

Impact of Agriculture Biodiversity loss on agriculture value chains: Risks for agri-food companies and opportunities for change



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Gianpiero is an international development professional assigned to Bioversity International (CGIAR) by the Government of Italy. He is responsible for developing and coordinating innovative public-private partnerships and strategic relationships.

Gianpiero conducts research on environmental and especially biodiversity finance policies and works to identify solutions on how to leverage innovative financing mechanisms to contribute to sustainable development including agriculture and forest biodiversity.

Prior to this appointment, he served as business development consultant and as a private sector analyst at the United Nations Development Programme (UNDP) in Geneva from 2014 to 2016.

Gianpiero holds an MA in Strategy and Entrepreneurship from the Bocconi School of Management and a PhD in Economics and Management of Natural Resources.



Who is Bioversity International?

The World Agrobiodiversity Research and Innovation Centre.
It is a global research-for-development organization.

Vision – Agricultural biodiversity nourishes people and sustains the planet.

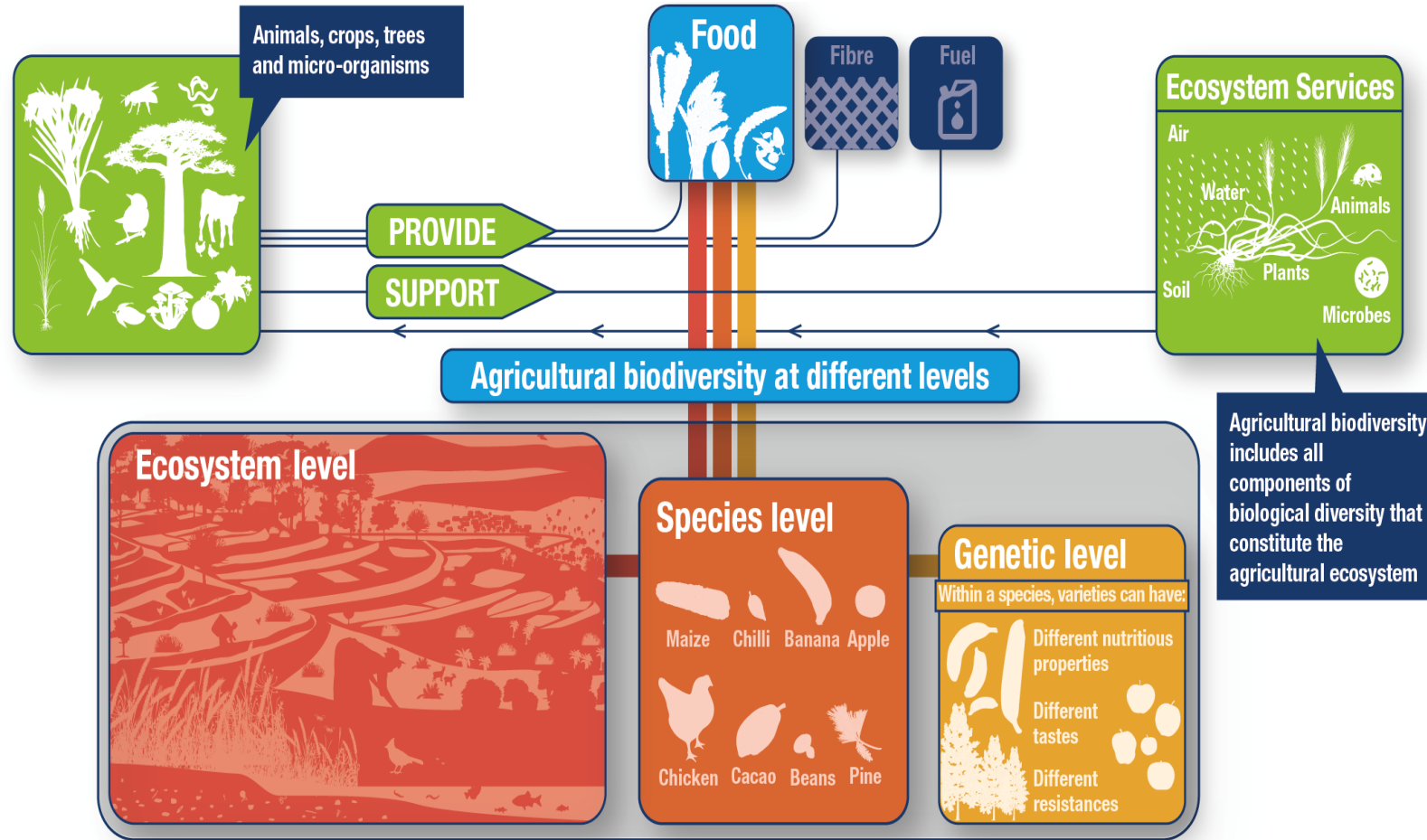
Bioversity deliver scientific evidence, management practices and policy options to use and safeguard agricultural and tree biodiversity to attain sustainable global food and nutrition security.



