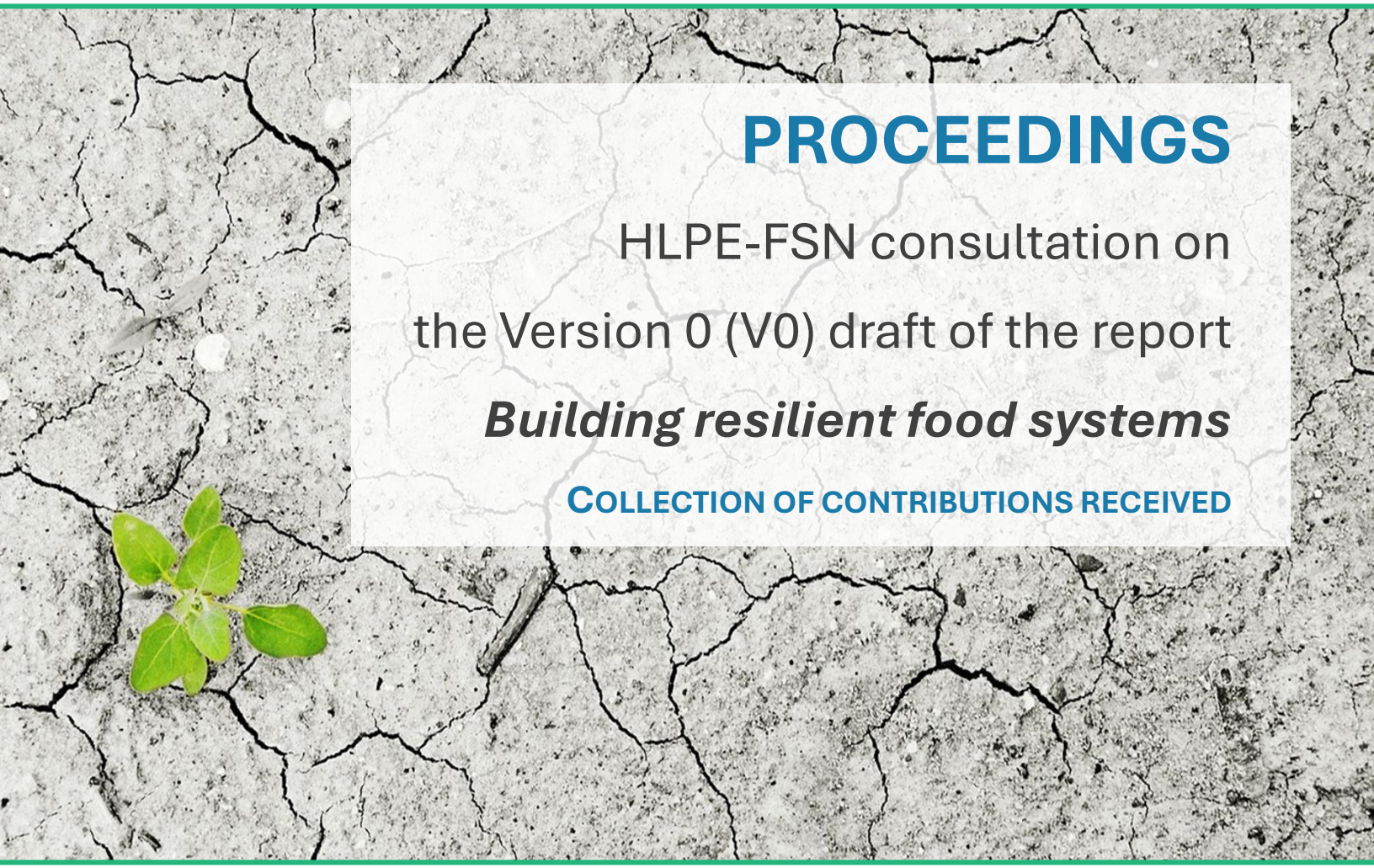
CFS COMMITTEE ON WORLD FOOD SECURITY

HLPE High Level Panel of Experts



PROCEEDINGS

HLPE-FSN consultation on the Version 0 (V0) draft of the report *Building resilient food systems*

COLLECTION OF CONTRIBUTIONS RECEIVED

12 March 2025

Background

During its 51st plenary session (23-27 October 2023), the UN Committee on World Food Security (CFS) adopted its four-year Programme of Work (MYPOW 2024-2027), which includes a request to its High Level Panel of Experts on Food Security and Nutrition (HLPE-FSN) to produce a report on "Building resilient food systems". The report will be presented at the 53rd plenary session of the CFS in October 2025.

