Incentivizing Food Systems Transformation

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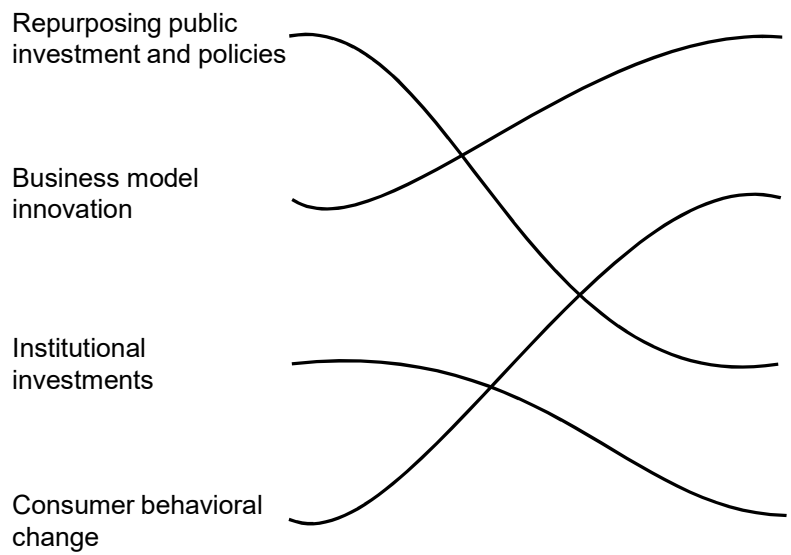
McKinsey serves leading public, private and social sector organizations on food system related issues. The work is informed by learnings from our client work and proprietary research

Executive summary: Overview

Key actors

- Research/thought leaders
- Civil Society
- Private sector
- Development partners
- Government

Can support the behavior shift of consumers and farmers through four incentive pathways



To achieve food system aspirations

- Sustainable
- Nutritious
- Inclusive
- Efficient

Source: McKinsey & Company analysis

There is an increasing urgency to transform food systems to meet the needs of a growing population and the planet

Historic productivity gains in the food sector have come at alarming environmental and health costs

The current rate of unsustainable agriculture practices could lead to 95% of the world's land to be degraded by 2050

One in five children suffer from stunting due to undernutrition

Two in five adults are overweight

Food loss and waste costs the global economy $940 billion annually and emits 8 percent of planet-warming greenhouse gases

A comprehensive transformation of food systems is needed, requiring several critical transitions

Transition to more inclusive livelihoods

Ensuring economic and social inclusion for all food system actors, especially small-holders, women and youth

Transition to sustainable supply chains

Minimizing negative environmental impacts, conserving scarce natural resources and strengthening resiliency against future shocks

Transition to greater production efficiency

Ensuring that sufficient food is produced and available for the world's population

Transition to a healthier diet

Promoting consumption of a diverse range of healthy, nutritious, and safe foods

These transitions require fundamentally changing the way food is produced and consumed, but several hurdles are preventing the required behaviour shifts

> 500 million smallholder farmers

need to adopt more sustainable farming practices, protect and restore natural resources and meet the nutrition needs of a new generation of consumers

7.7 billion consumers

need to adopt healthier diets, reduce waste and place value on more sustainable and healthy food products

However, actors face the below challenges preventing adoption of behavior changes

Financial challenges
Lack of clear economic case

Lack of knowledge
Lack of skills / expertise to implement solution effectively

Attitudes
Deeply rooted beliefs and attitudes

Ecosystem challenges
Operational complexities

Spurring large-scale behavioural shifts requires reimagining incentives

We need to understand and identify the right incentives to put in place, which will:

- **Fund behaviour change costs,**
- **Mitigate transition/switching costs**
- **Potentially finance ongoing economic costs**

We also need to **remove incentives that have the perverse effect** of preventing participants in the food system from changing their behaviour

To realign incentives, four pathways have been proposed

Repurposing public investment and policies pathway

Policies and regulatory frameworks could be reformed to provide positive incentives to food that is healthy for people and planet

Business model innovation pathway

Companies can redesign business models to prioritize environmental, social, and financial outcomes

Institutional investment pathway

Investors could set higher standards with respect to how companies target environmental and social outcomes alongside financial returns

Consumer behavior change pathway

Consumers could shift their demand to environmentally and socially responsible nutritious products

Each pathway could create incentives for participants in the food system

Pathways are interconnected

Progress along all four is required simultaneously

Calculated trade-offs need to be made between diverse outcomes

There is no one-size-fits all approach

Countries must choose bespoke model based on transition goals

Barriers are preventing progress along pathways, but can be overcome

The Incentivizing Food Systems Transformation report discusses the following for each pathway:

