

THE TRUE VALUES OF FOOD

IUCN World Conservation
Congress

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Agenda

1. Introduction to food system externalities **10 mins**
2. Exercise: The “beer game” **30 mins**
3. Panel discussion **45 mins**
4. Debrief & opportunities to engage **5 mins**



1 INTRODUCTION TO FOOD SYSTEM EXTERNALITIES

Go to www.menti.com and use the code **2680 5837**

What comes to mind when you think about food?



Go to www.menti.com and use the code **2680 5837**

What country are you joining from today?

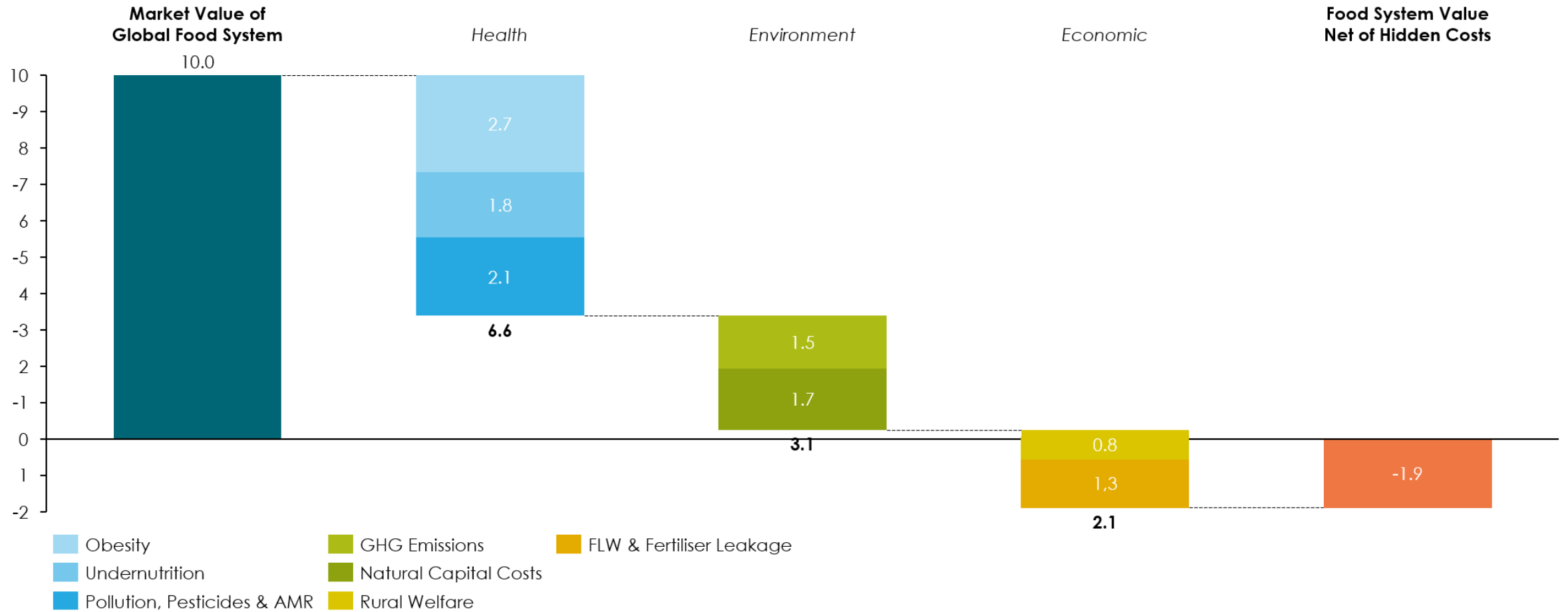


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What sector do you represent?

