



Food and Agriculture Organization
of the United Nations

Socio-economic impacts of climate change on the tropical fruit industry.

How can the industry address them?



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Outline

1. The food security challenge
2. Overview of tropical fruit trade
3. The climate change challenge to the industry
4. Possible responses
5. The example of a global multi-stakeholder platform



The food security challenge

- 815 mln people hungry last year (up from 2015)
- 1 person out of 9
- World population will increase to 9 billion by 2050
- Limited scope for expansion of natural resource use
- Climate change is adding to the pressure
- Tropical fruits contribute to food security

Trade in Major Tropical Fruits

Preliminary estimates



Mango, Guava and Mangosteen

Overview of global production and trade

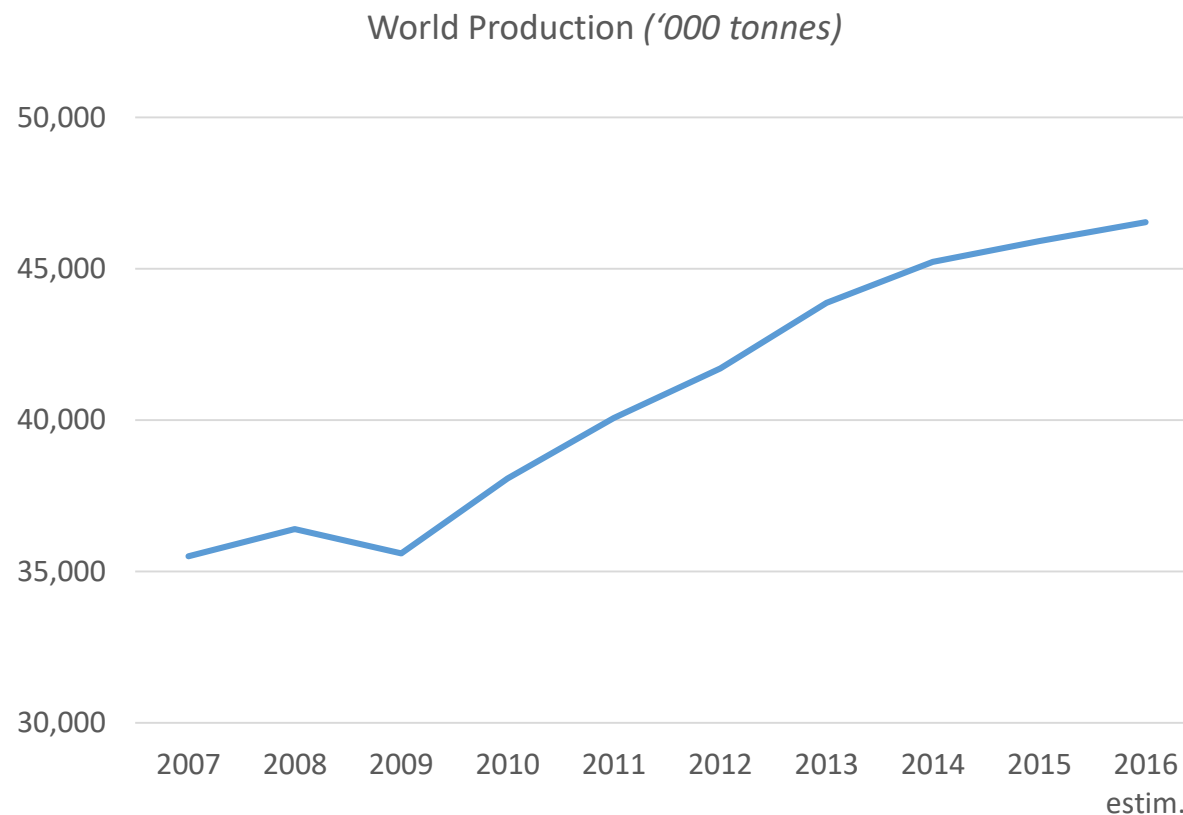




Mango, Guava and Mangosteen



Regional distribution	2016
Asia	75%
Africa	13%
Central America & Caribbean	8%
South America	4%