Barriers preventing progress from being made along the pathway currently

A menu of solutions to address these barriers, including examples of success

Roles key stakeholders should play in enabling the required behavior changes

Pathway 1: Repurposing public investment and policies

Key barriers	Key actors	Incentives
Compartmentalized approach to working Lack of evidence for underlying interventions Stakeholder resistance to change Institutional capacity to make evidence-based decisions Transition costs	**Gov't**	Invest in evidence-based decision-making Invest in financial, institutional and policy innovation Adopt changes to streamline collaboration across departments and ministries in governments Build commitment to change from stakeholders by involving them in decision-making
	Donors	Support government capacity for evidence-based policy-making Invest in transition costs where relevant Use "contingent" funding to drive governmental behavioural change Invest in evidence for underlying interventions
	Private sector	Employ a collective and powerful voice to advocate for change Actively support ecosystems building
	Civil society	Use grassroots campaigns/advocacy efforts to build stakeholder commitments to change Hold government accountable for making the required change
	Research/ thought leaders	Develop innovative policy solutions Support the analysis of interactions and related trade-offs at global and country level

The Great Lakes Protection Fund

Example of repurposing public investment and policies (1/2)

Private, permanent endowment whose income is used to provide long-term funding for research and projects aiming to **protect the health of the Great Lakes**

Each of seven founding governors provided a **one-time contribution**, totaling $81 million.

The fund has awarded **$85 million to support more than 280 projects** that have had positive impacts on the basin as well as society.

Source: "History and Endowment", http://glpf.org/about-us/history-endowment/. Accessed 1 Nov 2019; "Reducing Phosphorus Loads from Agriculture: Creating a Pay-for-Performance Program Using Field-Specific Information", Great Lakes Protection Fund, http://glpf. org/funded-projects/reducing-phosphorus-loads-from-agriculture-creating-a-pay-forperformance-program-using-field-specific-information/. Accessed 1 Nov 2019.

A systems approach to address the electricity-water-agriculture nexus issues in Punjab, India

Example of repurposing public investment and policies (2/2)

India's practice of subsidizing the cost of energy for farmers has led to **overuse of water by producers** (e.g., 80% of Punjab's groundwater now considered overexploited)

Punjab's Department of Agriculture and Power is collaborating with the World Bank to pilot a new **direct-payment scheme** called Paani Bachao, Paise Kamao ("Save Water, Earn Money") **to provide a financial benefit to farmers who consume less electricity than a specified threshold**.

To mitigate trade-offs, this scheme **does not penalize producers whose consumption is above the fixed allocation.** Instead, farmers receive a message about their savings and electricity consumption.

Source: Krar, P., "Falling Groundwater Levels Driving Farmers in Punjab to Move Away from Paddy", The Economic Times, 27 September 2019, https://economictimes.indiatimes. com/news/economy/agriculture/falling-groundwater-levels-driving-farmers-in-punjabto-move-away-from-paddy/articleshow/71341938.cms?from=mdr. Accessed 1 Nov 2019; Gill, B., "Saving Punjab's groundwater, one agricultural pump at a time", The Energy and Resources Institute, 19 June 2019, https://www.teriin.org/article/saving-punjabsgroundwater-one-agricultural-pump-time. Accessed 13 Dec 2019.

Pathway 2: Business model innovation

Key barriers	Key actors	Incentives
Innovation risk Economic model Business environment challenges Culture change	 **Gov't**	Use the pricing of externalities/taxes to spur innovation Support businesses through government procurement (e.g. guarantee demand for a predetermined period to reduce innovation risk) Invest in R&D and infrastructure to reduce the cost of innovation in new business models (e.g. invest in extension services or new distribution channels) Address policy and/or regulatory barriers for science and technology innovation Set and enforce market standards/guidelines (e.g. encourage businesses to follow the CFS principles for responsible investments in agriculture and food systems and provide recognition when they do)
	 **Development partners**	Support efforts to make existing business models more socially inclusive and sustainable Provide patient capital to help private enterprises experiment with innovative models Fund market development costs through research studies, evidence collection; fund upfront consumer behaviour change costs or establish metrics
	 **Private sector**	Engage in prototyping and innovating on new business models and new technologies that deliver triple-bottom-line results Invest in scaling existing models Invest in shared/open data solutions and supply chain wide traceability mechanism Share key learning with the global community
	 **Civil society**	Provide technical assistance, funding and capacity-building and access to local grassroots networks in the country to help execute strategies on the ground Help create accountability and record results by developing and tracking metrics
	 **Research/ thought leaders**	Research and create new ideas for business-model innovations Promote and enable the transfer of knowledge and evidence-based solutions supporting the roll-out of appropriate incentive mechanisms

