

# ENHANCING SUPPLY CHAIN RESILIENCE

## FROM A COMPLEX ADAPTIVE SYSTEM PERSPECTIVE

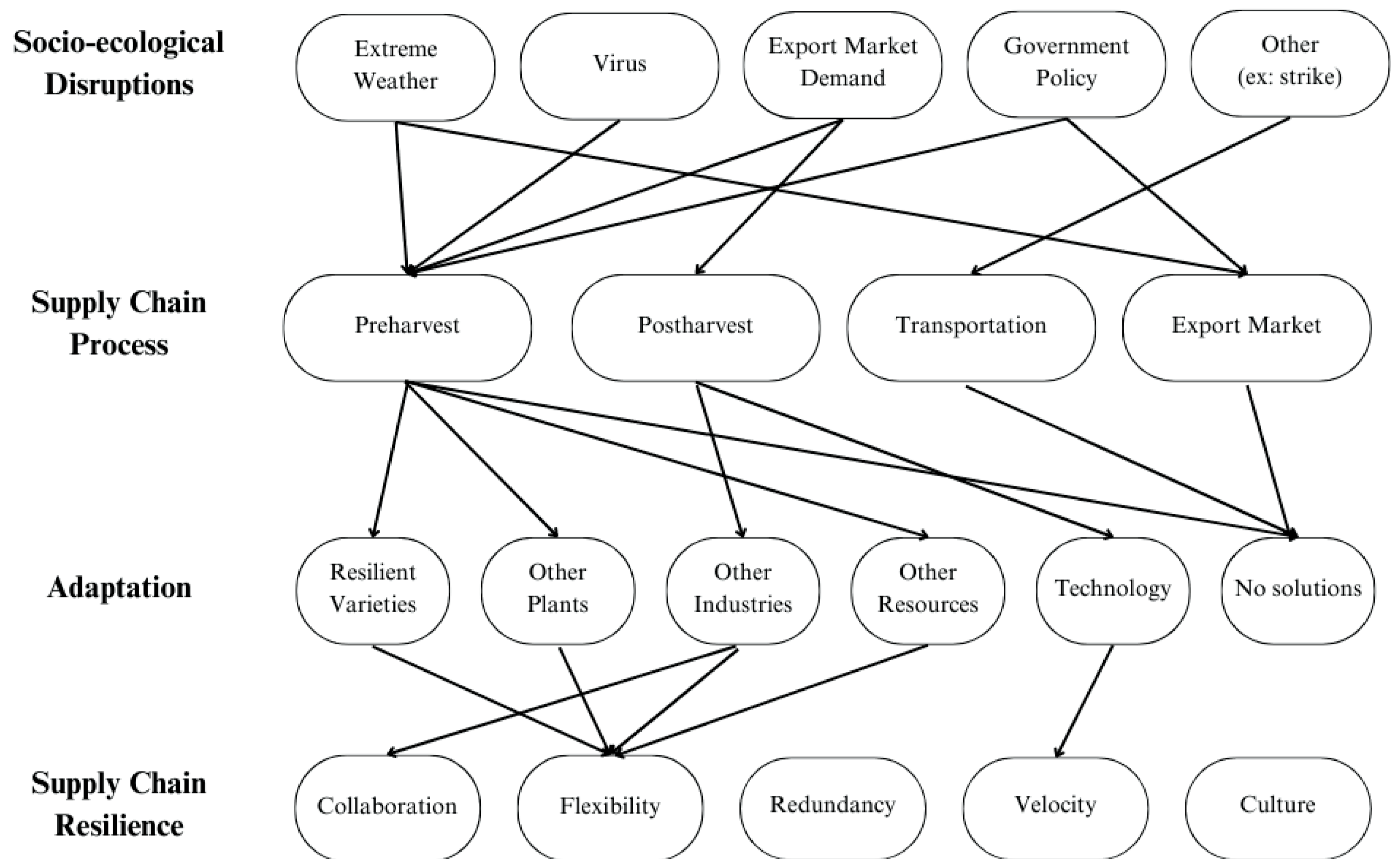
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### WHAT IS SUPPLY CHAIN RESILIENCE

Supply chain resilience is the capacity to anticipate, resist, recover, and response to disruptions.