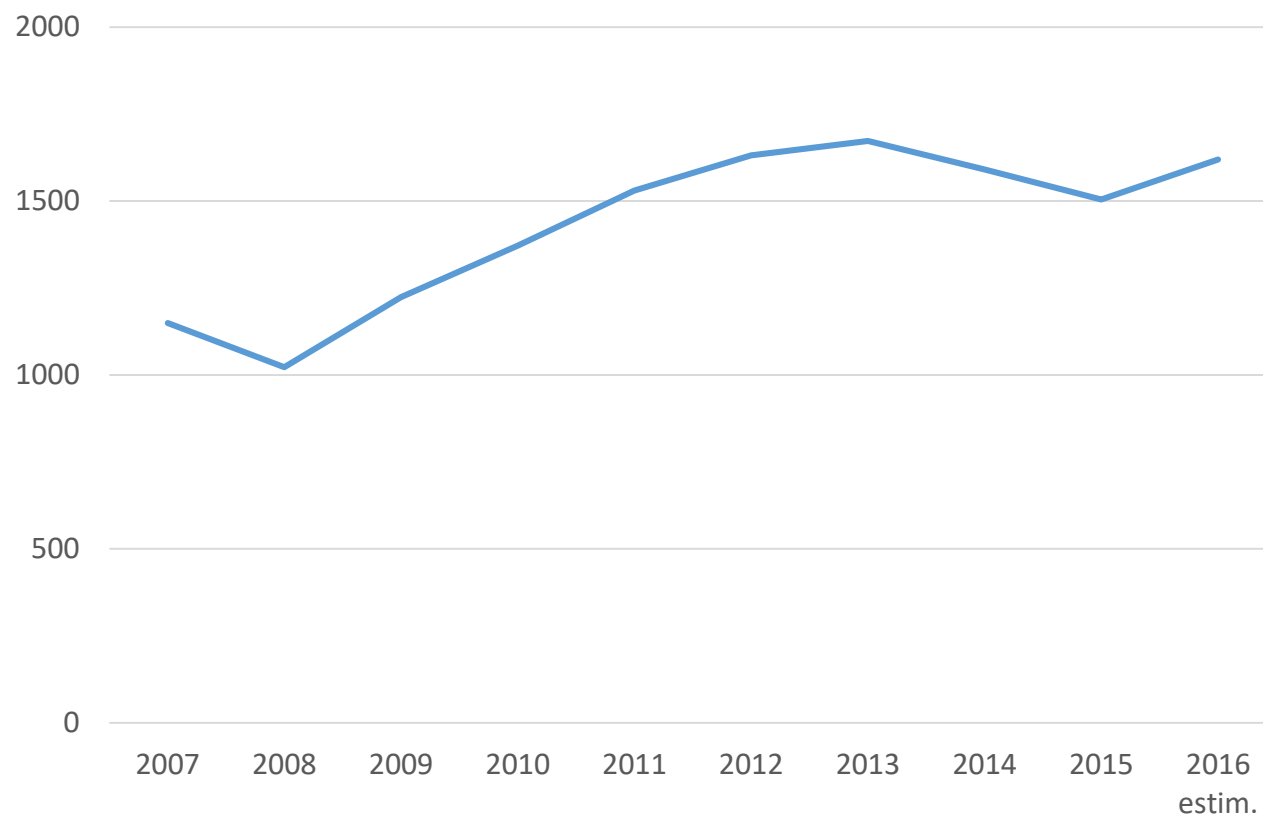




Mango, Guava and Mangosteen



Global Exports ('000 tonnes)