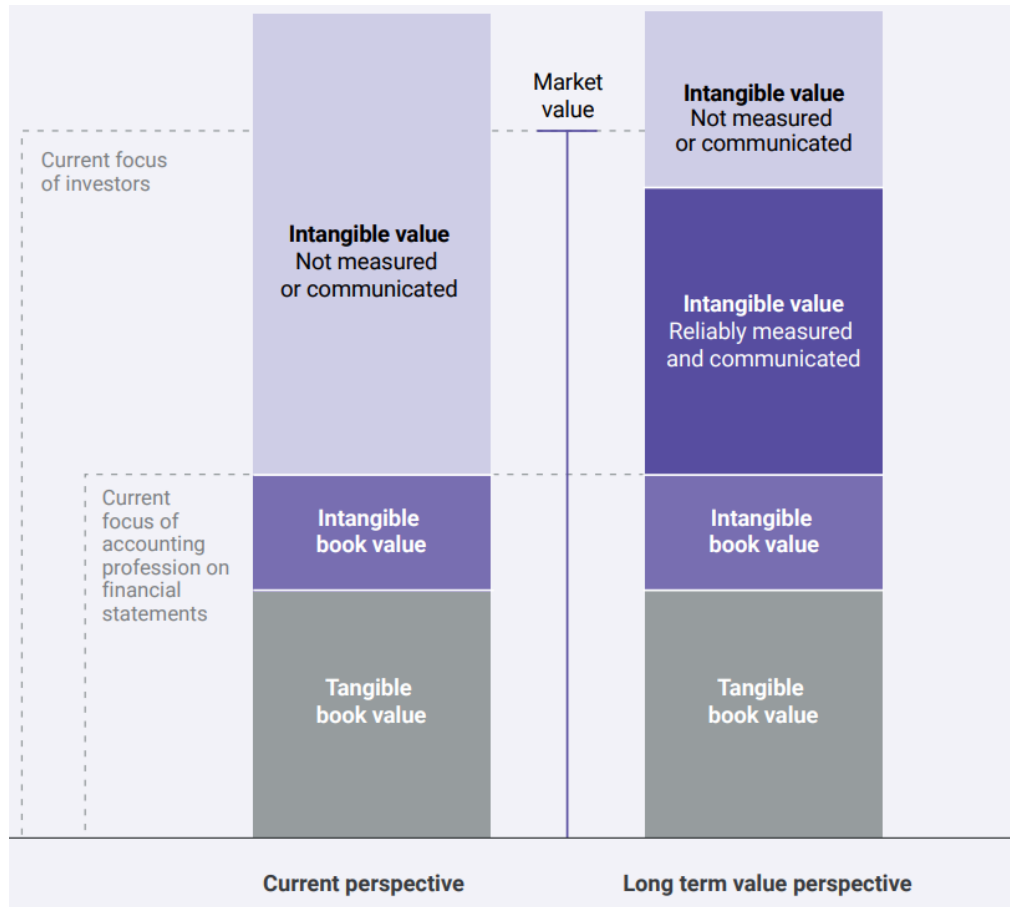


Hidden costs of food and land use systems, trillion USD



Source: Food and Land Use Coalition, 2019

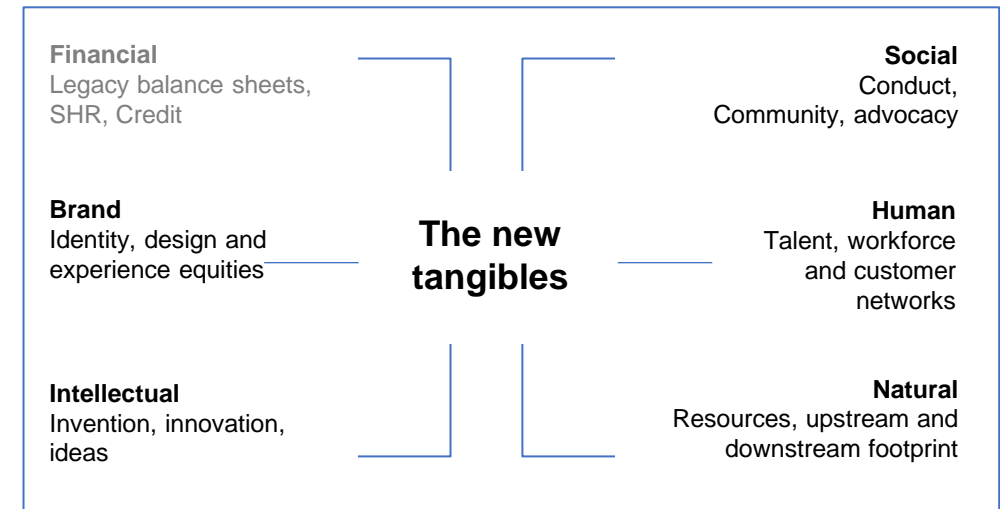
From intangibles to “new tangibles”