International Day for Biological Diversity – 22 May



What is Agriculture Biodiversity?



The variety and variability of animals, plants and micro-organisms that are used directly or indirectly for food and agriculture

Ensure sustainable consumption and production patterns

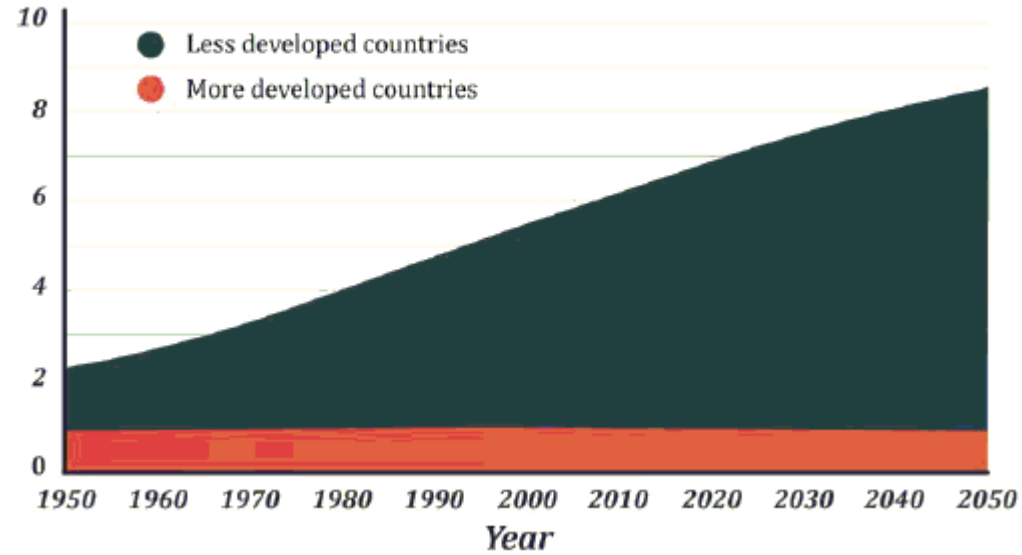
“Doing more and better with less”



Norman Borlaug: agriculture was not an “idyllic state of harmony between humankind and nature”, but a “struggle between the forces of natural biodiversity and the need to produce food”