Leading exporters	2016
Mexico	22%
Brazil	13%
Peru	11%
India	10%
Thailand	9%

Pineapple

Overview of global production and trade



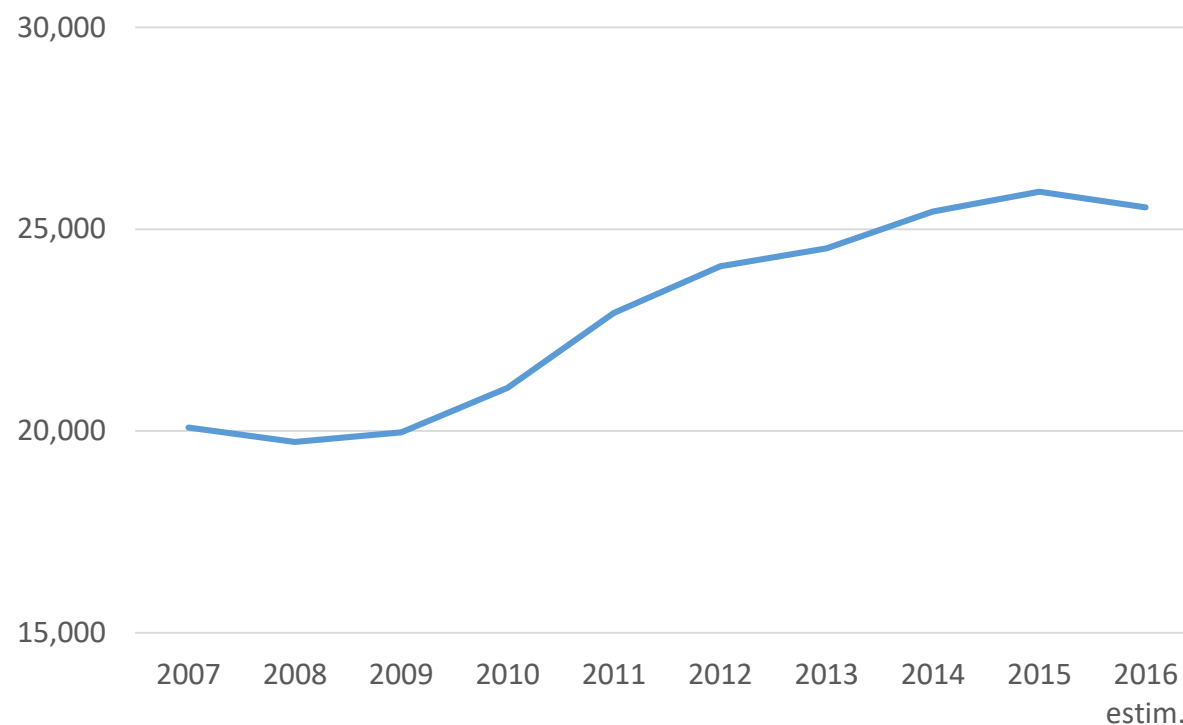


Pineapple



Regional distribution	2016
Asia	43%
Africa	19%
South America	19%
Central America & Caribbean	18%

World production ('000 tonnes)