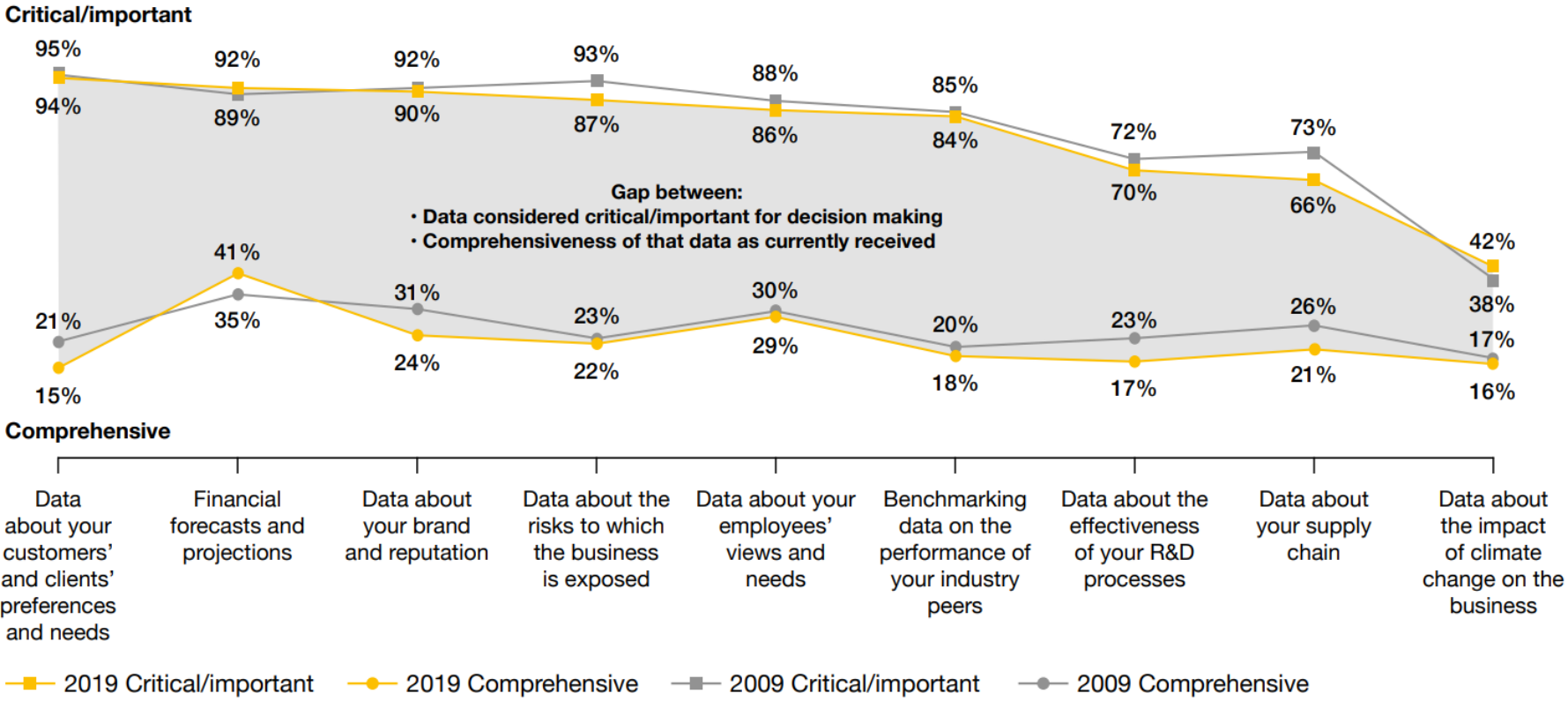
Source: The 2018 EPIC Report, Embankment Project for Inclusive Capitalism

“The idea today that anyone would need to be pitched on why software is a legitimate investment seems unimaginable, but a lot has changed since the 1980s. It’s time the way we think about the economy does, too.”