Setting the scene

*Global population
(billions)*

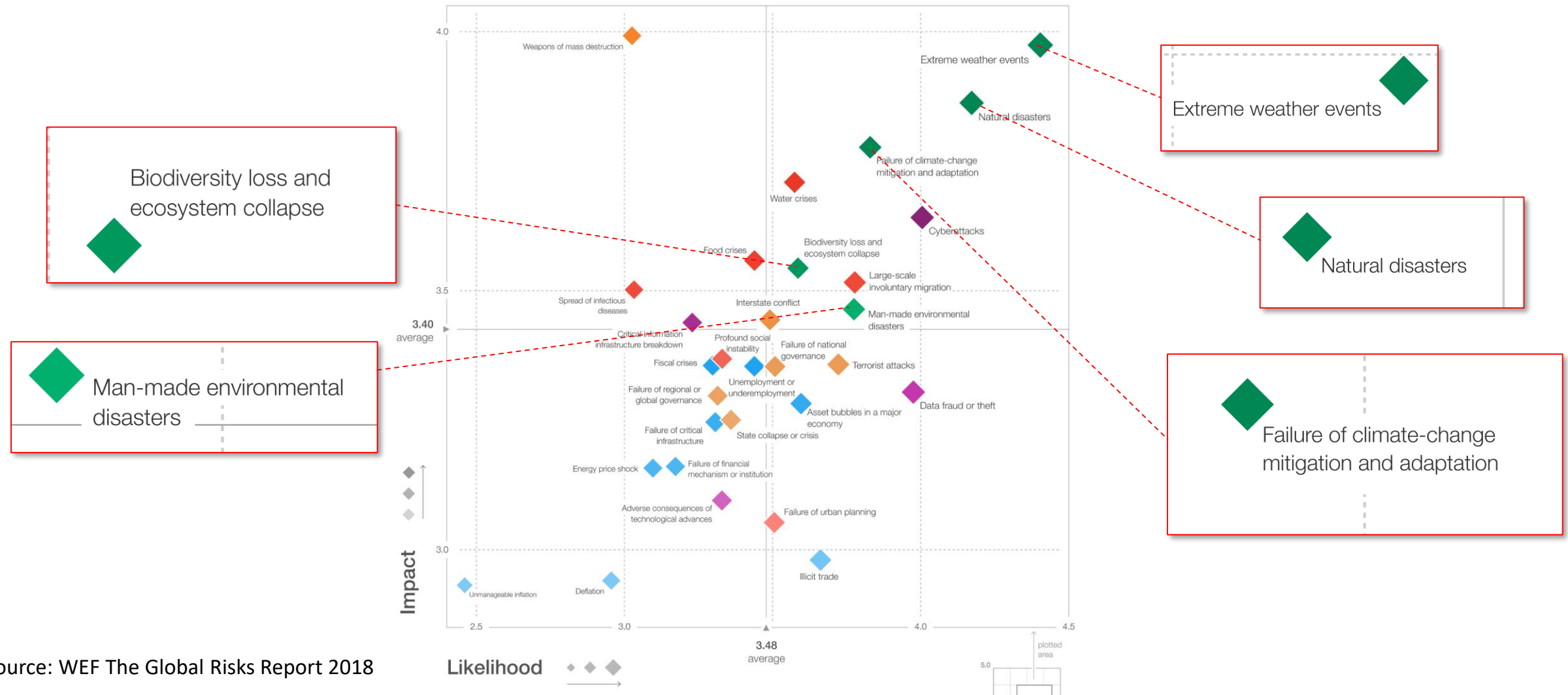


Source: UN Report – World Population Prospects S017