As part of the report development process, the HLPE-FSN invites the public to provide inputs, suggestions, and comments through an e-consultation on version 0 (V0 draft) of the report.

Contributions

This online consultation was launched on 12 February 2025 and closed on 11 March 2025.

The HLPE-FSN Secretariat has received 62 insightful and sharp contributions from experts and practitioners of diverse public and private organizations working in different fields of expertise, academia, civil society, and other institutions from 29 countries, namely Antigua and Barbuda, Argentina, Australia, Austria, Bangladesh, Belgium, Brazil, Canada, Colombia, Ethiopia, Finland, France, Georgia, Germany, India, Indonesia, Ireland, Italy, Japan, Jordan, Kenya, Kingdom of the Netherlands, Norway, South Africa, Sri Lanka, Switzerland, Thailand, United Kingdom of Great Britain and Northern Ireland, United States of America, Zambia.

The results of this consultation will be used by the HLPE-FSN to elaborate further the report, which will then be submitted to peer review, before finalization and approval by the HLPE-FSN drafting team and the Steering Committee (more details on the different steps of the process, are available here). More information about the CFS request and the econsultation is available here.

Total Contributions: 62
Countries: 29
Contributions on behalf of a team/organization: 39
Most recurrent words:

Contents

Contributions are presented in chronological order, reflecting the sequence in which they were submitted.

Guiding questions

1. Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward, to equitably bouncing forward interventions?
2. Are the trends/variables/elements identified in the draft report the essential ones to understand and strengthen the resilience of food systems? Which other elements should be considered?
3. Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?
4. How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective in capturing the ability of food systems to withstand and adapt to shocks and stresses and bounce forward? How can equitably transformative resilience be evaluated?
5. Are there other references, publications, or other kinds of knowledges, which should be considered?
6. Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition. In particular examples of integrated participatory processes, actions and policies at multiple scales, such as household, ecosystem, community, regional, national, global and from countries and regions less represented in the current draft, including:
    - Six dimensions of food security: access, availability, utilization stability, sustainability, and agency.
    - Food systems: systems supporting food production (ecosystems, human, health, energy, economics); food supply chains (production, storage, processing, distribution, markets/ retail, promotion and advertising; food loss and waste); circular economies and flows of resources; private sector considerations, in particular, small and medium-sized enterprises; food environments: availability; access; affordability of healthy diets; policy; consumer behaviours and preferences.
    - Governance: smallholders, harvesters, food producers, fisherfolk rights; labour and workers' rights; natural resources, including land (access, tenure) and water; strategy and action; sustainable livelihoods; multi-scale government-led policy; funding; negotiations; action and advocacy; policy sequencing knowledge creation spaces that legitimize, value and empower experimental knowledge and the ways of knowing.
    - Rights policy frameworks that recognize interdependencies between human and nature's rights in food systems.
    - Social protection programmes.

- Grassroots social innovations (that can be supported by or enhanced by state-led resourcing).
- Women's empowerment.
- Scale-appropriate technology.
- Data: publicly available, innovative data (e.g. soil mapping; census data) for decision-making, indicators and metrics (qualitative and quantitative).
- Finance and fiscal space.
- Regionalized and localized trade, equitable global trade, and managing food price volatility.
- Supporting equitably transformative food systems resilience in the face of (protracted and emerging) conflict.
- Managing climate risks/shocks/stresses through early warning, early action systems, anticipatory actions, contingent financing, among others.

Contributions

Contributions are presented in chronological order, reflecting the sequence in which they were submitted.

1

Surname and first name	Rigterink Paul
Are you contributing in a personal capacity or on behalf of an organization or team?	Personal capacity
Current position	Retired - Prepare papers to help people get out of poverty
Current institution/ organization	retired
Country	United States of America
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	Many small farmers in the US were able to get out of poverty by following the advice of the US scientist Dr. Booker T Whatley. See https://www.motherearthnews.com/homesteading-and-livestock/small-farm-plan-zmaz82mjzkin/
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	Food security experts need to focus on the needs of subsistence farmers to make money. Otherwise they may be classified as or "ivory tower intellectuals". One should not ignore the small farmer's main problem of making more money if one wants his/her advice to be heard.
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	The FAO should determine if small farmers remain in poverty after they implement their project and if small farmers produce enough food to provide food subsistence for at least 10 other individuals
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	Here are three methods that small subsistence farmers can use to make more money and provide food security for their families and friends 1) Start Three Sisters Garden projects using the same procedures used by Native Americans in the USA as well as many American citizens. In the USA seeds for a Three Sisters Garden project cost $10 total. See https://www.countryfarm-lifestyles.com/three-sisters-garden.html#.YJnEgKEpDIU and

