

ATMA4FS workshop



Photo: Badru KATUMBA / AFP

Resilience of global and local value chains to the Covid-19 pandemic: Survey evidence from fruit and vegetable value chains in Senegal

ATMA4FS



A Long term EU-Africa research and innovation Partnership on food and nutrition security and sustainable Agriculture

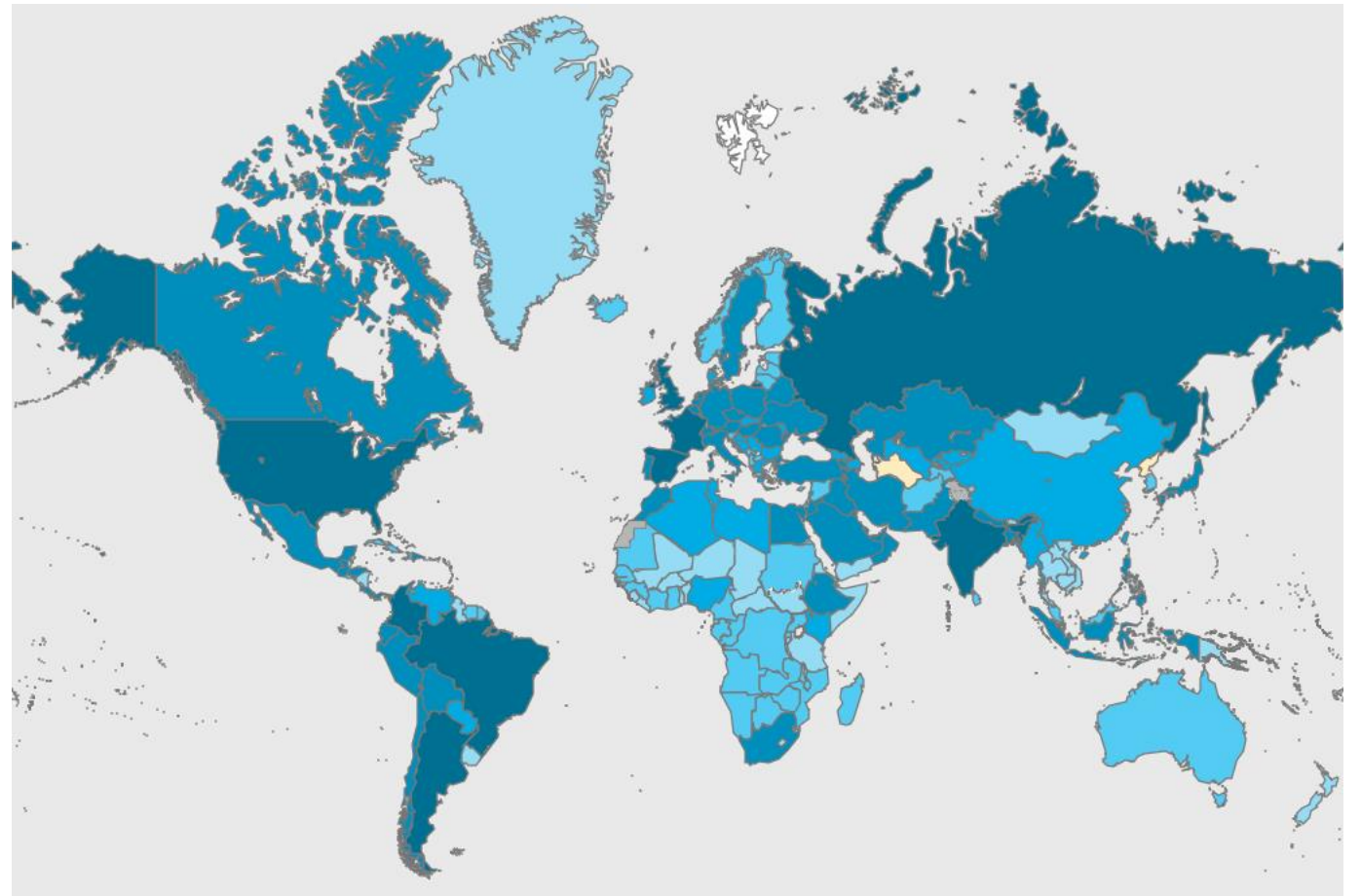
Introduction



Covid-19 virus

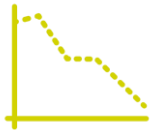


Picture: BBC



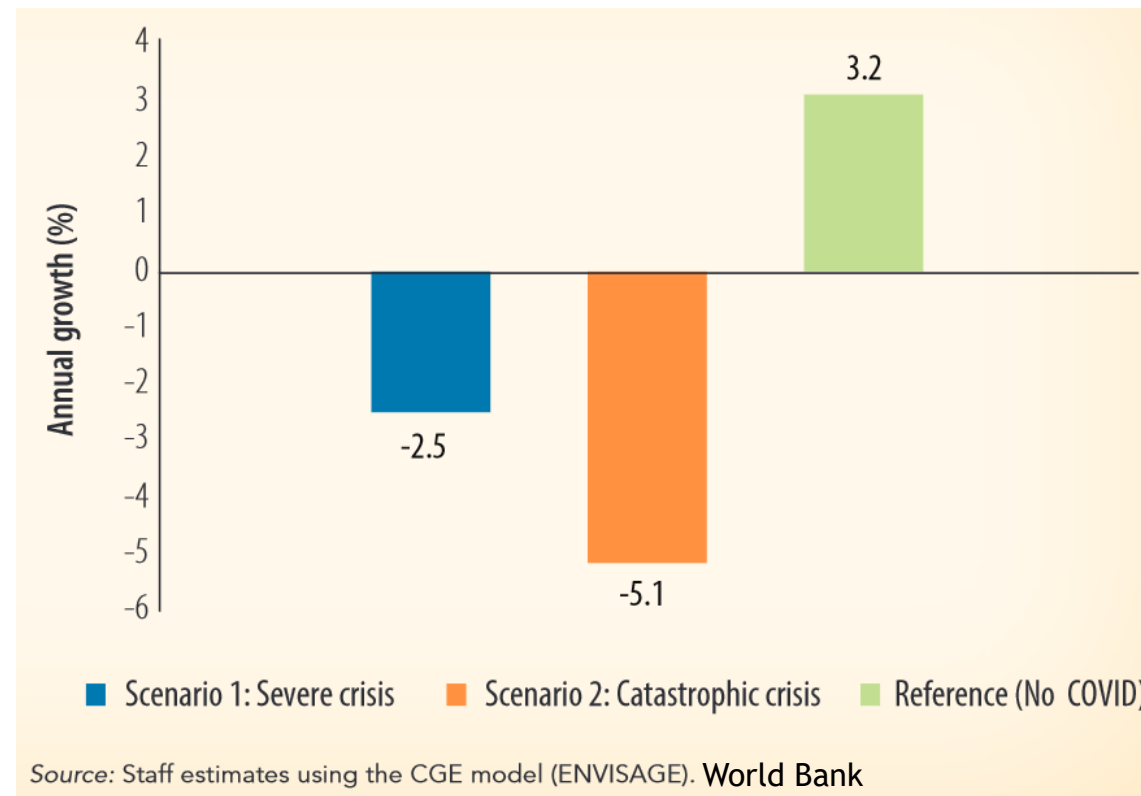