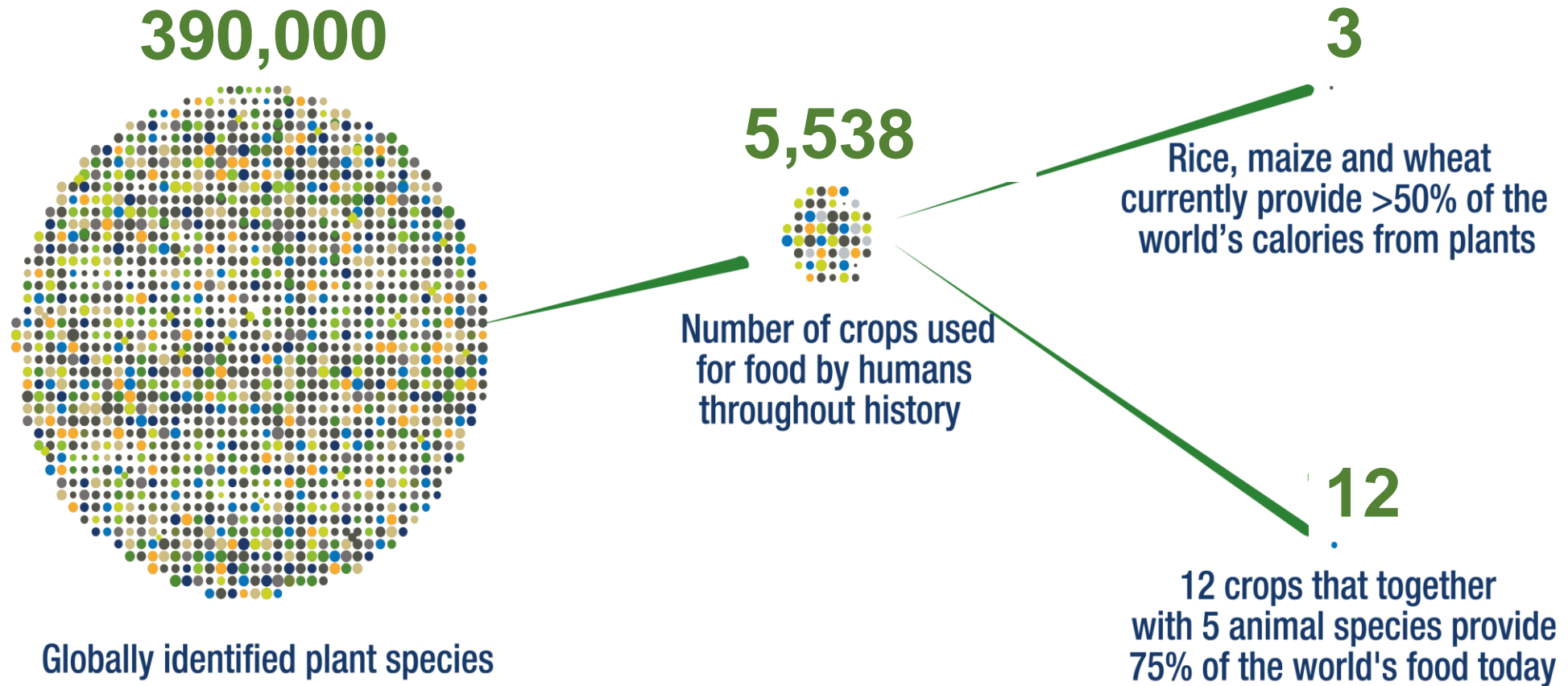
UN FAO Report – THE STATE OF FOOD SECURITY AND NUTRITION IN THE WORLD 2017

