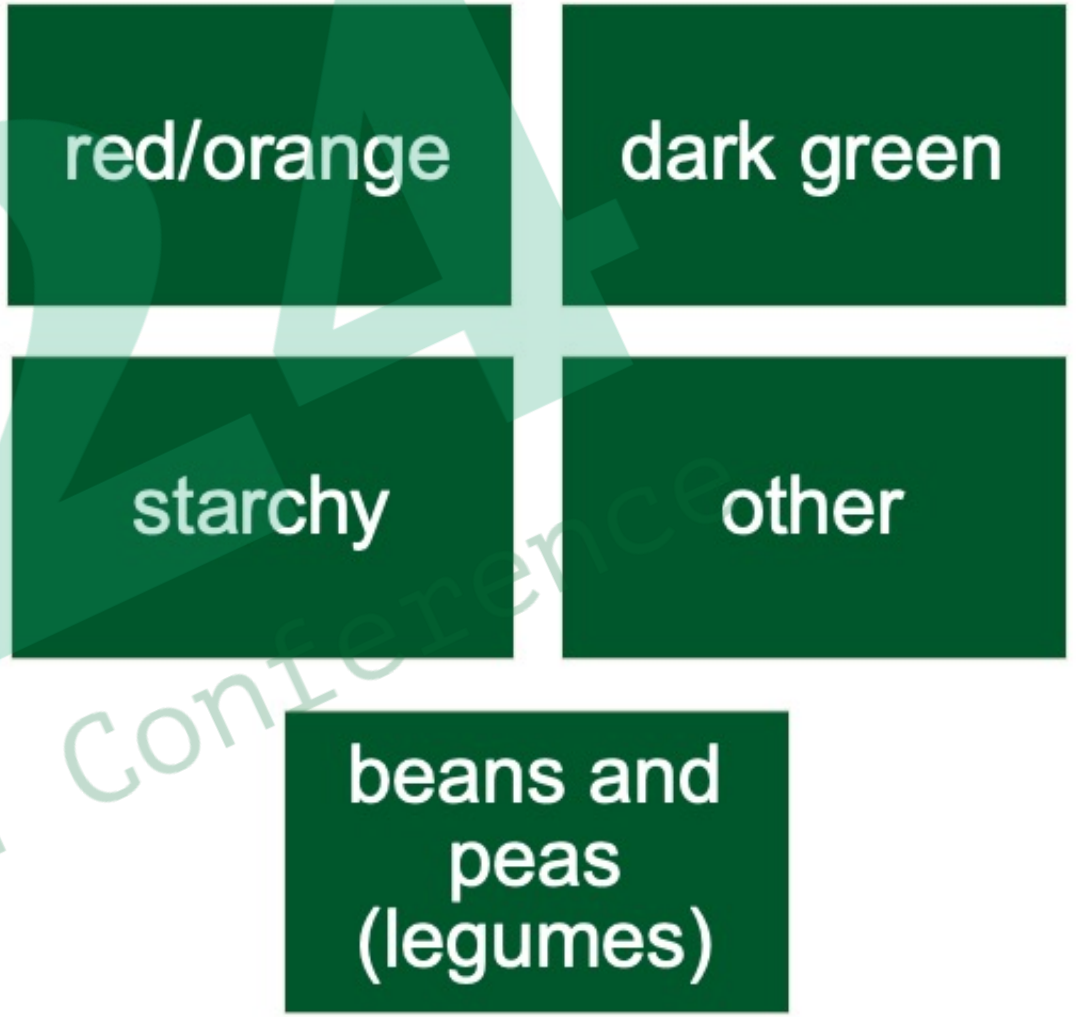




# School Meals in the United States



## Vegetable Subgroups



Minimum – ½ cup serving of dried beans and peas each week





Let's Build  
Bean Lovers!