Bill Gates, principal founder of Microsoft Corporation



CEO insight - data for decisions



Source: PwC, 22nd Annual Global CEO Survey
 Base: All respondents (2019=1,378; 2009=1,124)

IMPACTS
Contribution to human well-being = "value additions"

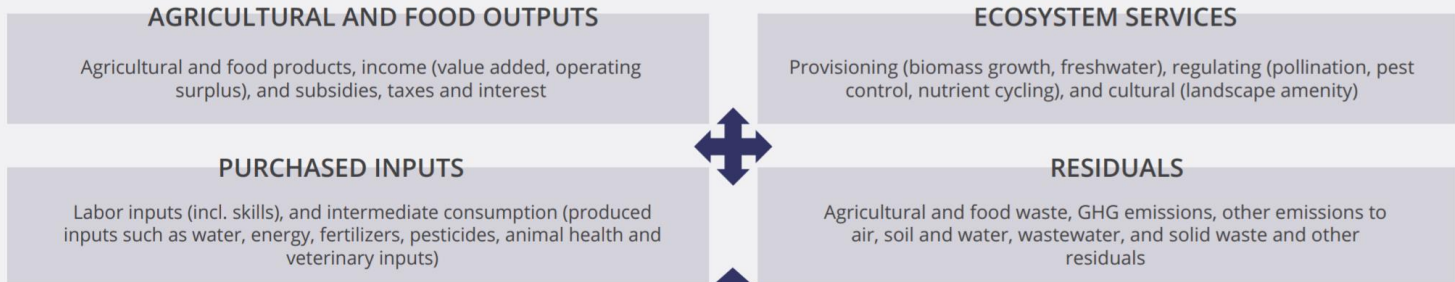
OUTCOMES
Changes in the capital base

FLows
Through the value chain "visible and invisible"

STOCKS
Capital base for production

CONTRIBUTIONS TO HUMAN WELL-BEING

Environmental impacts	Economic impacts	Health impacts	Social impacts
<ul style="list-style-type: none"> NATURAL CAPITAL Ecosystem restoration Increase in habitat quality Deforestation & habitat loss Higher GHG concentrations Soil & water pollution 	<ul style="list-style-type: none"> PRODUCED CAPITAL Depreciation/investment in fixed assets such as roads, equipment and machinery Changes in financial capital 	<ul style="list-style-type: none"> HUMAN CAPITAL Improved livelihoods Increased skills Improved nutrition Reduced occupational health 	<ul style="list-style-type: none"> SOCIAL CAPITAL Increased access to food Increased employment opportunities Land displacement



Environmental impacts	Economic impacts	Health impacts	Social impacts
<ul style="list-style-type: none"> NATURAL CAPITAL Water, soil, air, vegetation cover and habitat quality, biodiversity, etc. 	<ul style="list-style-type: none"> PRODUCED CAPITAL Buildings, machinery and equipment, infrastructure, research and development, finance, etc. 	<ul style="list-style-type: none"> HUMAN CAPITAL Education/skills, health, working conditions, etc. 	<ul style="list-style-type: none"> SOCIAL CAPITAL Land access/tenure, food security, opportunities for empowerment, social cooperation, institutional strength, laws and regulations, etc.

