

REVIEWER'S REPORT

Manuscript No.: IJAR- 58755

Title: **Food insecurity in global food supply chains.**

Recommendation:

Accept as it is

Accept after Major revision.....

Accept after major revision

Do not accept (*Reasons below*)

Rating	Excel.	Good	Fair	Poor
Originality		✓		
Techn. Quality		✓		
Clarity			✓	
Significance			✓	

Reviewer Name: **ANAPANA GOPAL**

Reviewer's Comment for Publication.

General Comments

The manuscript addresses an important and highly relevant topic: the vulnerability of global food-supply chains to geopolitical conflicts, climate change, logistics disruptions, sanctions and economic shocks. The manuscript appropriately emphasizes diversification, domestic production, strategic reserves, infrastructure and resilience as components of food security.

However, in its present form, the manuscript has substantial conceptual, methodological and structural weaknesses. The paper describes itself as employing modelling, scenario analysis, expert assessment and SWOT analysis, but the actual manuscript does not present a clearly defined model, scenarios, expert-selection procedure, SWOT matrix, quantitative results, or systematic empirical analysis.

The manuscript therefore currently reads more like a narrative policy commentary than a research article. Major revision is required.

Content and Originality

Strengths

1. The topic is timely and relevant to global food security.
2. The manuscript appropriately recognizes that food insecurity is influenced by interacting geopolitical, climatic, economic and logistical risks.
3. The discussion of diversification, domestic production, strategic reserves and supply-chain resilience is potentially useful.
4. The manuscript considers both production-side and distribution-side vulnerabilities.
5. The discussion of climate-related cascading effects across agricultural production, processing, transport and retail is relevant.

Concerns

The manuscript's **original contribution is not clearly established**. Many of the central arguments—geopolitical disruption, climate risk, logistics vulnerability, food-price volatility and diversification—are already well established in the food-security literature.

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The authors need to explicitly state:

- What is novel in this study?
- What new analytical framework is being proposed?
- What new empirical evidence is generated?
- What specific knowledge gap is addressed?

At present, the manuscript does not adequately demonstrate a new scientific contribution.

Technical Quality

1. The stated methodology is not actually implemented

The Methods section states that the study employs:

- modelling;
- scenario analysis;
- qualitative expert assessment;
- qualitative risk assessment;
- SWOT analysis.

However, the Results section does not present:

- a mathematical or conceptual model;
- defined scenarios;
- scenario assumptions;
- expert sample size;
- expert selection criteria;
- expert questionnaire/interview methodology;
- risk-ranking results;
- SWOT matrix;
- SWOT scoring;
- sensitivity analysis.

This is the **most important methodological weakness**.

The authors should either provide the actual methodology and corresponding results or revise the manuscript to clearly identify it as a conceptual/narrative policy analysis.

2. No research data are presented

The manuscript makes numerous claims regarding:

- food-price volatility;
- transport costs;
- import dependence;
- climate impacts;
- logistics disruptions;
- food-processing enterprises;
- distribution costs.

However, there are almost no original numerical datasets, statistical estimates, tables or analytical outputs.

For example, the manuscript states that approximately 75% of food-processing enterprises were affected by supply-chain disruptions during COVID-19.

The source and methodology behind this figure should be clearly explained, and the geographical scope should be specified.

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3. The geographical scope is unclear

The manuscript begins as a study of **global food-supply chains**, but the Results and particularly the Conclusion increasingly focus on:

- the European Union;
- Western Europe;
- Eastern Europe;
- post-socialist countries.

This creates a substantial mismatch between the title, introduction and conclusion.

The authors should decide whether the manuscript is about:

A. Global food-supply chains, or

B. European/Eastern European food-supply-chain resilience.

If the focus is global, the Conclusion should not disproportionately focus on the EU without explaining why.

If the focus is Europe, the title and research objectives should be revised accordingly.

4. The study lacks a clearly defined research question or hypotheses

The stated purpose is to substantiate strategies for reducing import dependence and increasing resilience.

However, the manuscript does not provide specific research questions or testable propositions.

The authors should formulate clear questions such as:

- Which factors contribute most strongly to food-supply vulnerability?
- How do geopolitical and climatic risks interact?
- Which resilience measures provide the greatest reduction in supply-chain risk?
- How does import dependence affect food-security resilience?

If the article is conceptual, the authors should explicitly state that it is a conceptual policy analysis rather than implying empirical hypothesis testing.

5. The SWOT analysis is not presented

The Methods section explicitly states that SWOT analysis is employed.

However, no SWOT matrix or corresponding results appear in the manuscript.

This should be corrected by providing a table containing:

Strengths Weaknesses

— —

Opportunities Threats

— —

More importantly, the authors should explain **how the SWOT factors were identified and evaluated**.

6. Scenario analysis is absent

The manuscript states that scenario analysis is used, but no scenarios are actually described.

At minimum, the authors should define scenarios such as:

- baseline/stable trade;
- geopolitical disruption;
- severe climate shock;
- combined geopolitical + climate shock.

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For each scenario, the authors should specify assumptions, expected supply-chain consequences and resilience measures.

7. Risk assessment lacks a transparent framework

The manuscript discusses many risks but does not quantify or systematically rank them.

A useful risk matrix could classify each risk according to:

- probability;
- severity;
- exposure;
- vulnerability;
- potential food-security impact;
- response capacity.

Without such a framework, it is difficult to determine which risks are actually the most important.

8. Causal relationships are sometimes presented too strongly

The manuscript frequently links geopolitical conflict, sanctions, logistics disruption, climate change and food insecurity. These relationships are plausible and supported broadly by the literature, but the present manuscript does not conduct an empirical causal analysis.