Source: WHO

Introduction

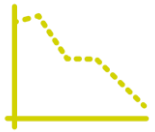


Severe economic consequences

GDP ↓



Introduction



Severe economic consequences

GDP



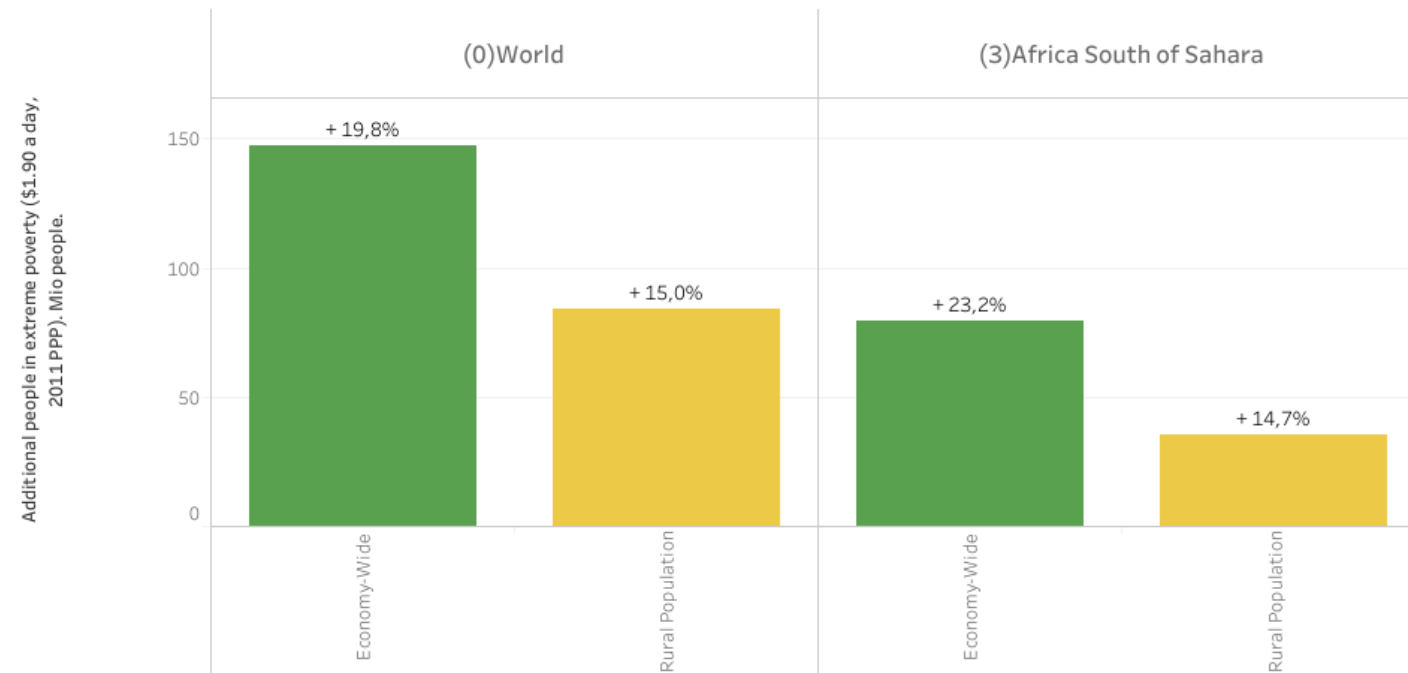
Poverty



Food insecurity



Changes in extreme poverty level



Source: IFPRI, MIRAGRODEP Simulations, Laborde, Martin and Vos (2020)

Note: Changes are computed compared to the estimates for 2020 before the Covid-19 disruption.

Introduction

3 channels of effects



International trade disruptions

Introduction

3 channels of effects



International trade disruptions



On-farm labor decline

Introduction

3 channels of effects



International trade disruptions



On-farm labor decline



Productivity and farm output decline

Covid-19 in Senegal

March 2nd: first case

March 23th: declaration of state of emergency

Measures:

- ▶ Transport restrictions
- ▶ Curfew
- ▶ Closure of wet markets
- ▶ Opening hours shops limited