	https://www.renature.co/articles/companion-planting-is-key-to-food-security/ 2) Start Breadfruit projects using the same procedures that the Trees for Feed Organization uses in 18 countries. See https://treesthatfeed.org/ https://ntbg.org/breadfruit/ , https://www.youtube.com/watch?v=s5dal6J5yHQ&t=75s and https://ntbg.org/news/a-global-partnership-that-feeds/ 3) Start Fruit Tree Nursery projects using the same procedures and tree varieties as the CIFOR-ICRAF headquarters personnel use in Cameroon. See https://www.cifor-icraf.org/publications/downloads/Publications/PDFS/B14351.pdf and https://www.cifor-icraf.org/ In the US you can buy 500 ready-to-plant tree seeds on Ebay or Amazon for less than $10. Initially Small farmers initially may want to use ready-to-plant tree seeds for lemon, guava, papaya, lime, and passion fruit. Booker T Whatley references The Small Farm Plan - In this 1982 interview, horticulturist Booker T. Whatley describes his idea for a small farm plan that can net $100,000 a year. https://www.motherearthnews.com/homesteading-and-livestock/small-farm-plan-zmaz82mjzkin/ You Can Thank Black Horticulturist Booker T. Whatley for Your CSA Long written out of the narrative, the Tuskegee University professor first introduced the concept in the 1960s as a solution for struggling Black farmers https://www.smithsonianmag.com/innovation/you-can-thank-black-horticulturist-booker-t-whatley-your-csa-180977771/ Booker T. Whatley's Handbook on How to Make $100,000 Farming 25 Acres: With Special Plans for Prospering on 10 to 200 Acres https://www.amazon.com/Booker-Whatleys-Handbook-Farming-Acres/dp/0913107077 Small Farm Development: Understanding And Improving Farming Systems In The Humid Tropics 1st Edition by Richard R Harwood (Author) https://www.amazon.com/Small-Farm-Development-Understanding-Development-Oriented/dp/0891586997
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	See answer to Question 11. This is how black American subsistence farmers in the Southern USA got out of poverty Bill Gates and his advisors were correct about methods to reduce global poverty in 1990. At the time Mr. Gates was forming a new company called Teledesic that planned to offer broadband

	connectivity using a constellation of low-earth-orbit satellites. He wanted ideas that concurrently addressed “Global Issues”. These “Global Issues” are: • Health • Food • Water • Energy • Education • Environment Protection • Security • Population Shift • Governance • Crime Solving all Global Issues concurrently proved to be an overwhelming problem. The Gates Foundation decided to focus on the Global Issues of Health, Food, Energy, and Education when the Foundation was founded in 2000. In this way the Foundation would not be overcommitted financially. A problem with the Gates Foundation more focused approach is that a poverty program may fail due to a “Global Issue” not being addressed. In Uganda political violence and crime could ruin a well-constructed youth employment and poverty reduction project. The personnel at Ugandan Universities school need to ensure that all “Global Issues” are addressed even though their primary focus is on education and food. University personnel with help from government officials, technical personnel, and embassy personnel need to concentrate on methods for Ugandan farmers to earn a living with a focus on youth and women. University personnel must fully flush out the risks of “Global Issues” ruining their good intentions. The Harvard University “Case Method” has proven to be a structured method to study the consequences of their ideas.

