

# SUSTAINABILITY SEMINAR



INC XL WORLD NUT AND  
DRIED FRUIT CONGRESS  
MAY 22-24, 2023

# Program

**Mr. Pino Calcagni**, Chairman of the INC Sustainability, Scientific and Government Affairs Committee

- Overview of sustainability practices along the supply chain
- Farmer/processor/consumer perspective
- Sustainable agri-food value chain
- Reforestation

**Dr. Rachael Garrett**, Moran Professor of Conservation and Development, University of Cambridge

- Threats and opportunities for tropical forests and associated forest products in the 21st century



# Companies

- Corporate Social Responsibility (CSR) influences company management in three areas: economic, social and environmental.
- Advantages:



Cost reduction



Stakeholder loyalty



Ease of access to financing



Talent attraction and retention



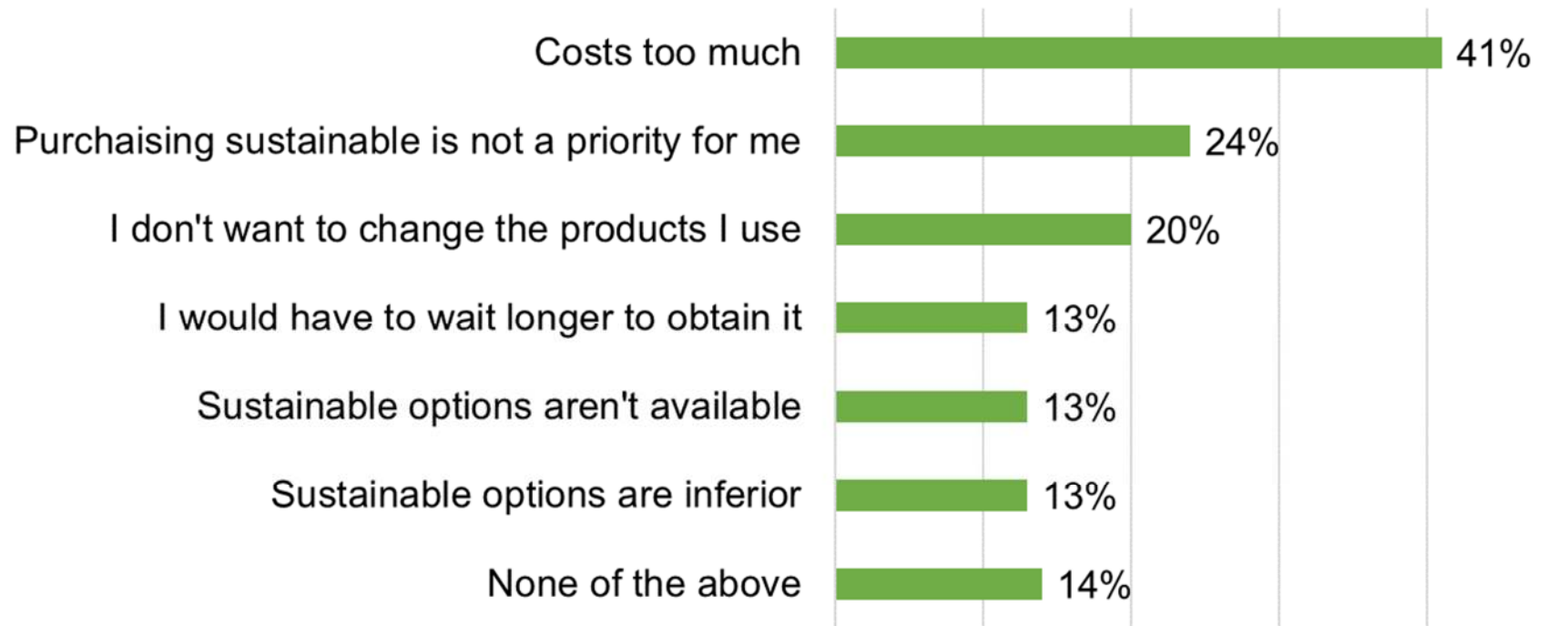
Fiscal benefits and risk prevention

# ESG

Environmental	<ul style="list-style-type: none"><li>- Climate change risks and opportunities</li><li>- Water management</li><li>- Energy efficiency</li><li>- Waste management</li><li>- Pollution of water, air and land</li><li>- Deforestation and land use</li></ul>
Social	<ul style="list-style-type: none"><li>- Human rights</li><li>- Children's rights</li><li>- Labor rights and conditions</li><li>- Data security and privacy</li><li>- Supply chains</li><li>- Product safety and quality</li><li>- Equality and diversity</li></ul>
Governance	<ul style="list-style-type: none"><li>- Corruption</li><li>- Board composition</li><li>- Remuneration/incentive programs</li><li>- Issuance authorization</li><li>- Independence</li><li>- Tax</li></ul>