Agrobiodiversity Mitigates High Impact and High Likelihood Global Risks

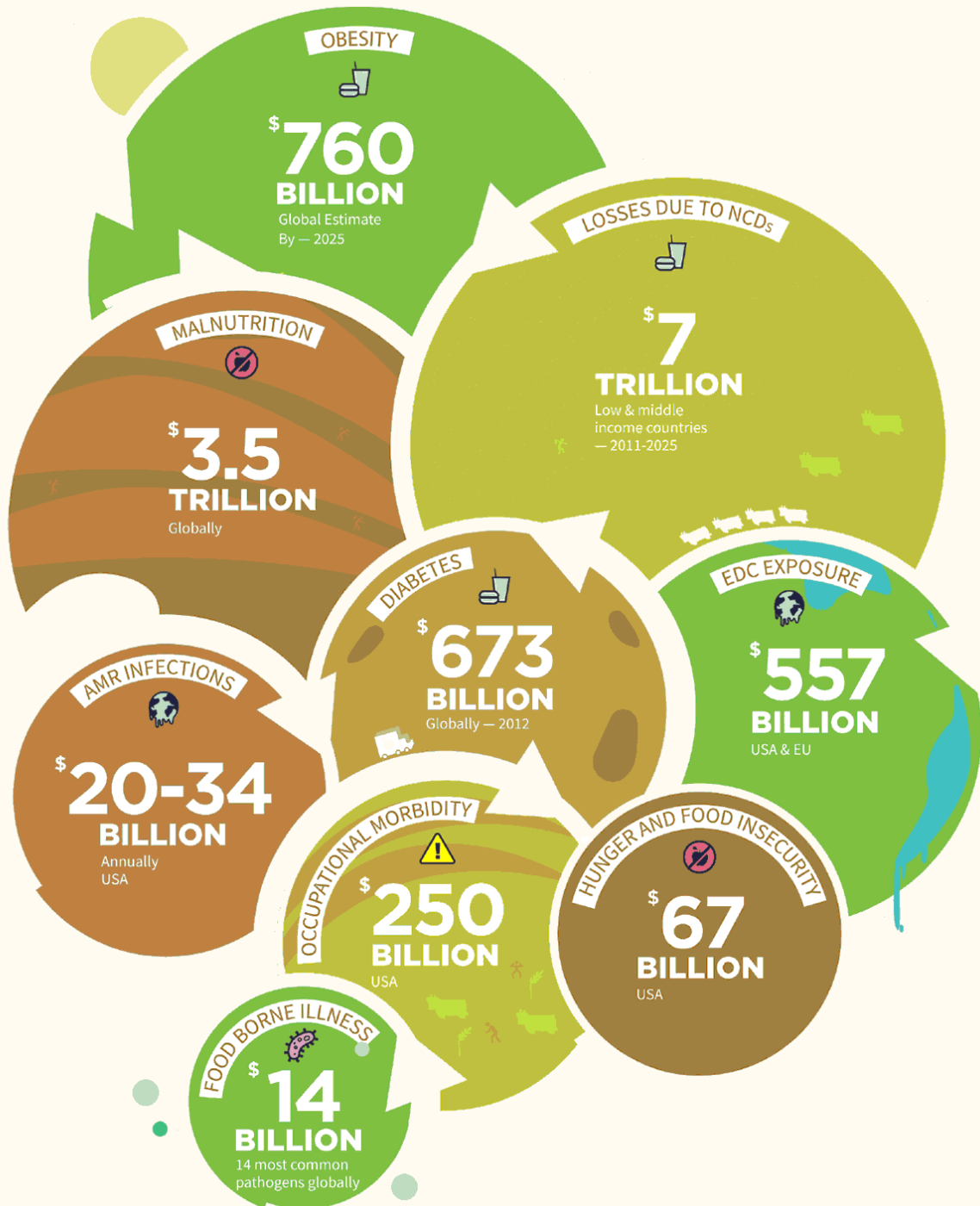
Global Risks Landscape



21st Century Challenge: Shrinking Biodiversity



Source: Kew, 2016; FAO, 1997)



The Ballooning Costs of Health Impacts in Food Systems

Infographics : [Global Alliance For The Future Of Food](#))