### WHAT IS COMPLEX ADAPTIVE SYSTEM

Interconnected components or agents that exhibit the ability to adapt and evolve in response to changes in their environment.

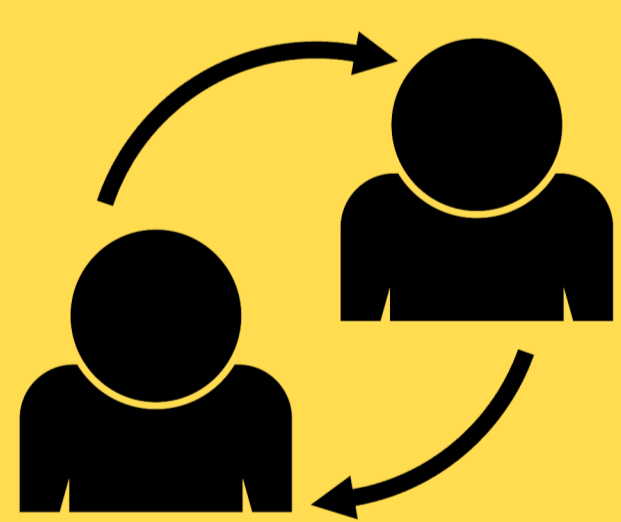


### WHAT IF WE DO NOT LOOK AT THE BRAODER SYSTEM?

Lead to maladaptation: gain short-term adaptive benefits, but potentially undermine long-term resilience because of the feedback effects across nested systems.

- Burden the most vulnerable
- High opportunity costs are relative to other alternatives
- Encourage unnecessary dependence on others
- Difficult to be changed in the future

#### BUEDEN THE MOST VULNERABLE



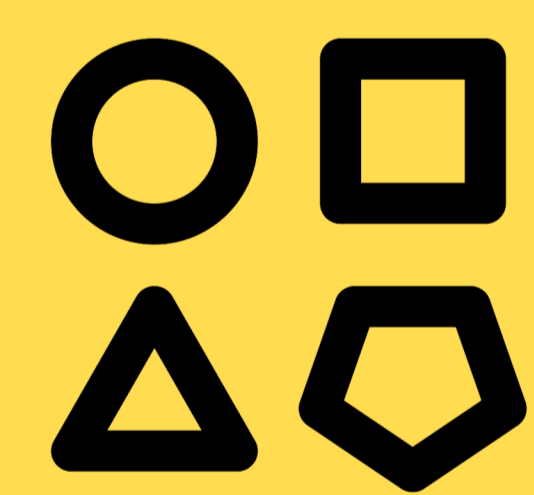
Existing industrial development focuses more on the export market. However, problems originating in local markets can eventually impact export markets.

#### DENPENDENCY ON SPECIFIC RESOURCE



The procurement, production, and distribution are market-driven rather than based on prediction.

#### THE DIVERSITY & REDUNDANCY OF ALERNATIVE



The sector focuses on building flexibility in face of disruptions. However, these options very similar.

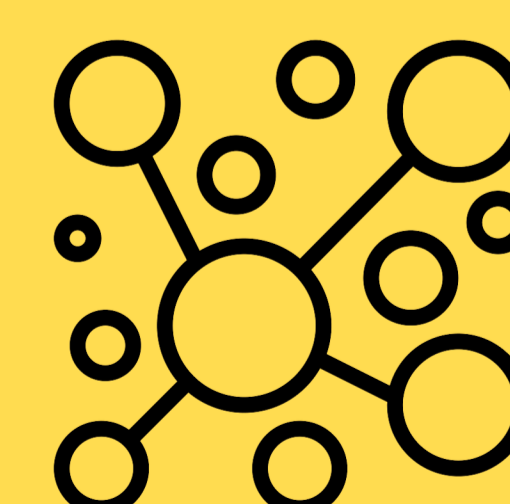


#### SUGGESTIONS



#### MONITOR INDICATORS

Monitor and understand the context locally and globally, including slow variables (ex: ESG indicators).



#### INDUSTRIAL CHAIN

Upgrade local market, develop processing industry, and local technology