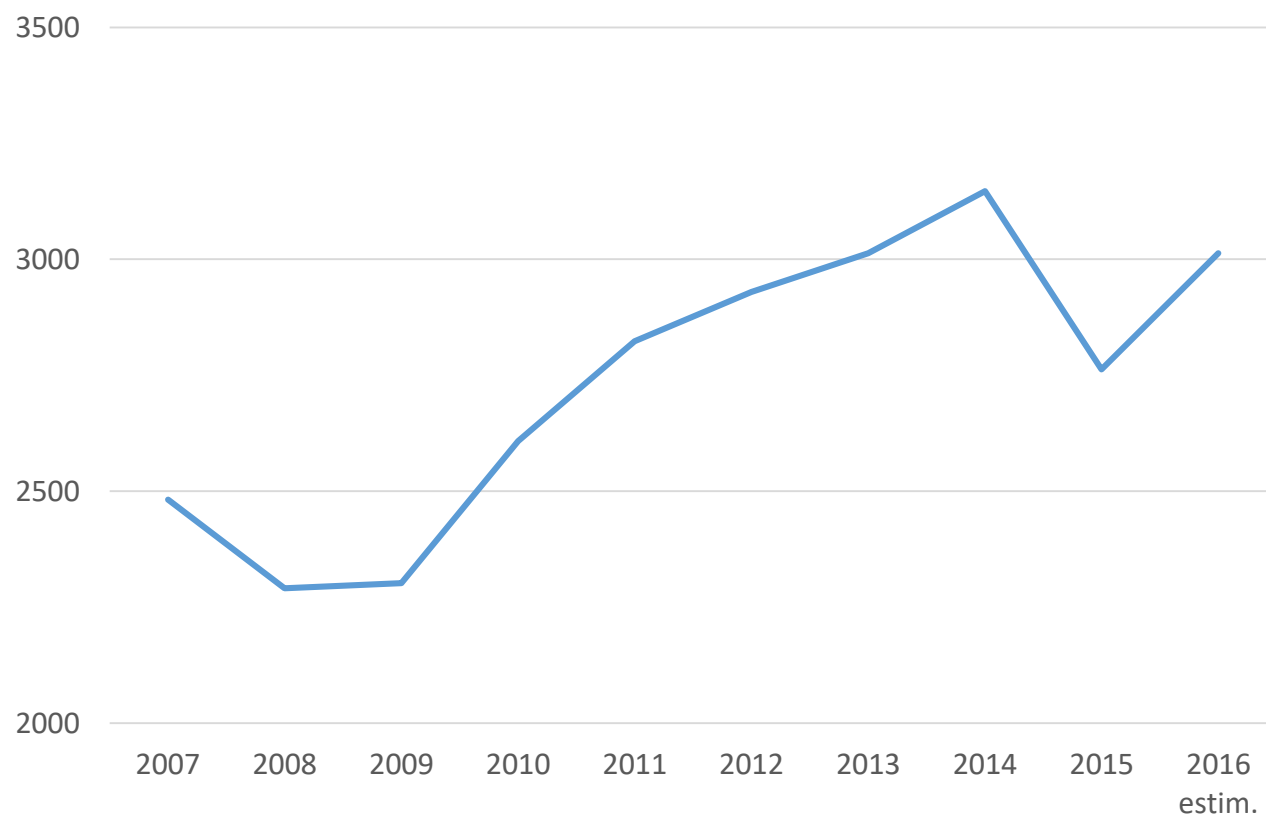




Pineapple



Global exports ('000 tonnes)



Leading exporters	2016
Costa Rica	67%
Philippines	13%
Ecuador	3%
Mexico	3%
Honduras	2%
Panama	1%
Cote d'Ivoire	0.9%
Ghana	0.7%