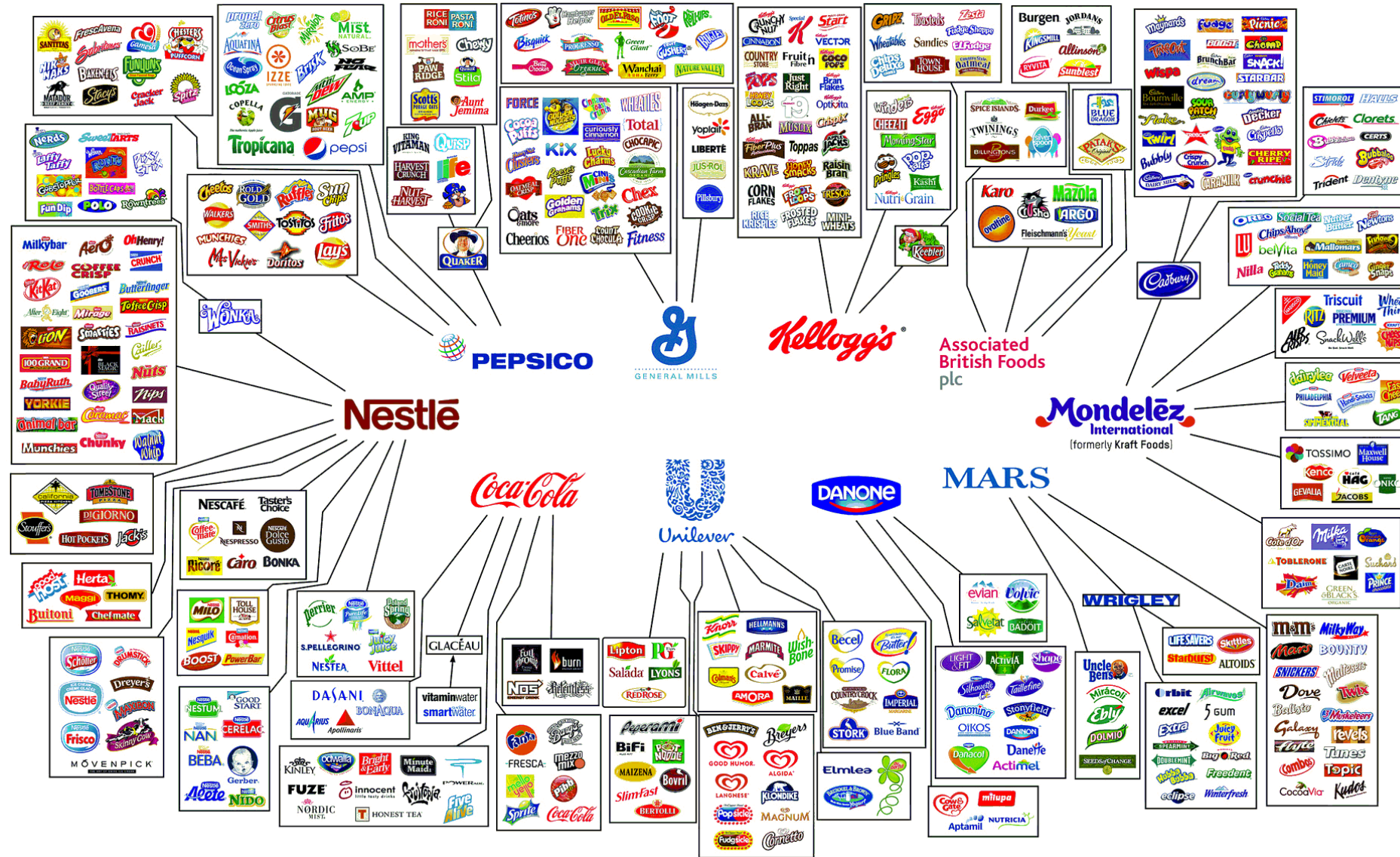
We should learn from past mistakes and instead...

Agricultural supply chains that are dominated by a single variety or species may gain process efficiencies and consistency, but are at greater risk from pest outbreaks, extreme weather and market fluctuations.

- The great Famine also known as the Irish Potato Famine – mid-1800s
- Brazilian Cacao – Witch-broom disease decimated 70% of their crop – 1980s
- US maize impacted by corn blight - 1970s
<https://www.nytimes.com/1970/08/16/archives/blight-epidemic-perils-corn-crop-agriculture-aides-estimate-10-of.html>
- Gros Michel variety and the modern Cavendish banana varieties – 1950s

Suggested Book: Never Out of Season: How Having the Food We Want When We Want It Threatens Our Food Supply and Our Future written by *Rob Dunn*

10 Companies that Control the Food Industry



Just few figures...

- 3 companies control 60% of commercial seed market
- 7 companies control majority of fertilizer sales
- 3 companies share 71% of agrochemical market
- 4 firms account for 97% of private R&D in poultry
- 4 firms control up to 90% in the global grain trade

What are the opportunities linked to the implementation of the SDGs for agribusinesses?

“Business opportunities in the implementations of the Sustainable Development Goals (SDGs) related to food could be worth over USD 2.3 trillion annually for the private sector by 2030. Investment required to achieve these opportunities is approximately USD 320 billion per year” - Business and Sustainable Development Commission

Risks:

- Enabling Environment
- Risks related to costs and Return on Investment (ROI)
- Short Termism – “The tragedy of the Commons”
- Greenwashing – SDGs washing

Opportunities

- Create demand for healthy food by informing consumers – moving from “Green Revolution” to “Food Revolution”
- Developing shared metrics of performance and success
- Mainstream agrobiodiversity component and solutions in agricultural practices – Toolkit
- Support short supply chains
- Role of Governments and IOs.
- Reward agribusiness rather than punishing them
- Adoption of science based solutions
- Role of Innovation technology and traceability
- Big data
- Certification schemes (e.g. Fairtrade, Rainforest Alliance/UTZ) – not the panacea

What are International Organizations doing?