2

Surname and first name	Gramaglia Ingaramo Guillermo Fernando
Are you contributing in a personal capacity or on behalf of an organization or team?	Personal capacity
Current position	CONSULTOR.ASESOR.AREA DESARROLLO CAPACIDADES: GENTE E INSTITUCIONES .COOP.Y ASIST.TECNICA.EDIUCACION, C& T. ODS.ONU.
Current institution/ organization	EX(INTA/ FA, SA/ FAO- BM,BID, ONU(FAO.PMA.ACNUR.PNUD). UE/ ITALIA.CIID- CIDA.Canada.IDA- BM- IICA/ CATIE, Univ.Nac.Cba.CLACSO-UNESCO.pNUD, FCA- INTA.UCMP)
Country	Antigua and Barbuda
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	A)ARGENTINA:1.CERTIFICACION COMPETENCIAS LABORALES SIST.AGROAL.TRANSICION AGROECOLOGIA:(JOVENES/ ONG, ADULTOS / HOSP.ITALIANO;COOP.PEQ.AGRIC:INTAA.EEA.AMBA). 2)SIST.AGROSILVOPASTORILES/ PEQ.PRODUCTORES.AREAS CONSERV..(SELVA MISIONERA.YUNGAS SALTA.SIST..PASTOR.PATAGONIA. B)SIST.AGRO.FOREST.FAO.HONDURAS. C)PLAN INTEGR.EDUC.AGRO FORET.HONDURAS.CSUCA.UNAH D).SIST.PEQ.PRODUCTORES CABRAS: CORDOBA. E).PEQUEÑOS PRODUCTORES.LEGUMBRES PARA IND CCONSERVAS: AGROIND." INCA".CIF/ BID. F) PRODUCCION PARA PEQ.PROD.DES.RUURAL INTEGRADO.HONDURAS.
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	1)JERARQUIZAR LA RELACION. DEL SISTEMA DE C & T CON SISTEMA ECUCATIVO.DES.CAPAC.GENTE ODS.2030 ONU. 2) INTEGRAR AREAS COONOCIMIENTO URBANO(CIUDADES) CON AREAS RURALES (AGRIC. ALIM..NUTRIC) 3) INTEGRAR AREAS DE SISTEMA DE LA ONU. ENTRE. SI CON SIST.FINANCIEROS MULTILATERALESS. 4) DEESSARROLLAR INICISTIVAS CONJUNTAS:
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	OBJETIVOS.INSTRUMENTOS.MEDIDAS DE POLITICAS ODS.EFECTO.IMPACTO.ESTRATEGIA PARTICIPACION. LOCAL.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	RECUPERAR APORTE CONF.MUNDIAL DESARROLLO RURAL INTEGRADO.FAO.ROMA.1979.PARTICIPARON.179 PAISES.ACOORDARON DIAGNOSTICO Y PLAN ACCION DRI.
Please provide additional examples that support equitably transformative	A)PLAN DE PAZ Y DESARROLLO PAISES AMERICA CENTRAL. CIAV/ ACNUR/ PNUD.GOB.ITALIA: 1990.ACUERDO PAZ ONU.HONDURAS.SALVADOR.NICARAGUA

resilient food systems for food security and nutrition.	B) PLAN SOCORRO Y RECUPERACION: HURACAN GEORGE.SISTEMA ONU: PMA.FAO.PNNUD.HABITAT.GOB.USA.REP.DOMINICANA.
Please insert below any additional comment.	1) SISTEMA SOCIAL DESIGUAL: "DEFORME" (SAMIR AMIN: AFRICA)(ARTIFICIALIZACION DEL. AMBIENTE): CEPAL: AL y C) DE PAISES DESARROLLO ES INVIABLE CORTO.MEDIANO Y LSRGO PLAZO. 2) SISTEMAS DE ACCESO AL CONOCIMIENTO(TODAS FORMAS Y NIVELES DEBEN REFORMARSE: CONTENIDOS.OBJETIVOS Y ESTRUCTURAS EDUC.C & T.PARA OBJETIVOS :DESARROLLO SOSTENIBLE.ODS 2030 SIST.ONU.SIST.ALIM.NUT.: FAO.PMA.FIDA. 3) LAS ÁREAS DE. ESTUDIO.INVESTIGACION Y DESARROLLO SE DEBEN INTEGRAR: CONTENIDOS.ESTRUCTURAS Y CONTENIDOS: EJ. COMENZANDO AMBITO. URBANO Y RURAL PARA OBJETIVO. DE:. SEGURIDAD ALIMENTARIA.NUTRICION.SALUD HUMANAS. MUCHAS GRACIAS POR LA ATENCION Y VALIOSO. APORTE DESARROLLO HUMANO QUE REALIZAN EL EL FORO Y EN EL CONSEJO SAYN.FAO.PMA.FIDA.