Avocado

Overview of global production and trade



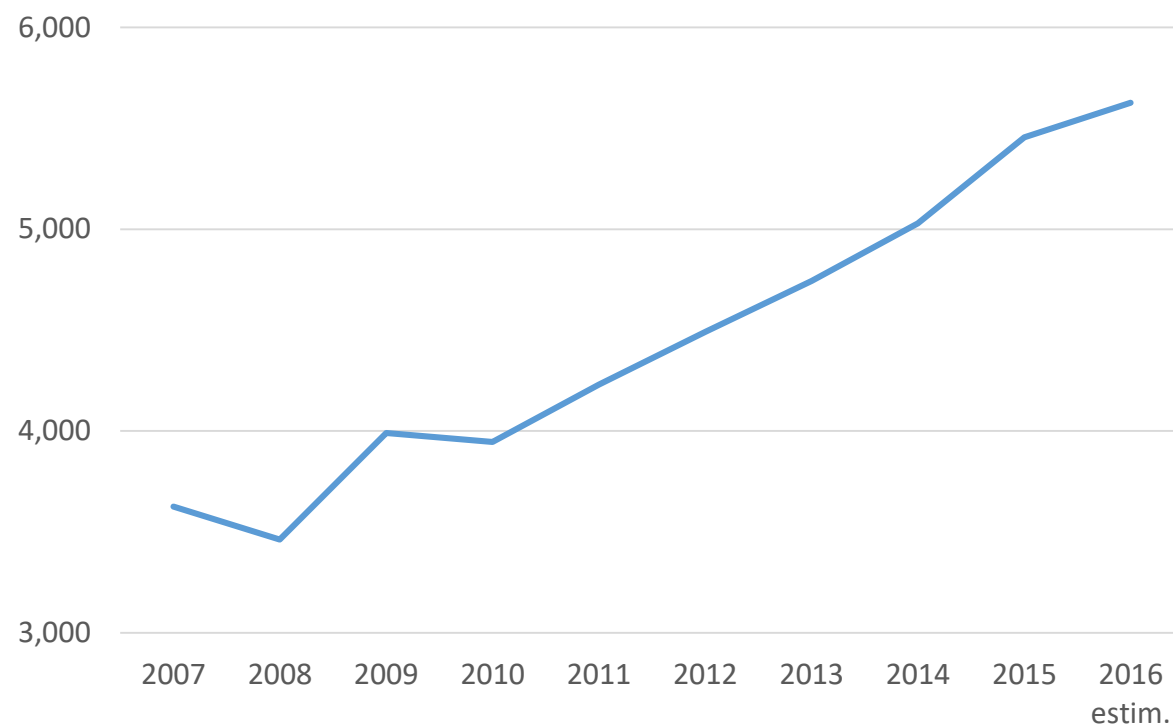


Avocado



Regional distribution	2016
Central America & Caribbean	48%
South America	24%
Africa	12%
Asia	10%

World production ('000 tonnes)

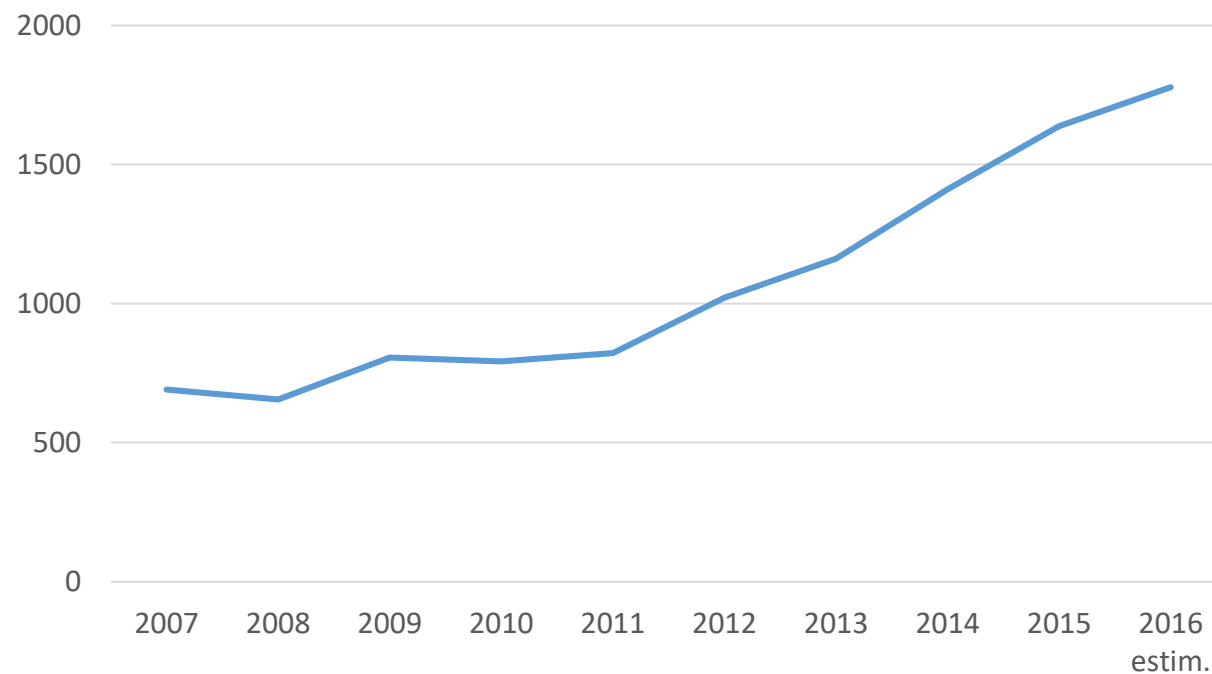




Avocado



Global exports ('000 tonnes)