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conscious impact



## Alyson Greenhalgh-Ball

Enabling conscious change across the food system - driving positive impact for people planet and prosperity





# Food Systems at the Nexus of Climate, Nature, Health and Equity



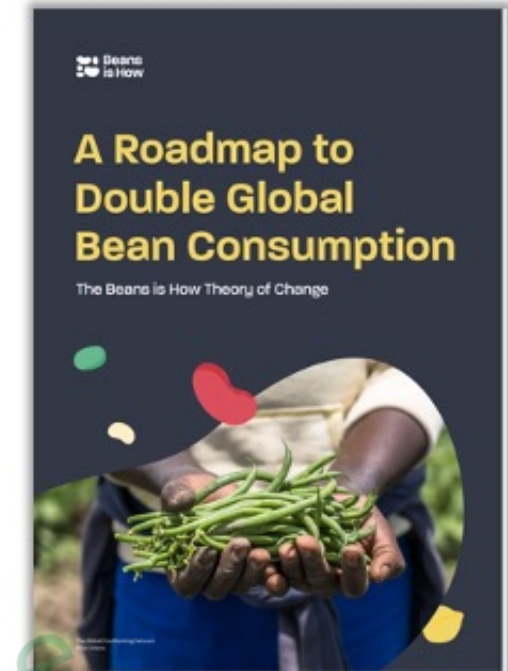
# Conscious impact pollinates solutions and action globally, locally and on the plate



Working across the food system



Author for Flagship Report



Author for Theory of Change





# Food System “Thinking”

Food touches every aspect of our lives. Together, we can build resilient food systems.

**Beans are unique in driving system change**, a solution that all sectors can agree are a positive solution whether this be a farmer, investor, retailer, manufacturer, academic, chef or home cook ...

By working together, to understand both our individual and collective role will make our food systems stronger & more equitable, we can build a world in which no one is hungry, no one is poor & no one is left behind.





# The Challenge Ahead, Change Makers And The Pathways They Create To Increased Consumption

Javier Berterreche, M.Sc. – Bridge2Food







## About Bridge2Food

Bridge2Food brings together the world's leading and most innovative plant-based food and alternative protein creators. Our mission is to achieve global food sustainability for future generations to come, without compromising on food experience. We connect professionals across the value chain, building plant-based food & protein communities who share this goal, and together we will build a better food world.

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Plant-Based Foods & Proteins Summit Europe 2023  
18-19 October 2023, Wageningen, Netherlands

Panel  
Transforming Agriculture:  
From Farm to Fork

Hosted by  
Dr. Anna Leithe  
Executive Director  
Dutch Agri

Panelists:  
- Prof. Dr. S. Lukić  
- Prof. Dr. M. ...  
- Prof. Dr. ...  
- ...  
- ...  
- ...

BRIDGE2FOOD

Plant-Based  
Foods & Proteins  
Summit

Water Science & Technology  
Between Science and Practice





## Global Plant-Based Foods & Proteins EcoSystem

The EcoSystem brings together leaders from around the world and across the value chain to improve the quality of alternative proteins and plant-based foods, and to help accelerate the transition to sustainable, healthy food systems.

Partners from Europe, the Americas and Asia Pacific meet online twice a month to share strategic insights, access scientific expertise, and to participate in solving challenges set by members.

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# CONTEXT



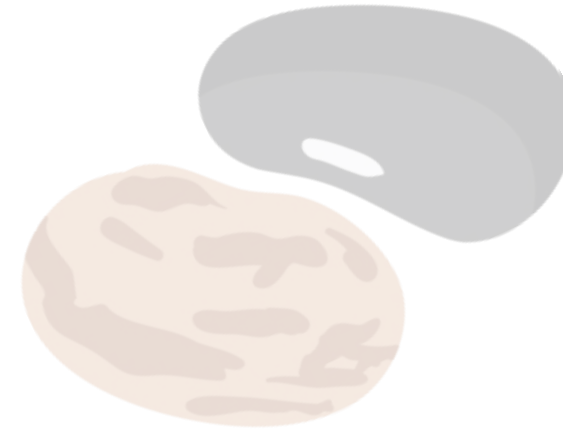
**MARKET**



**INVESTMENT**



**TECHNICAL**



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# CHALLENGES

- Product quality
- Nutritional value of alternative proteins
- Product conformity
- Valorisation of the full pulse
- Life-cycle analysis development
- Value chain connectivity





## Impact of Cooking and Extrusion Processing on Nutritional, Antinutritional, and Techno-Functional Characteristics of Indigenous Bean (*Phaseolus coccineus*)

Evelyn I. Osuna-Gallardo, Edith O. Cuevas-Rodríguez,\* Carlos I. Sepúlveda-García, Cuauhtémoc Reyes-Moreno, Liliana León-López, Ruixian Han, and Alan J. Hernández-Álvarez\*