3

Surname and first name	Rahman S M Rajiur
Are you contributing in a personal capacity or on behalf of an organization or team?	Personal capacity
Current position	National Livestock and Nutrition Expert, IRGDS-WB Group
Current institution/ organization	Freelance Consultancy
Country	Bangladesh
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	Yes; In the context of Bangladesh, several examples across the food system illustrate the resilience spectrum as detailed in Chapter 3 of the HLPE-FSN report, from bouncing back to equitably bouncing forward interventions: 1. Bouncing Back: Post-Shock Recovery Example: Cyclone Amphan (2020) and Agricultural Recovery The coastal regions of Bangladesh frequently experience cyclones, which damage crops, fisheries, and livestock. After Cyclone Amphan (2020), the government, NGOs, and international agencies provided farmers with emergency seed distribution, cash assistance, and livestock vaccination programs to restore agricultural production. While this intervention helped farmers recover, it did not necessarily improve their long-term resilience to future climate shocks. 2. Bouncing Forward: Adaptive Strategies for Future Shocks Example: Floating Agriculture in Flood-Prone Areas Bangladesh has been promoting floating bed agriculture (locally known as Baira), where farmers grow vegetables and seedlings on water hyacinth-based floating platforms. This technique, primarily used in haor (wetland) areas, allows farmers to continue food production even during prolonged floods, reducing reliance on traditional land-based farming. This intervention represents a shift from mere recovery (bouncing back) to adaptive capacity building (bouncing forward). 3. Equitably Bouncing Forward: Transformative & Inclusive Change Example: Women's Empowerment in Dairy and Poultry Sectors Programs like PKSF's Livestock Development Project and USAID's Feed the Future programs have empowered rural women by providing training, microfinance, and market linkages for dairy and poultry farming.

	These initiatives not only improve food security and household incomes but also address gender disparities, enabling long-term resilience and social equity. This intervention ensures that resilience-building efforts are inclusive and equitable, contributing to systemic transformation. Conclusion: Bangladesh's food system resilience can be observed at multiple levels: Short-term recovery efforts (e.g., post-cyclone aid). Long-term adaptation strategies (e.g., climate-smart agriculture like floating farms). Transformative, inclusive interventions (e.g., women's economic empowerment in livestock farming).
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	To enhance the comprehensiveness and effectiveness of the HLPE-FSN report "Building Resilient Food Systems," the following additional trends, variables, and elements should be analyzed: 1. Climate Change Adaptation and Biodiversity Extreme Weather Patterns: Assess regional variations in climate impacts (e.g., droughts, floods) and their effects on crop yields. Biodiversity Integration: Explore agroecological practices that enhance biodiversity (e.g., polycultures, agroforestry) and their role in resilience. Carbon Footprint: Analyze the role of food systems in mitigating climate change through carbon sequestration and reduced emissions. 2. Economic Diversification and Localization Supply Chain Redundancy: Evaluate strategies for diversifying food sources, such as promoting local production and reducing dependency on global trade. Market Volatility: Investigate mechanisms to stabilize prices (e.g., grain reserves, futures contracts) and support smallholder farmers during shocks. Circular Economy Models: Study waste-to-resource innovations (e.g., food waste upcycling, regenerative agriculture). 3. Social Equity and Inclusion Gender Dynamics: Address disparities in resource access (land, credit, technology) for women and marginalized groups. Indigenous Knowledge: Incorporate traditional practices (e.g., seed-saving, water management) into modern resilience strategies. Urban-Rural Linkages: Examine urbanization's impact on food demand

	and the role of urban farming/peri-urban agriculture. 4. Technological and Data-Driven Solutions Digital Tools: Assess the role of AI, blockchain, and remote sensing in predicting disruptions and optimizing supply chains. Precision Agriculture: Evaluate technologies for resource efficiency (e.g., drip irrigation, soil health monitoring). Open Data Platforms: Advocate for transparent, real-time data sharing to improve crisis response. 5. Governance and Policy Innovation Multi-level governance: Analyze coordination between local, national, and international policies (e.g., subsidies, trade agreements). Conflict Sensitivity: Develop frameworks to protect food systems in regions affected by political instability or war (e.g., Ukraine grain crisis lessons). Corporate Accountability: Scrutinize the role of multinational corporations in shaping resilient/exploitative practices. 6. Resource Management and Sustainability Water Security: Address groundwater depletion and promote rainwater harvesting/desalination technologies. Soil Health: Highlight regenerative practices (e.g., cover cropping, reduced tillage) to combat degradation. Energy-Food Nexus: Explore renewable energy integration (e.g., solar-powered irrigation) to reduce fossil fuel dependence. 7. Demographic and Behavioral Shifts Aging Farmers: Propose incentives for youth engagement in agriculture (e.g., tech training, land access). Sustainable Diets: Promote shifts toward plant-based diets and reduce food waste through consumer education. 8. Financial Mechanisms and Risk Mitigation Climate Insurance: Evaluate scalable insurance models for smallholders facing climate risks. Green Financing: Mobilize investments for resilient infrastructure (e.g., cold storage, drought-resistant seeds).