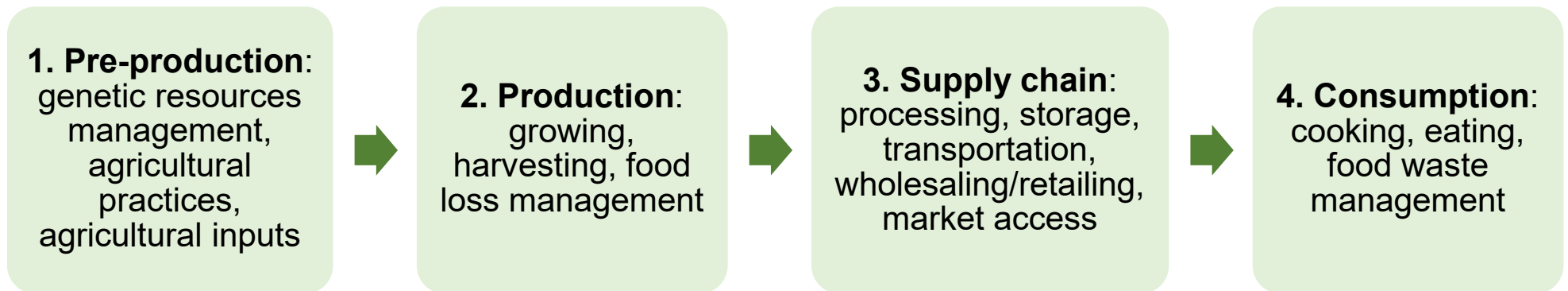
# Consumers

Consumers perception while making decisions around sustainable products



Data extracted from: Deloitte (2022), The cost of buying green

# Sustainable agri-food value chain



# Pre-production and production



Use of quality seeds and planting materials of well-adapted crops



Biodiversity management



Integrated pest management



Improved water use and management



Sustainable mechanization



Sustainable soil and land management for increased crop productivity

# Advances in the Nut & Dried Fruit Industry

## Plant breeding:

- Development of new varieties, more productive, resistant to plagues, diseases, drought, self-pollinated...
- Reducing the time needed for trees to bear fruit (by grafting)

## Spatial mapping of orchards:

- Crop acreage and age determinations
- Surface and groundwater modeling and assessments
- Groundwater recharge enhancement
- Evapotranspiration estimation and models
- Drought and climate impact analysis
- Water use efficiency and water infrastructure

## Smart farming:

- Digitalization and smart technologies
- Optimizing fertilizer and plant protection products applications
- In-field real-time monitoring tools

## Irrigation:

- Microirrigation (microsprinklers or drip)
- Subdripping irrigation
- Demand-based irrigation
- Monitoring real-time weather
- Responsible irrigation decisions
- Remote tree sensors

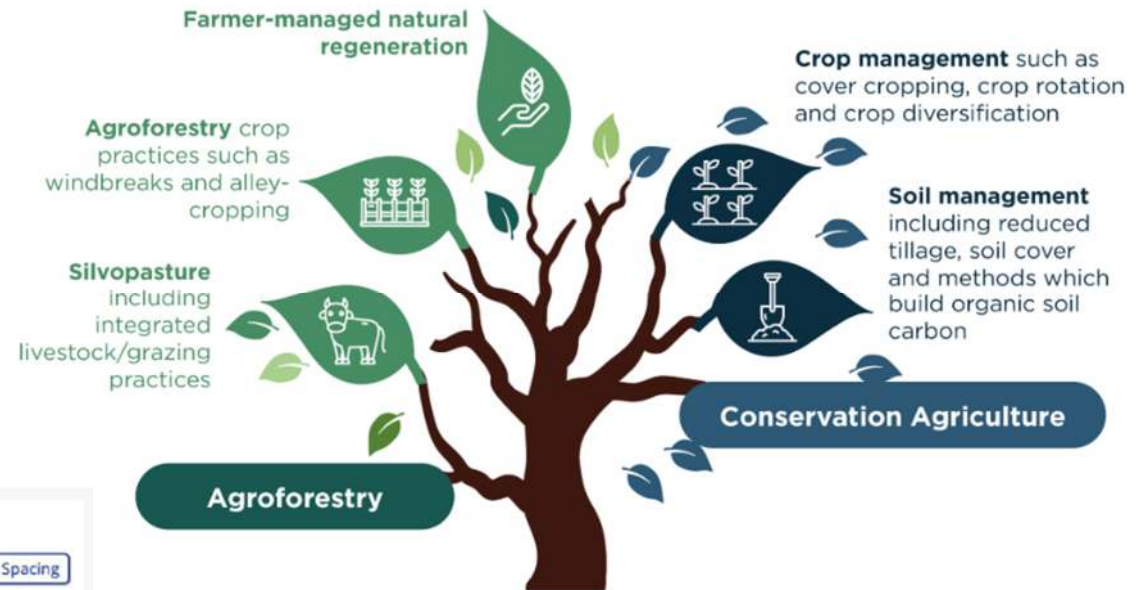
## Reforestation:

- Reforestation can guarantee soil protection and biodiversity and support local communities and economies.