Cite This: <https://doi.org/10.1021/acsfoodscitech.2c00416>

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**ABSTRACT:** Ayocote bean (*Phaseolus coccineus*) is an underutilized pulse rich in protein, lipids, and carbohydrates; however, the impact of thermal processing has not been studied. Thus, the objective of this research was to assess the nutritional, antinutritional, and techno-functional properties of ayocote beans processed by conventional cooking and extrusion. Thermal processing had a positive impact on total dietary fiber increasing after cooking (35.49%). Trypsin inhibitors were inactivated after processing; however, lectin activity was still observed after extrusion (0.2 mg/mL). Extrusion showed a higher impact on TPC (75% retention) and TFC (88% retention) than cooking (61 and 74% retention, respectively). Cooking and extrusion caused significant losses of antioxidant activity when compared to raw flour, though cooking showed higher AOX retention (ORAC = 88.5/ABTS = 87.3%) than extrusion (ORAC = 74.4/ABTS = 77.5%). The results suggest that ayocote bean is a legume that could be used to develop novel food formulations with improved health benefits for the wider population.

**KEYWORDS:** *Phaseolus coccineus*, cooking, extrusion, antinutrients, lectins, antioxidant, techno-functional properties

### INTRODUCTION

Bean (*Phaseolus* spp) seeds are a family of legumes that play an important role in human nutrition, especially among low-income populations in developing countries including Mexico, which represents a rich and consuming tradition throughout history and has even become a staple food of cultural identification.<sup>1,2</sup> Although in Mexico there are about 70 species of *Phaseolus* reported in the country, only five have been domesticated, including *P. vulgaris* (common bean), *P. lunatus* (lima bean), *P. acutifolius* (teparty bean), *P. polyanthus* (year bean), and *P. coccineus* (ayocote bean).<sup>3,4</sup>

Ayocote bean (*Phaseolus coccineus* L.) (Figure 5) is an underutilized legume native from Mexico with great potential for a wide variety of food purposes by its foliage, flowers, pods, and seeds.<sup>5</sup> This legume is used as an ornamental plant in some parts of the world due to its large size and diverse colors (beige, brown, violet, and black). Likewise, ayocote bean can

among others).<sup>10</sup> Sometimes these changes improve palatability, nutritional value, and nutraceutical properties.<sup>11</sup>

Domestic cooking is one of the most traditional methods used for bean consumption. It is defined as the percentage of bean cooking required to reach an acceptable texture for the consumer, which has been subjected to a constant boiling temperature (100 °C) in water, at a ratio of 1:3 (w/v) each time.<sup>12</sup> Different processing methods have been used for cooking beans (steaming, boiling, pressure cooking, and microwave). Corzo-Ríos et al. (2020)<sup>4</sup> used a high-pressure cooking method for ten different bean varieties, reporting that, after cooking, an increase in the dietary fiber in all beans was observed; moreover, a decrease in non-nutritional compounds, particularly in trypsin inhibitor content (99–100%), was found; also total phenolic compounds exhibited a reduction between 3.2 and 40.9% after cooking. Hydrothermal heating causes gelatinization, thus increasing the starch digestibility, and upon cooling, retrograded starch (less digestible) is





# Our Theory of Change

**APPROACH:** Shift consumer attitudes toward beans as a desirable food ingredient and alternative protein source

**METHOD:**

- Actively engage diverse stakeholders
- Drive innovative communications and marketing
- Coordinate advocacy for strong policy
- Enable new research around consumption habits and behaviour change

**END GOAL:**

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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# Impact Pathways / Action Framework

## 1. INCENTIVIZE DEMAND through innovative public-facing behavior change initiatives

- Awareness and mythbusting campaigns
- Champion and influencer collaborations
- #Beansonthemenu
- Influence product innovation and improved food choice architecture: retail, food companies and manufacturers