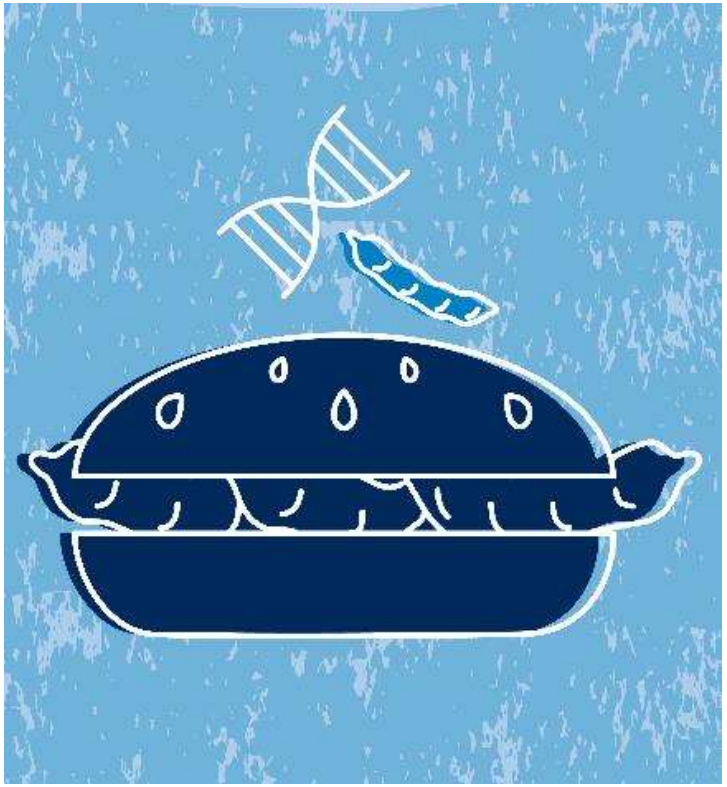
Impossible Burger's plant-based substitutes for meat

Example of business model innovation

Impossible Foods attempted to create **plant-based substitutes for meat products** that look and taste just like the original to satisfy meat-loving consumers who were concerned about the environmental effects of traditional meat production.

Company raised **$687.5 million in capital**.

The company's first product – multiple versions of the **Impossible Burger** – **has been successful** with Burger King selling the Impossible Whopper across U.S.



Source: Azevedo, M. A., "Investors Serve Impossible Foods $300m in Funding", Crunchbase News, 2019, https://news.crunchbase.com/news/investors-serve-impossible-foods-300m-in-funding/. Accessed 1 Nov 2019.

Pathway 3: Institutional investment pathway

Key barriers	Key actors	Incentives
Risk-return trade-offs Intermediation challenges Lack of information for decision-making Limited enabling environment	**Gov't**	Create an enabling environment for investment Provide supporting regulations through an independent regulator Simplify tax codes for investors Develop acceptable legal frameworks for investments Create mandatory financial disclosure requirements Provide fiscal incentives to environmentally and health-friendly investments
	Development partners	Use grant capital to fund market development/operational costs or reduce investor risk Use capital to absorb highest risk by creating debt/equity with highly flexible or favourable terms Support the creation of a track record of investment solutions and intermediaries Create innovative financial mechanisms to offset risk-return trade-offs for private investment Build capacity of existing financial intermediaries to be able to lend effectively to the sector
	Private sector	Provide investors with social and environmental results in addition to financial Create profitable investment opportunities
	Civil society	Help with intermediation challenges by connecting investors with established in-country networks
	Research/ thought leaders	Promote collaboration in spheres of influence to create investment vehicles Research ways to create appropriate market guidelines

The Global Agriculture and Food Security Program (GAFSP)

Example of institutional investments

The Global Agriculture and Food Security Program (GAFSP) is "**global partnership and a cost-effective and flexible multilateral financing mechanism**" focused on ending hunger by **bringing together a range of agricultural development stakeholders** to prioritize and allocate funds.

Its Private Sector Window uses a **range of financing mechanisms** – including grants, concessional loans, technical assistance and advisory services and the International Finance Corporation's expertise – to support projects that are not commercially attractive due to the high risk involved**. Fund crowds in $5.30 of private financing for every $1 of public or donor capital invested**.