Analysis

Description

2 EXERCISE: THE “BEER GAME”

Case study background

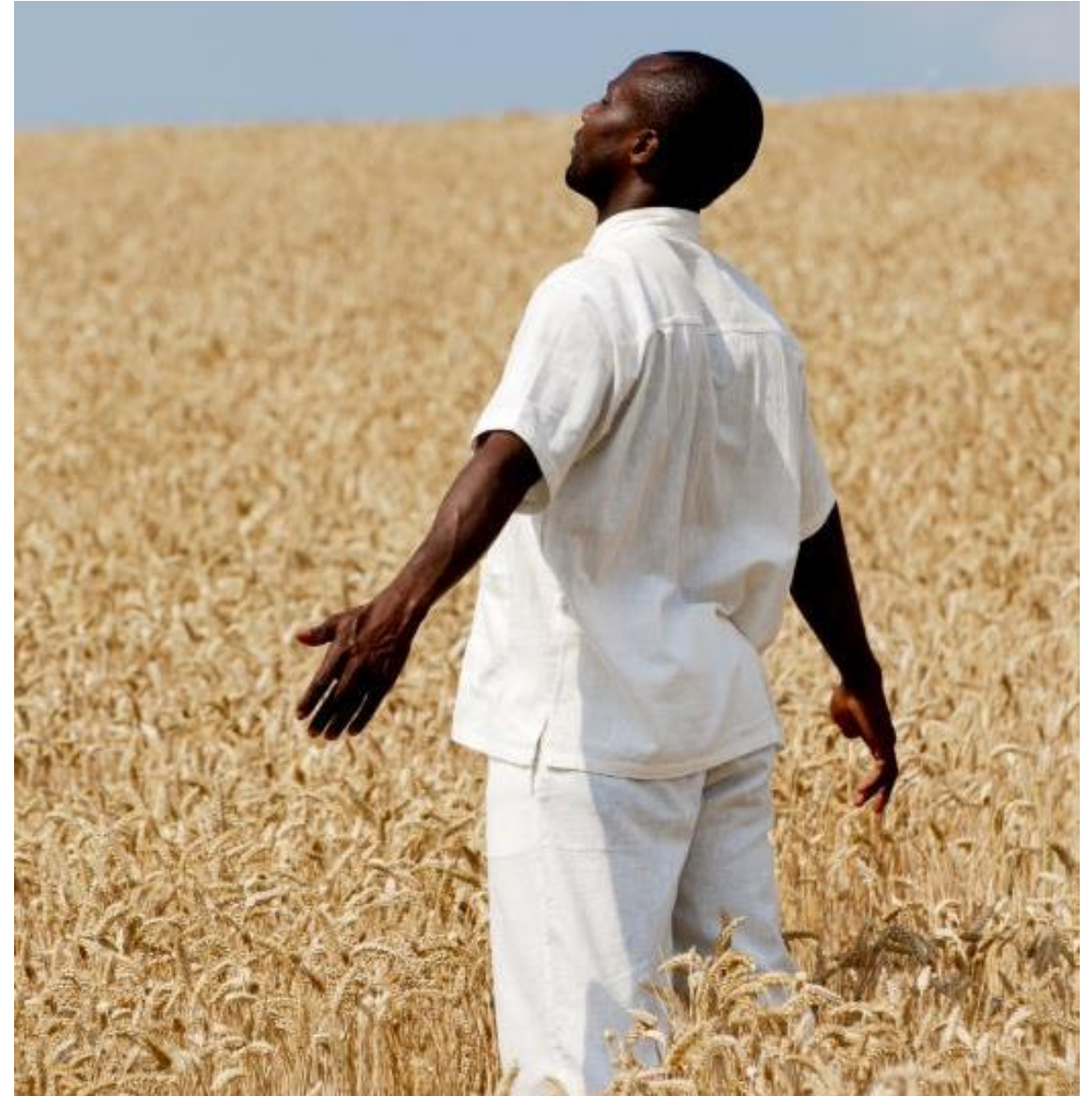
A brewer is entering a new market with a 5 year investment. One of the key decisions is the sourcing strategy for cereals. The bottling plant will need to be near to the market so water for brewing will need to be sourced locally. But there is a choice of where to source the cereals from.

Objective of exercise

Play the role of the management team of the brewer and choose the cereal sourcing strategy for the new brewery.

Option 1: Import barley from global market

Option 2: Grow an alternative crop locally in East Africa



Round 1: Commercials



Option 1 – Import	\$m	Comments
Supply chain infrastructure (in Africa)		
Capex (\$m – annualised cost)	(1.0)	e.g. Storage facilities
Opex (\$m – annualised cost)	(1.5)	Global distribution costs
Commodity cost (barley)		
Cost per tonne (\$/t)	170	
Demand (t)	14,700	
Estimated annual cost (\$m)	(2.5)	
Total	(5.0)	

Option 2 – Source locally	\$m	Comments
Supply chain infrastructure (in Africa)		
Capex (\$m – annualised cost)	(2.0)	e.g. Storage facilities, farm to storage infrastructure
Opex (\$m – annualised cost)	(1.5)	Supply chain development, community investment and local staff and offices
Commodity cost (Sorghum)		
Cost per tonne (\$/t)	140	
Demand (t)	14,700	
Estimated annual cost (\$m)	(2.5)	
Total	(6.0)	

Poll 1:
Would you choose Option 1 or option 2?

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Round 1. Would you choose Option 1 or option 2?



Round 2: Economic impact



Option 1 – Import	\$m	Comments
Profits of other businesses in the value chain generated by new brewery	2.5	Higher value adding industry outside of local country (as greater use of technology) result in higher profits for farmers
Investments stimulated outside of the business	0.5	Existing industry – Limited new investment
Wages extra earnings outside of Brewer (globally)	2.0	Limited new employment
Total	5.0	

Option 2 – Source locally	\$m	Comments
Profits of other businesses in the value chain generated by new brewery	2.0	Profits more wide spread across the supply chain compared to importing, but lower value add
Investments stimulated outside of the business	3.0	New infrastructure required to support increased demand locally – E.g. drying, processing, warehouse
Wages extra earnings outside of Brewer (local)	3.5	More new employment created locally.
Total	8.5	

Poll 2:
Would you choose Option 1 or option 2?