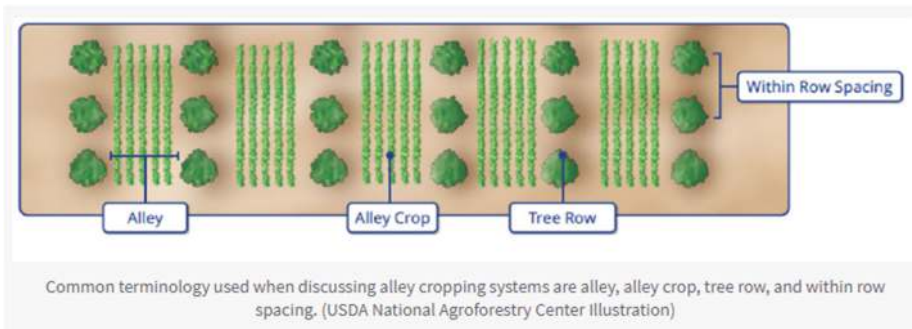


# Regenerative agriculture

- Implementing regenerative agricultural practices can promote soil health, reduce erosion, and promote biodiversity, resulting in a more sustainable and resilient farming system.
- Broadly, it encompasses both conservation agriculture and sustainable agroforestry techniques



Source: IUCN (2021), Regenerative agriculture works: New research and African businesses show how



# Cleaning/processing

- Water conservation
- Energy efficiency
- Waste reduction
- Recycling
- Hazardous material reduction
- Fair Labor practices
- Traceability



Pictures courtesy of Besana Group and Stahmann Webster

# Packaging

- Use of sustainable materials
- Biodegradable and compostable packaging
- Recyclable packaging
- Reduced packaging
- Reusable packaging
- Product innovation
- Ecofriendly labels



Pictures courtesy of Besana Group

# Logistics

- The logistics phase is an essential component of the supply chain and can have a significant impact on the environment.
- Implementing these strategies can help reduce GHG emissions, minimize waste, and promote sustainability in the supply chain.

1. Efficient transportation

2. Optimization of routes

3. Load optimization

4. Energy efficiency

5. Collaboration with suppliers

6. Tracking and monitoring

# Point of sale

- Sustainable packaging
- Eco-friendly labeling
- Ethical sourcing
- Bulk sales
- Education and awareness
- Waste reduction
- Sustainable transportation
- Green building practices



Image: Freepik.com

# Certification schemes



ecovadis



FOREST  
CARBON

# Focus SDGs



End hunger, achieve food security and improved nutrition and promote sustainable agriculture.



Ensure availability and sustainable management of water and sanitation for all.



Ensure sustainable consumption and production patterns.



Take urgent action to combat climate change and its impacts.



Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

# Why reforestation?

- Forests and trees are widely recognized for their potential to mitigate the effects of climate change by storing carbon.
- This makes them vital to achieve SDG 13 (climate action).
- Forests are crucial to ensuring water supplies and reducing GHG emissions.
- They regulate rainfall, stabilize local climates, and protect coastal land from erosion.
- They provide food, fuel, timber, and animal fodder.
- They reduce the risks and impacts of extreme weather on local communities, providing a life support system for millions of people around the world.



# Forest nuts

Amazonia (Brazil) nuts  
(*Bertholletia excelsa*)



Sub-Saharan area cashew nuts (*Anacardium occidentale* L.)



Mediterranean rim pine nuts  
(*Pinus pinea*)



Siberia and North Asia (*Pinus sibirica*, *p. koraiensis*, *p. gerardina*, *p. pumila*)



Central Asia walnuts  
(*Juglans regia*)



# Summary & Conclusions

- Companies must innovate and transform their business practices as soon as possible, as the speed of change will continue to accelerate.
- Customers now align themselves with brands that are compatible with their values and priorities.
- Consumers perceive cost as the biggest trade-off when it comes to buying sustainable goods or buying local.
- Sustainability certification is becoming increasingly important for the industry.
- Reforestation has a very important role to play in combating climate change and supporting local communities and economies.