The Private Sector Window has invested **$311 million in 61 investment projects.**

Source: Global Agriculture & Food Security Program, Investment Case, 2019, http://gafspfund. org/sites/default/files/2019-10/GAFSP%20-%20Investment%20Case%202019_ FINAL%20web.pdf. Accessed 1 Nov 2019; Changing Lives: Private Sector Solutions for Helping Small Farmers, 2019, https:// www.gafspfund.org/sites/default/files/2019-03/ChangingLives_January2019_FINAL_ web_2%20%282%29.pdf. Accessed 1 Nov 2019. 4

Pathway 4: Consumer behaviour change pathway

Key barriers	Key actors	Incentives
Deeply rooted consumer preferences Affordability of food	**Gov't**	Invest in consumer education/awareness Implement simple, front-of-box labelling Create clear dietary guidelines (with adequate research) Create food safety nets – e.g. food assistance programmes Leverage public channels to deliver healthier products (e.g. public distribution systems, school feeding programmes) Scale proven, innovative approaches to changing behaviour Use taxation and pricing to alter consumer behaviour
	Development partners	Invest in researching, developing, testing and scaling novel approaches to changing behaviour Supplement government funding, particularly in developing economies with fiscal constraints
	Private sector	Develop pre-competitive alliances for consumer behavioral change Invest in new products and identity preservation Translate years of marketing experience into making consumers healthy and sustainable
	Civil society	Advocate for regulatory changes for products with significant externalities Use grass-roots campaigns to change consumer behaviour
	Research/ thought leaders	Contribute knowledge of powerful and cost-effective ways to influence behaviour based on real-world examples Build interdisciplinary research and learning coalitions to share best approaches and lessons learned

Chile's innovative food regulation act to limit unhealthy consumption

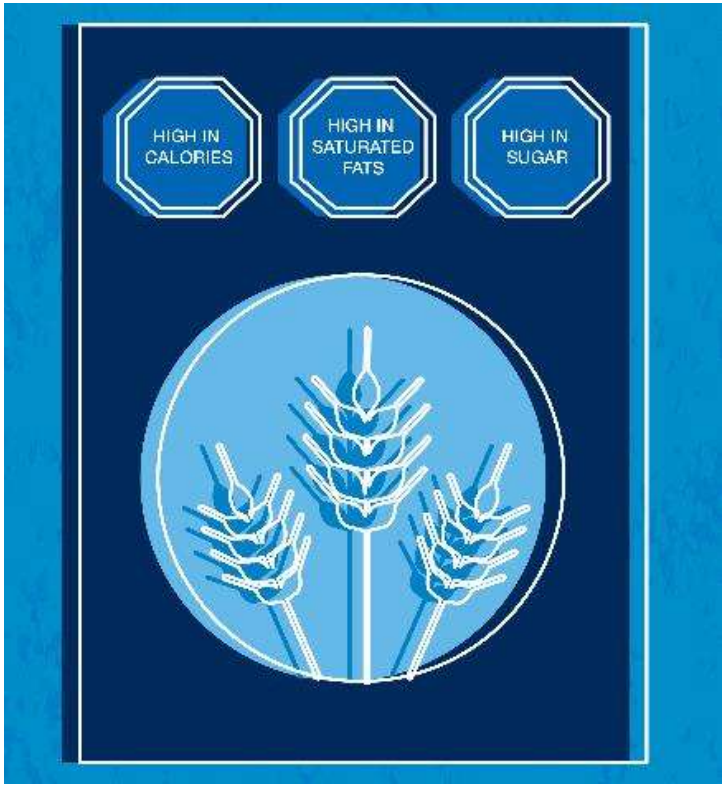
Example of consumer behaviour changes

Obesity levels in Chile doubled between 1980 and 2014, leading to increases in several non-communicable diseases and healthcare expenditure.

Chile formulated a food act with three essential measures:

- Creation of mandate to include **labels on packaging** that highlight ingredients in which the product is exceeding an established limit of nutrients such as sugar, fat and salt.
- **Restrict sales** of certain food products in schools and surrounding areas.
- **Limit advertising** of these food products to children.

Studies suggest that these have **positively influenced nutritional preferences and behaviour** and have the potential to change food norms.



Source: OECD, Chile: A Healthier Tomorrow, OECD Reviews of Public Health, 2019, https:// www.oecd.org/health/health-systems/OECD-Reviews-of-Public-Health-ChileAssessment-and-recommendations.pdf. Accessed 1 Nov 2019; Food and Agriculture Organization of the United Nations, Approval of a New Food Act in Chile: Process Summary, 2016; UNC Gillings School of Global Public Health, "Study Suggests Innovative Chilean Food Regulations Are Changing Food Perceptions, Norms, Behaviors", 14 February 2019, https://sph.unc.edu/sph-news/study-suggests-innovative-chilean-food-regulationsare-changing-food-perceptions-norms-behaviors/. Accessed 1 Nov 2019.

Roadmap: To progress along these pathways, action will be needed across five areas

These steps are not linear and happen simultaneously