The Agrobiodiversity Index Bioversity International

An actionable index, empowering decision makers to reduce risk and to transform what we grow, eat and conserve.

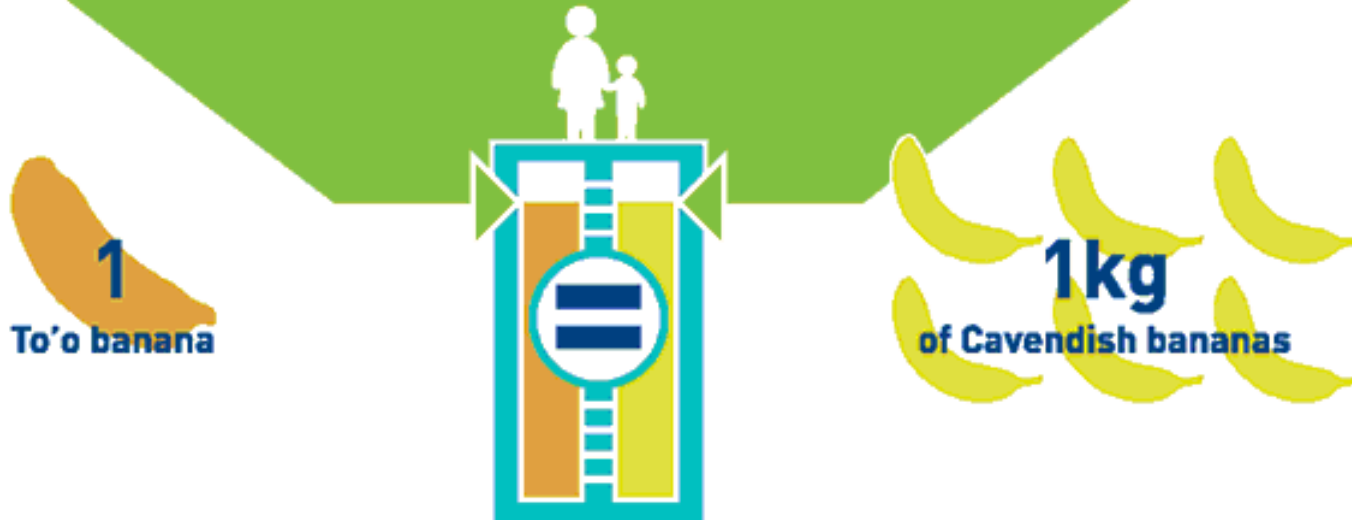


What are International Organizations doing?

Science based solutions: Tackling Vitamin A Deficiency With Banana Diversity

Nutrient content between different species

Vitamin A recommended daily intake for women and children

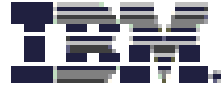


Vitamin A deficiency - **major public health problem** in many developing countries.

500,000 children go blind every year and half of those die from infections.

Bioversity International and partners are researching how **bananas naturally-rich in vitamin A** can become part of East African diets to fight vitamin A deficiency

What are companies doing?



IBM Food Trust™ is a cloud-based, software-as-a-service (SaaS) solution built on the IBM Blockchain Platform.