Leading exporters	2016
Mexico	58%
Peru	13%
Chile	11%
South Africa	4%
Israel	3%

Papaya

Overview of global production and trade



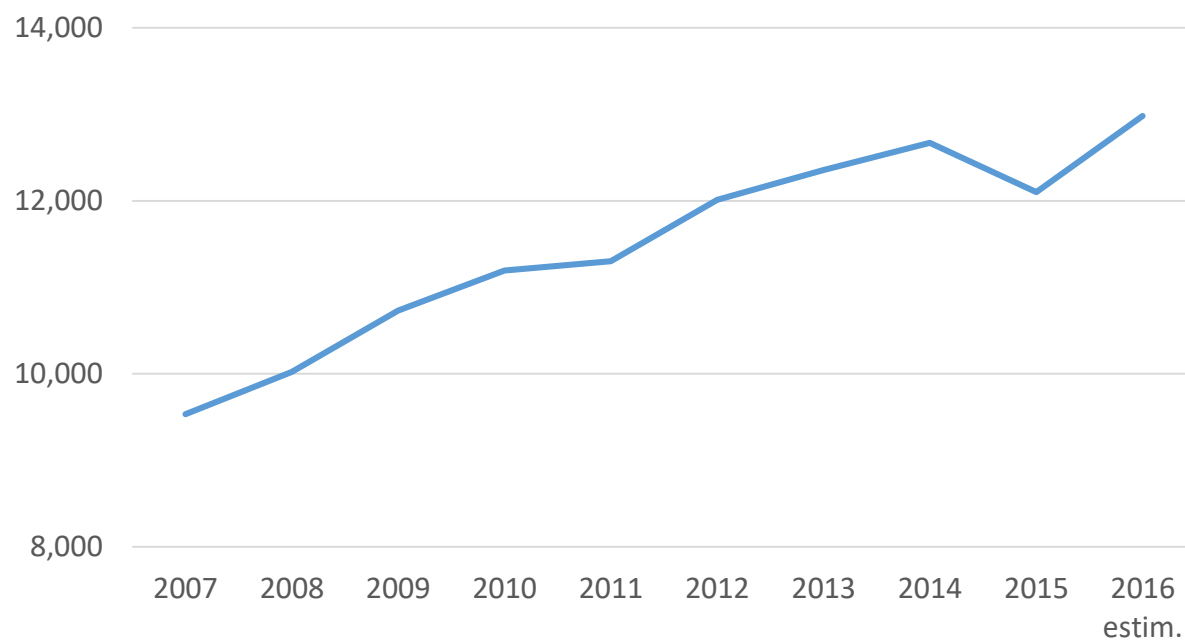


Papaya



World production ('000 tonnes)

Regional distribution	2016
Asia	56%
Central America & Caribbean	17%
South America	16%
Africa	11%