	9. Psychosocial Factors Farmer Mental Health: Link stress and adaptive capacity, advocating for support systems to enhance decision-making during crises. 10. Interconnected Systems Thinking Cross-Sectoral Linkages: Map interdependencies between food, energy, water, and health systems to identify systemic risks. Recommendations for the Report: Case Studies: Include recent crises (e.g., COVID-19, Ukraine war) to derive actionable lessons. Participatory Approaches: Engage stakeholders (farmers, NGOs, private sector) in co-designing resilience strategies. Metrics for Resilience: Develop indicators to measure progress (e.g., diversity index, recovery time post-shock).
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	Evaluating Resilience and Building Resilience in Bangladesh's Food Systems Resilience in food systems refers to the ability of the system to absorb, adapt to, and recover from shocks and stresses while ensuring food security and nutrition. In the context of Bangladesh, resilience should be evaluated through a multi-dimensional approach that considers climate vulnerabilities, economic factors, social inequalities, and governance structures. 1. Key Evaluation Frameworks and Methodologies FAO's Resilience Index Measurement and Analysis (RIMA) Measures household and community resilience to food insecurity. Includes indicators such as income and food access, adaptive capacity, and social safety nets. Useful in Bangladesh for tracking climate-induced vulnerabilities in rural areas. 2. Sustainable Livelihoods Framework (SLF) Evaluate resilience by assessing natural, financial, social, human, and physical capital. Particularly relevant for smallholder farmers and livestock and fisheries in Bangladesh, where livelihood diversification is key. 3. Climate Resilience and Vulnerability Assessments Includes indicators such as exposure to climate risks, adaptation strategies, and institutional capacity. In Bangladesh, this is crucial for evaluating the resilience of flood- and cyclone-prone agricultural zones. 4. Food Security and Nutrition Monitoring Systems Uses dietary diversity scores, food consumption patterns, and malnutrition rates.

	Can be integrated with early warning systems to assess food system stress. Key Indicators for Resilience Measurement in Bangladesh Agricultural Productivity & Diversification: Crop yield stability, adoption of climate-smart practices, and availability of drought-/flood-resistant varieties. Market & Supply Chain Stability: Price volatility, transportation disruptions, and cold storage availability. Social Protection & Safety Nets: Effectiveness of programs like the Vulnerable Group Development (VGD) and food rationing for disaster-affected populations. Disaster Preparedness & Response: Effectiveness of early warning systems, flood embankments, and post-disaster recovery speed. Institutional & Policy Support: Implementation of Bangladesh's National Food and Nutrition Security Policy (NFNSP) and alignment with global frameworks. Evaluating Equitably Transformative Resilience Equitable resilience ensures that all population groups, especially marginalized communities (smallholder farmers, women, landless laborers, and indigenous groups), can benefit from resilience-building efforts. This can be evaluated by: Gender-disaggregated impact assessments to ensure policies support women's empowerment in agriculture. Inclusion of marginalized communities in climate adaptation funding and extension services. Access to land, credit, and technology for vulnerable populations. Impact of social safety nets on reducing food insecurity in disaster-prone areas.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	I have added some references that will be very helpful for the important report. 1. https://www.gainhealth.org/resources/reports-and-publications/comprehensive-data-dashboard-transform-bangladeshs-food-systems?utm_source=chatgpt.com 2. https://foresight4food.net/wp-content/uploads/2024/05/Bangladesh-May-2024_final_V2_cleanversion-002.pdf?utm_source=chatgpt.com 3.https://bangladesh.ifpri.info/2024/11/report-food-security-and-nutrition-in-bangladesh-evidence-based-strategies-for-advancement/?utm_source=chatgpt.com 4.https://arxiv.org/abs/2401.11410?utm_source=chatgpt.com 5. https://dailyasianage.com/news/328853/transforming-of-animal-origin-food-systems-in-bangladesh
Please provide additional examples that support equitably transformative	see the popular article below: Need here to separately for the livestock section, crop, fisheries, and other: For the livestock sector, you may consider this article link: which I have

resilient food systems for food security and nutrition.	written Link copied https://dailyasianage.com/news/328853/transforming-of-animal-origin-food-systems-in-bangladesh
Please insert below any additional comment.	This will nice and fruitful document, you may invite physically when you validate and finally present in any workshop. I am interested in attending such an event, Advice to arrange a few fellowships to attend some global field experts like me and others.