The IBM Food Trust is a technological solution that provides traceability to improve food transparency and efficiency. It is built on a Blockchain platform that is used to create a trusted connection with different actors operating along the supply chain, including end consumers

Source: IBM Food Trust – Blockchain solutions



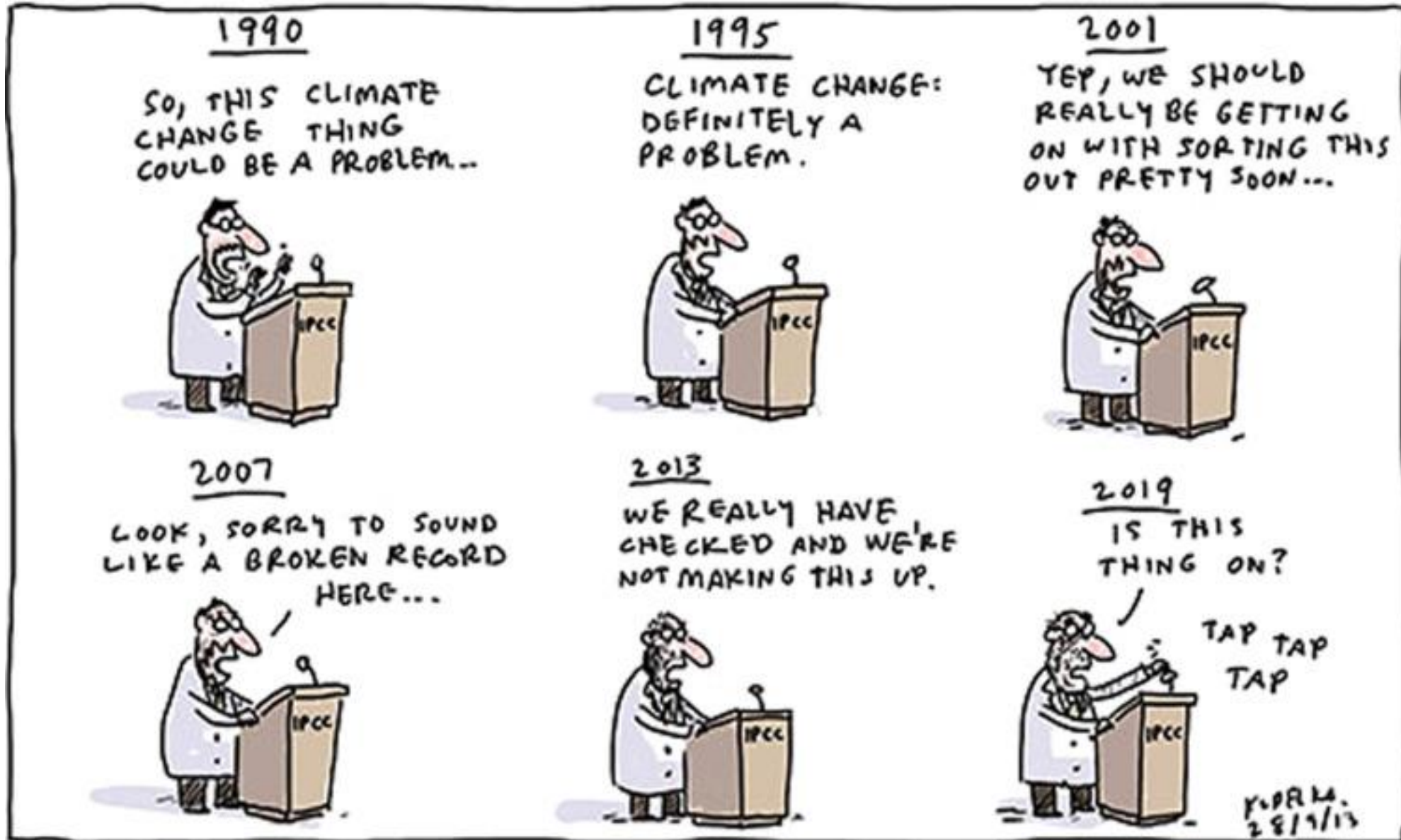
Danone is moving away from standardized food production systems to new models inspired by local dietary practices and leveraging on local sourcing models.

Danone has chosen to offer to its customers products and services suited to each community's own way of life by taking into account the cultural, social, emotional and physiological aspects related to dietary practices in each part of the world, while at the same time pursuing the goal of building, nurturing and protecting health capital.

Source: Danone Annual Financial Report 2017

Final Consideration

"There is no Plan B, because there is no Planet B" - UN Secretary-General Ban-Ki Moon





Thank you

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