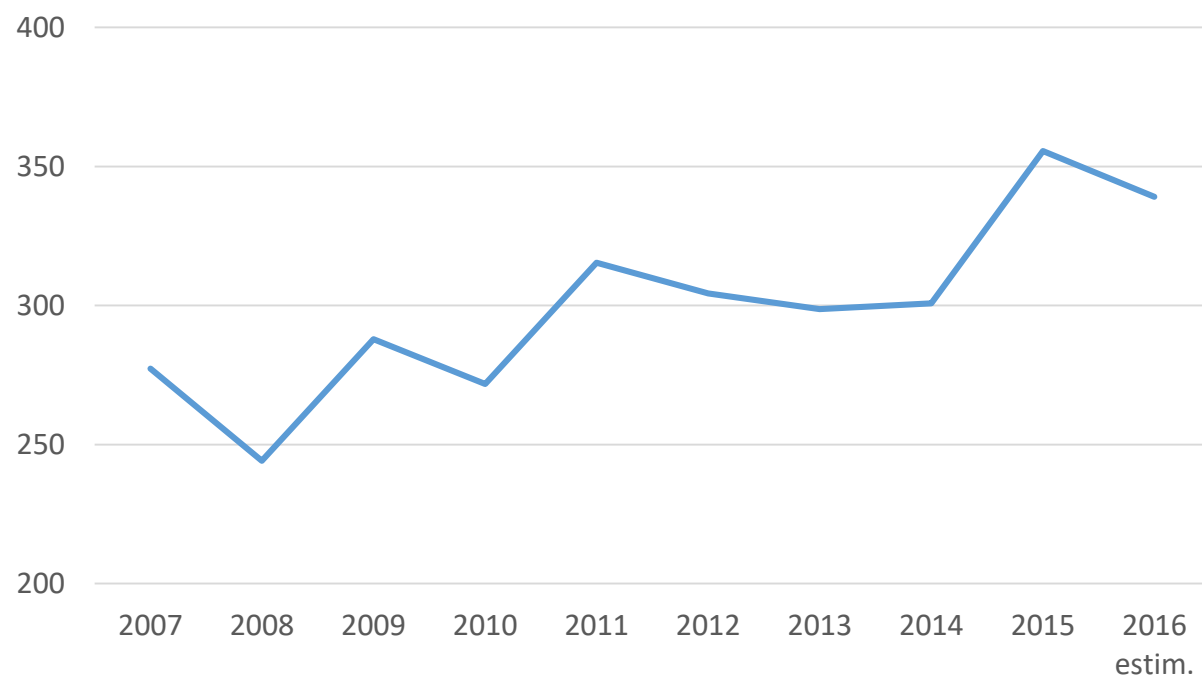




Papaya



Global exports ('000 tonnes)



Leading exporters	2016
Mexico	52%
Brazil	13%
Guatemala	10%
Malaysia	7%
Belize	2%



The climate challenge

- 15 hurricanes in the Atlantic so far this season including devastating hurricanes in the Caribbean
- torrential rains in South Asia, Central America
- considerable losses of life and damage to the tropical fruit industry
- tropical regions are particularly exposed



Climate change will exacerbate current challenges

- spread of new pests and diseases;
- depletion of natural resources;
- conflicts over these resources;
- banning of unsustainable inputs and methods;
- rising consumer preference for locally-produced foods;
- pressure by large-scale retailers:
 - lower prices
 - carbon-labelling schemes



Global warming

Challenge in the long term:

- Competitiveness and the tropical fruit trade map may change in long run
- New competitors to those countries which have traditionally supplied tropical fruits
- Temperate countries may become capable of producing tropical fruits?
- Risk is low, but cannot be ruled out



Possible industry responses

Adaptation

Production systems for tropical fruits will have to evolve

- Build in more resilience
- Adopt climate smart agriculture techniques
- Water efficiency, drainage, windbreaks, etc.

In avocado producing regions in Latin America that installed more weather resilient systems, output has grown

- Early warning systems
- Better preparedness to disasters
- Expand domestic & regional markets to reduce the risks linked to international markets.



Possible industry responses

Mitigation

- adopt production and trade methods that reduce GHG emissions.
- increase the use of renewable and clean energy in cultivation and processing systems.
- favour sea over air freight.
- partner with transportation companies to promote the use of renewable energy in sea transportation.
- develop mechanisms for international collaboration throughout the value chain



An example of multi-stakeholder platform: the World Banana Forum (WBF)

= a **permanent space** of collaboration for **all participants** in global banana value chains

- Farmers & their organizations
- Companies (production, trade, retail)
- Trade associations
- Governments
- Research institutions
- CSOs
- International Organizations



**The World
Banana Forum**



Objectives

- The banana industry worldwide has **adopted best practices** for production systems that are **sustainable** from the economic, social and environmental perspectives
- The **distortions in the banana value chain have been addressed**, ensuring fair prices and earnings for all the actors

Scope

Internationally traded bananas (dessert and cooking).