Photo: John Wessels/AFP via Getty Images



Photo: Badru KATUMBA / AFP

Modern, vertically coordinated, high capital- and labour-intensive supply chain

Production



Processing



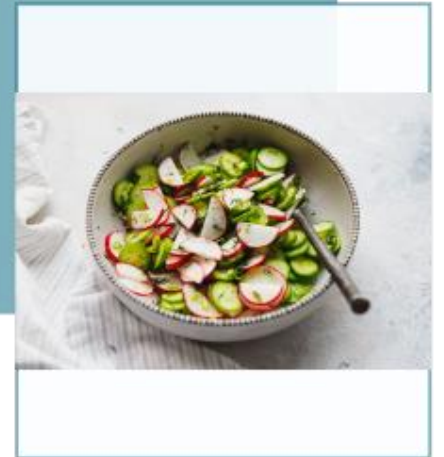
Distribution



Retail



Consumption

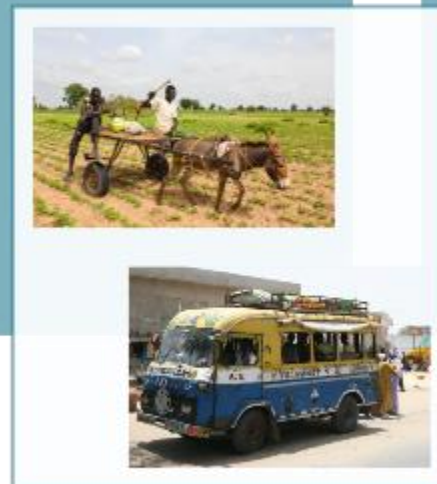


Traditional, high labour- and low capital-intensive supply chain

Production



Distribution



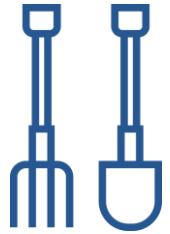
Retail



Consumption



Data collection and analysis



102

Smallholder
farmers



80

Traders



172

Consumers



20

Importers



10

Agri-businesses



50

Agricultural
wage
employees

Data collection and analysis



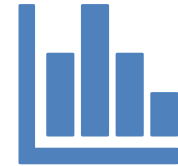
Online
questionnaires



Telephone
interviews



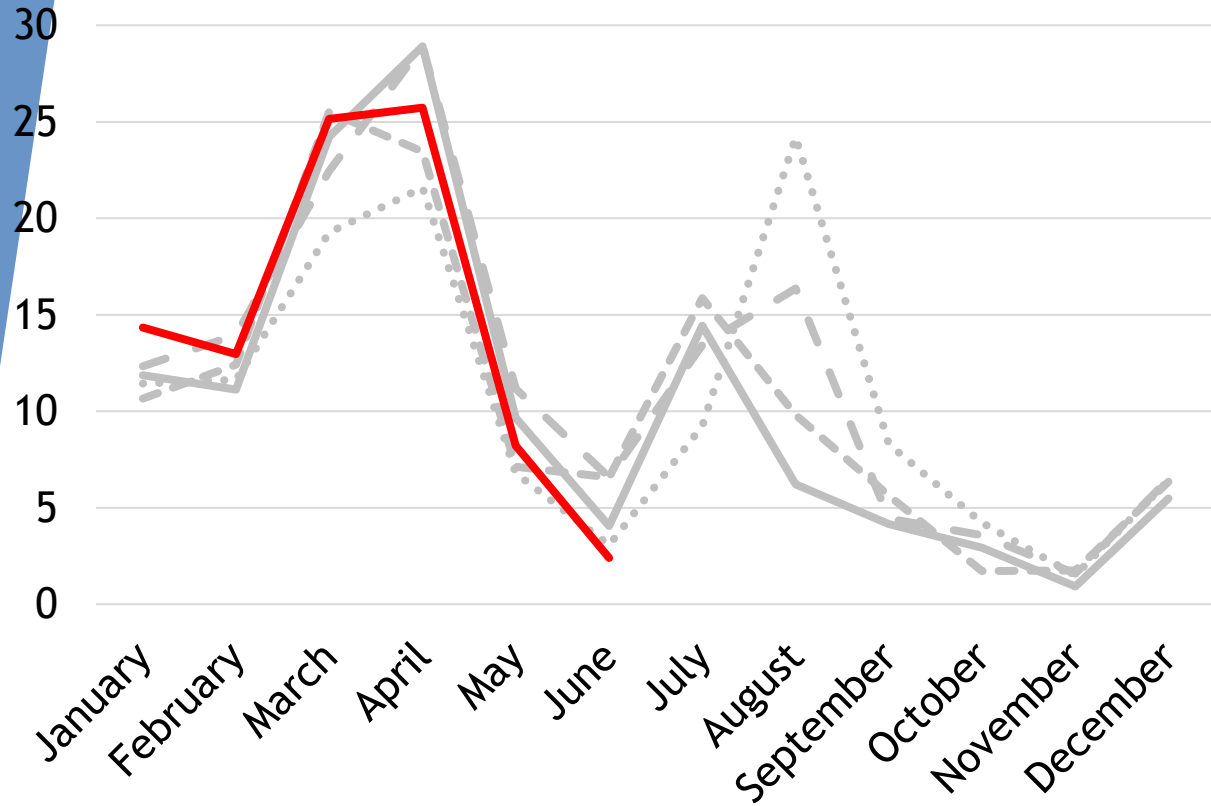
Trade statistics



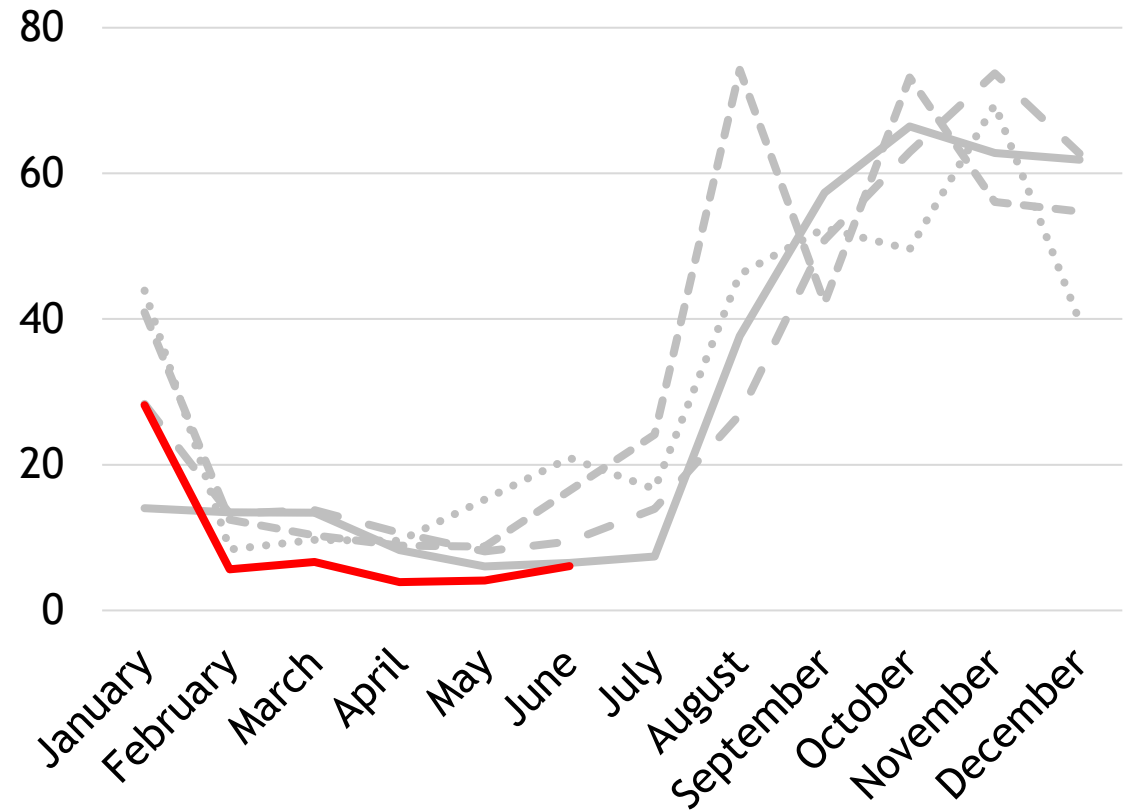
Descriptive
statistics

Results

Export



Import



Evolution of fruit and vegetable exports and imports in Senegal (1,000 tons)

Results

Smallholder farmers and small agri-businesses

- ▶ Reduce horticultural production area
- ▶ Face restrictions to hire workers
- ▶ Face problems accessing agricultural inputs

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Smallholder farmers and small agri-businesses

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- ▶ Face problems accessing agricultural inputs

**Large agri-businesses
do not face these
constraints**

Results

Closure of wet markets and mobility restrictions

- ▶ Consumers, producers and traders cut off from their usual sales outlets
- ▶ Volumes of traded produce decrease and transport costs increase
- ▶ Traders (and smallholder farmers) use online sales platforms

Conclusions

- 1) The export-oriented supply chain is less severely affected than the domestic-oriented supply chain
- 2) Smallholder farms are more severely affected by declines in labour and input availability than large-scale agribusinesses
- 3) A higher level of vertical coordination and innovation capacity increases the resilience to the COVID-19 induced shock

Implications

Developing countries will be hit hard by the aftermath of the Covid-19 crisis

- ▶ Depend largely on traditional and transitional food supply chains
- ▶ Disruption domestic food production increases food insecurity
- ▶ Support for smallholder farmers and domestic food production
- ▶ Aid programs not only focus on consumers



Photo: AP Photo/Sylvain Cherkoui

Thank you for your attention

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A Long term EU-Africa research and innovation Partnership on
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