Therefore, expressions such as “causes,” “leads to” or “results in” should be used carefully unless directly supported by the cited evidence.

9. Climate-change section needs stronger quantitative evidence

The manuscript states that droughts and extreme weather events negatively affect agricultural production and supply-chain stability.

This is appropriate, but the analysis would be considerably stronger with:

- production-loss estimates;
- drought-frequency trends;
- climate projections;
- regional case studies;
- quantified effects on prices and trade.

The current treatment remains largely descriptive.

10. The discussion of sanctions needs greater balance

The manuscript emphasizes sanctions as a major contributor to food insecurity and argues that domestic production and reserves become particularly important under sanctions.

The analysis should distinguish between:

- sanctions directly affecting food;
- sanctions affecting agricultural inputs;
- trade restrictions;
- export bans;
- financial restrictions;
- transportation restrictions.

The manuscript should also avoid overly broad generalizations from individual geopolitical cases.

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Language and Presentation

11. The manuscript requires substantial English editing

There are numerous formatting and spacing problems throughout the manuscript, including:

- words joined together;
- inconsistent punctuation;
- inconsistent citation formatting;
- inconsistent capitalization;
- incomplete bibliographic entries.

Examples include entries such as “Food-supply,” “foodsecurity,” and several references where author names and titles are inconsistently formatted.

Professional language editing is recommended.

12. The Abstract needs restructuring

The Abstract provides a broad conceptual description but does not clearly state:

- the research question;
- study design;
- data/source;
- main findings;
- specific conclusions.

It should follow a structured logic:

Background → Objective → Methods → Results → Conclusion.

The current Abstract mainly presents the problem and rationale.

13. The manuscript contains claims that require stronger source attribution

For example, the manuscript states that the exceptionally low Danube River level in summer 2026 virtually interrupted river-based food-supply chains serving downstream countries.

This is a highly specific and time-sensitive claim and should be supported by a clearly identified authoritative source and quantitative evidence.

Similarly, the statement that extreme heat affected France and Italy in 2026 and reduced grain yields requires appropriate supporting evidence.

Structure and Organization

14. Results section is largely a narrative literature discussion

The Results section contains subsections such as:

- Food insecurity and geopolitical instability;
- Disruptions to logistics and food-price volatility;
- Sanctions and food-market resilience;
- Climate change;
- Economic shocks;
- Distribution costs.

These are thematic discussion headings rather than clearly presented research results.

The authors should restructure the paper so that the Results correspond directly to the methodology.

For example:

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1. **Risk identification**
2. **Risk classification**
3. **Scenario analysis**
4. **SWOT analysis**
5. **Resilience strategies**
6. **Policy implications**

15. The Conclusion does not correspond well to the preceding analysis

The Conclusion focuses heavily on differences between Western and Eastern European Member States and logistics infrastructure.

However, the earlier manuscript discusses global food supply chains and a much broader set of geopolitical and climatic issues.

The conclusion should directly answer the research objective stated in the Introduction.

16. Recommendations should be more specific

The manuscript recommends diversification, domestic production, infrastructure investment and supply-chain flexibility.

These recommendations are reasonable but broad.

The authors should distinguish between:

Short-term measures

- strategic reserves;
- emergency procurement;
- alternative transport routes.

Medium-term measures

- supplier diversification;
- storage infrastructure;
- domestic input production.

Long-term measures

- climate-resilient agriculture;
- logistics modernization;
- early-warning systems;
- diversification of production regions.

This would improve policy relevance.

References and Citations

17. Reference list requires substantial revision

The reference section contains several incomplete or inconsistently formatted entries.

The authors should ensure that each reference includes, where applicable:

- complete author list;
- publication year;
- article/book title;
- journal/publisher;
- volume;
- issue;
- page range;
- DOI or stable URL.

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18. More peer-reviewed sources are needed

Several sources are:

- news articles;
- institutional documents;
- websites;
- reports.

These can support contextual statements, but the scientific arguments should rely more heavily on **peer-reviewed literature and authoritative international datasets**.

The manuscript should particularly strengthen the evidence base for:

- food insecurity;
- geopolitical risk;
- climate impacts;
- supply-chain resilience;
- food-price transmission;
- logistics disruption.

19. Some references cited in the text are difficult to evaluate

For example, the manuscript cites "Commission, 2026," "Todorov, 2025," "Sidova, 2023," and other sources in a way that does not consistently provide enough bibliographic detail for immediate identification.

The citation style should be standardized throughout.

Overall Recommendation

The manuscript deals with an **important and policy-relevant subject**, and its broad framework linking geopolitical instability, climate change, logistics, economic shocks and food security has merit.

However, the current manuscript does not yet provide sufficient evidence to qualify as a rigorous research article. The largest weaknesses are the absence of actual modelling/scenario results despite claiming these methods, absence of the promised SWOT analysis, lack of quantitative risk assessment, unclear geographical scope, weak connection between methodology and Results, and insufficiently developed conclusions.

The authors should substantially redesign the analytical component rather than relying primarily on narrative discussion.

Final Decision: MAJOR REVISION

The manuscript may be reconsidered after the authors:

1. Clearly define the research question and geographical scope.
2. Provide the actual modelling/scenario-analysis methodology and results.
3. Present the promised SWOT analysis.
4. Introduce a transparent risk-assessment framework.
5. Add quantitative evidence wherever possible.
6. Align the Results and Conclusion with the stated objectives.
7. Strengthen the peer-reviewed evidence base.
8. Correct and standardize all references and citations.
9. Undertake comprehensive language and formatting revision.

Recommendation: Major Revision.