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Activities

Thematic working groups cover the 3 dimensions of sustainability

• Sustainable Production Systems & Environmental Impact WG01

- Reducing agrochemical use
- Carbon and water footprints
- Combating global diseases

• Distribution of Value WG02

- Costs of sustainable production
- Living wages
- Value chain analyses

• Labour Rights & other Workplace issues WG03

- Gender equity
- Health and Safety at work
- Freedom of association & collective bargaining



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Examples of outputs

Banana Carbon and Water Footprint Reduction

- Practical guide to measure and reduce carbon and water footprints worldwide.
- Validation in banana farms in Costa Rica.
- Potential replication in other countries.
- Basis for a potential NAMA Banana.



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Examples of outputs



Task Force on Fusarium wilt TR4

Climate change favors the spread of diseases

TR4: a global threat to bananas

- No effective eradication method
- Already in Asia, Near East and Africa (Mozambique)

The WBF established a multi-stakeholder task force for worldwide collaboration

- Prevention strategies
- Information dissemination
- Support to FAO's Global Program & other initiatives
- Collaboration with Bioversity, phytosanitary authorities, research centers (CIRAD, WUR), farmer organizations, companies...



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Examples of outputs

Portal of Good Practices in the Banana Industry

- Dissemination of knowledge & adoption of good practices.
- User-friendly platform accessible to all value chain players.
- Training and learning platform to build local capacity and leverage the adoption of good practices.
- Hosted in the WBF website with technical and pesticide-reduction practices hosted in Bioversity's Promusa website.

- ✓ Webinars to promote practices
- ✓ Videos



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Examples of outputs

1. Banana Occupational Health and Safety Initiative

- National Manual on Occupational Health & Safety (OHS)
- Impact: over 300 000 workers in > 250 000 ha of plantations

2. Producing living wage benchmarks

- Current Studies: Ecuador, Ghana, Côte d'Ivoire, Costa Rica, Belize, Guatemala

3. Gender equity

- Case studies in the industry
- International meetings on gender equity (2012, 2015, 2017)



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Banana Forum**



Food and Agriculture Organization
of the United Nations

Global Conference of the World Banana Forum

Geneva, 8-9 November 2017

Some 300 participants expected

Governments, companies, research institutes & NGOs

Side events on gender equity and TR4 on 7 and 8 Nov

More details at

www.fao.org/world-banana-forum/wbf3/wbf3/en/



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Thank you!

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The World Banana Forum (WBF)

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Partners

Scope, Mission and Objectives

Expected Outputs

History of the Forum process

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Task Force on TR4

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Get Involved

WBF Working Groups
Working together for sustainable banana production and trade

The World Banana Forum
Working together for Sustainable Banana Production and Trade

The World Banana Forum is a permanent space of assembly for participants representing the global banana supply-chain to promote open dialogue on challenges facing the banana industry.

The mission of the World Banana Forum is to:

- inspire **collaboration between stakeholders** that produces pragmatic outcomes for the betterment of the banana industry; and
- achieve an **industry-wide consensus of best practices** regarding workplace issues, gender equity, environmental impact, sustainable production and economic issues.

This **ground-breaking initiative** brings together producers, their organizations, trade unions, cooperatives, exporter groups, fresh producing companies, retailers, traders, consumer associations, governments, research institutions, universities and civil society organizations.

The WBF Working Groups focus on the effective implementation of activities related to the Forum's goals and objectives:

WG01 | Sustainable Production Systems and Environmental Impact
WG01 focus on environmental sustainability

WG02 | Distribution of Value
WG02 focus on economic sustainability

WG03 | Labour Rights
WG03 focus on social sustainability

Click here to download the WBF information note.

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Tweets by @FAOWB

World Banan...
@FAOWB

Is this end of bananas?
Kenya takes step as dangerous disease spreads bit.ly/1TWXqN

Embed View on Twi

Reports

- > Fusarium-TR4
- > Carbon Footprint Analysis in Banana Production
- > Comparing the Carbon Footprint of Alternative Banana Value-Chain Arrangements
- > Climate Change and Food Systems: Global assessments and implications for food security and trade

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