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Round 2. Would you choose Option 1 or option 2?



Round 3: Environmental impacts



Option 1 – Import		unit	Comments
Land use for agriculture	8,200	Ha	Highly productive established farms
Greenhouse Gas emissions	20,000	tCO ₂ e	Highly mechanised farming and need to transport barley long distances
Water use in agriculture	2,000,000	m ³	High use of irrigation to achieve productivity

Option 2 – Source locally		unit	Comments
Land use for agriculture	15,000	Ha	Lower productivity farming and use of newly converted agricultural land
Greenhouse Gas emissions	5,000	tCO ₂ e	More traditional farming techniques and lower transport emissions
Water use in agriculture	1,000,000	m ³	Less use of intensive irrigation

Poll 3:
Would you choose Option 1 or option 2?

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Round 3. Would you choose Option 1 or option 2?



Round 3b: Environmental impacts



Option 1 – Import		unit	\$m	Comments
Land use for agriculture	8,200	Ha	(0.2)	Land used by farms was previously grasslands with relatively low biodiversity
Greenhouse Gas emissions	20,000	tCO ₂ e	(1.2)	Global effects of emissions
Water use in agriculture	2,000,000	m ³	(0.5)	Water used does not have significant impact on local water infrastructure and availability of fresh drinking water

Option 2 – Source locally		unit	\$m	Comments
Land use for agriculture	15,000	Ha	(3.0)	Land used by farm was previously forest with relatively higher biodiversity value
Greenhouse Gas emissions	5,000	tCO ₂ e	(0.3)	Global effects of emissions
Water use in agriculture	1,000,000	m ³	(4.0)	Shortages of fresh drinking water as a result of use for agriculture

Poll 3b:
Would you choose Option 1 or option 2?

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Round 3B. Would you choose Option 1 or option 2?



Round 4: Social & human impacts



Option 1 – Import		Comments
Improved livelihoods of farmers	–	Some incremental increase in demand provides some improved job security.
Health and Safety impacts on the farm	LTIF 10.6	Higher H&S standards and regulations resulting in fewer accidents
Education training received by farmers and supply chain	Market analysis provided	Some incremental training provided by Brewer to improve supply

Option 2 – Source locally		Comments
Improved livelihoods of farmers	6 Co-ops set up locally	Development of improved local markets and infrastructure (e.g. Co-ops)
Health and Safety impacts on the farm	LTIF 14.8	Developing H&S regulations and standards result in increased number of incidents
Education training received by farmers and supply chain	600 farmers trained	Smallholder farmers provided with essential training on farming techniques to improve productivity

Poll 4:
Would you choose Option 1 or option 2?

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Round 4. Would you choose Option 1 or option 2?



Why assess **natural, social and human capital**?

To make better decisions!

- Help business generate trusted, credible, and actionable information for business managers to inform decisions

Points for discussion

- Value to who?
- Netting impacts
 - The ethical implications of “trading-off” between capitals
 - Scarcity value of the different capitals
- How will external audiences react?

3

Panel discussion:



Panel: How to incorporate the true values of food in decision-making and concrete actions?



Dr. Ana Paula Turetta
Researcher at Brazilian
Agriculture Research
Corporation
EMBRAPA

Dr. Gracie Verde Selva
Sustainability Manager
Minerva Foods

Dr. Sol Ortiz
Director General for Policies,
Prospection and Climate
Change
**Ministry for Agriculture and
Rural Development, Mexico**

Jean-Marie Gerbeaux
Regional Fruit
Sourcing Manager
Danone

4

DEBRIEF AND STAY ENGAGED



Engagement Opportunities

- Attend a training session with [We Value Nature](#)
- Read [TEEB for food and agriculture](#)
- Read the forthcoming WBCSD-BCG Report (forthcoming- to be released at the Food System Summit)
- The Nature Conservancy (TNC) [Concept note](#) on Foodscapes
- GIZ/AGRICULTURA "Mainstreaming Biodiversity into Agriculture" (IKI IBA) Project
Results: www.agriculturasostenible.mx (forthcoming, Nov 2021)



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What are the next steps that you will take?





Thanks! –and enjoy the rest of the
IUCN World Conservation Congress

WBCSD (Geneva)

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