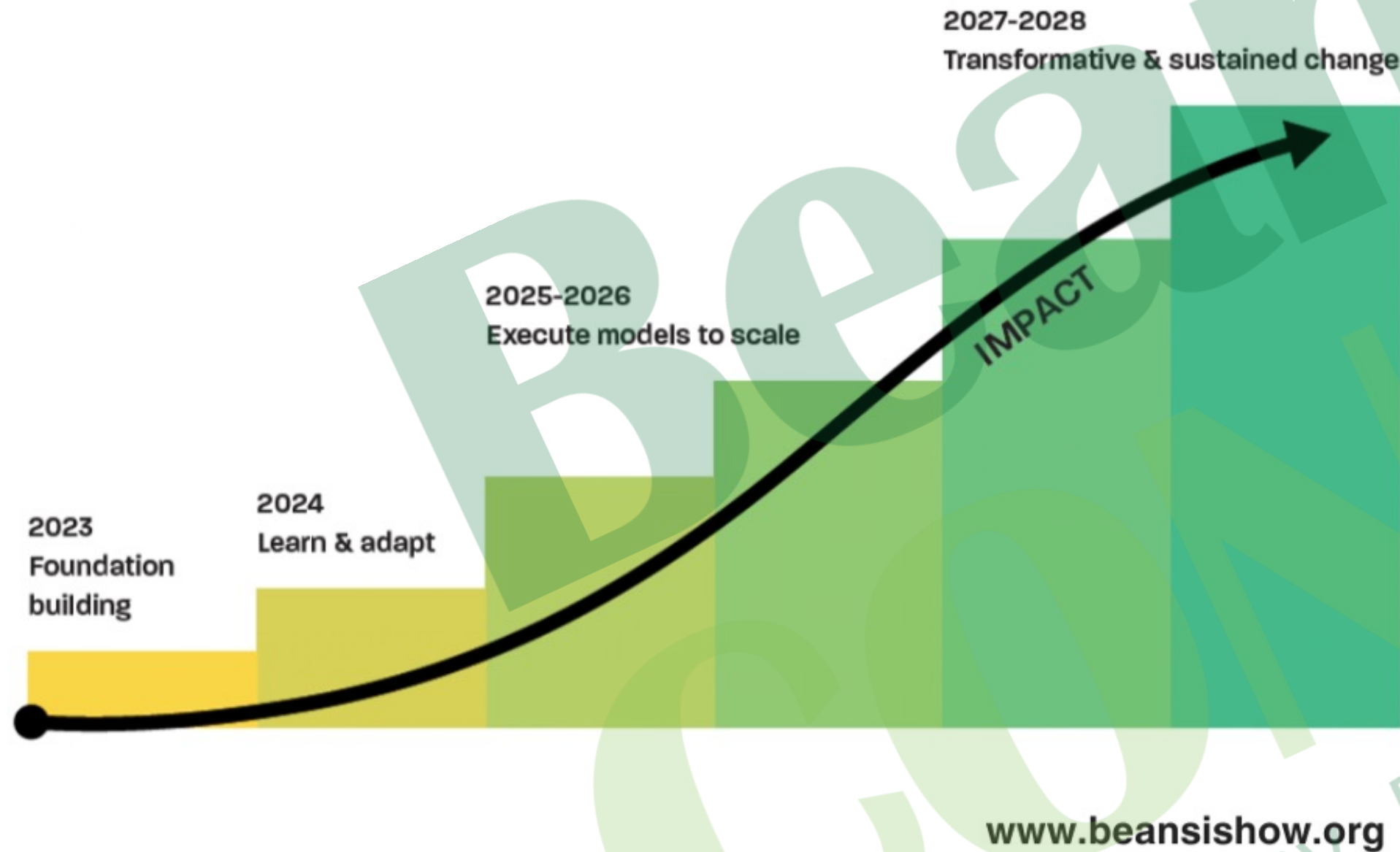
## 2. CREATE AN ENABLING ENVIRONMENT through policy & advocacy

- Increase pulse consumption recommendations in dietary guidelines
- Enable positive public procurement
- Increase financing and market support: subsidies, trade and regulations
- Ensure support for agriculture and farmers (esp. smallholder, women, youth): seed distribution, climate, nature, biodiversity, carbon and soil, nitrogen economy
- Enable support for data, research, innovation

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# Building a Model to Scale: 2024 & Beyond



- **Priority country action: UK, Kenya, India & USA**
- **#beansonthemenu challenge in key global cities**
- **Involving influential voices to showcase culinary excellence & makes beans desirable**
- **Presence at global events**
- **Collaborating around policy advocacy**