4

Surname and first name	Gonnella Marisa de Lujan
Are you contributing in a personal capacity or on behalf of an organization or team?	Personal capacity
Current position	Investigadora
Current institution/ organization	Universidad Nacional de Rosario
Country	Argentina
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	Las experiencias fueron enviadas y presentadas por la Dra Muñoz Griselda y hay otras experiencias que conozco pero no participo que se refieren a disminuir el uso de insumos
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	Las dimensiones sociales suelen ser referidas como es lógico a la posibilidad de acceso a alimentos y nutrición. De igual importancia es conocer a nivel de os pauses quienes, es decir que grupos sociales producen, que grupos sociales llegan a consumir alimentos y de que calidad y por supuesto la competencia por la tierra entre el destino para la producción de alimentos y la producción de biocombustibles. Y finalmente cuales son las políticas que se generan desde los Estados atendiendo a las condiciones de derechos para la alimentación.
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	Evaluarla resiliencia de los sistemas requiere un enfoque multidisciplinar que considere como mínimo Tipo de sistema de producción (ganadero, cerealero, lácteo, avícola, mixto, etc.) Destino de la producción entre consumo y mercado. Entre mercado local, regional y global. Proceso de las producciones en las granjas y fuera de ellas. Distancia de transporte Conservación

	Desperdicios y destino de reciclado delos mismos Dependencia de insumos (entendiendo por dependencia que de no tener insumo no se puede producir) Producción de semillas Redes en la comunidad entre establecimientos. Limitantes respecto a situaciones de crisis como necesidad de agua, transporte, mano de obra Organización social ante situaciones de crisis Ordenamiento de los territorios para prevenir las situaciones de cambio climático, degradación, gobernanza, etc. Nivel de organización social e inclusión con equidad de género en las dimensiones sociales, economicas y legales. Son algunos tópicos imprescindibles.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	Las experiencias de diferentes producciones pueden ser solicitadas a quienes han estudiado dichas experiencias y ya han hablado con la Dra Muñoz que presento en Roma y pueden buscar su texto o solicitarme otros en caso de que precisen ejemplos
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	Deben solicitarme con tiempo los ejemplos para enviar sies que los precisan. Hay redes de cooperativas que se articulan en diferentes niveles para posibilitar una mejor calidad ya sea en elaborados, en producciones artesanales y que se articulan en espacios comunes de comercialización. En general es más frecuente las experiencias de formas comunes de comercialización a diferencia de Brasil en que se habían realizado algunas experiencias por ejemplo de cocinas comunes para que puedan acceder a tecnología diferentes productoras para realizar elaborados, pero requiere acompañamiento
Please insert below any additional comment.	Puedo pasar las referencias en caso quieran preguntar a quienes realizan las experiencias La población pocas veces piensa o pregunta de dónde viene el té que toman, donde van los desechos de los mercados de frutas y verduras, es decir que pensamos como sistema agroalimentario, más allá de conocer la importancia de la producción de commodities

5

Surname and first name	Nadiradze Kakha
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	President
Current institution/ organization	Association for Farmers Rights Defense, AFRD, Georgia
Country	Georgia
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	Bouncing back, or absorptive resilience, refers to the ability of a food system to return to its previous state after a shock. A good example of this is the recovery efforts of small-scale farmers in the southeastern United States following hurricanes. These farmers often receive disaster relief funds to rebuild damaged infrastructure, replant crops, and restore supply chains, enabling them to continue operations without making significant changes to their production methods. Another example is the emergency financial aid provided to restaurants during the COVID-19 pandemic, which helped businesses maintain operations and retain staff, allowing them to resume normal activities once restrictions were lifted.
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	Equitably bouncing forward, or transformative resilience, goes beyond adaptation to create food systems that are not only more resilient but also more just and inclusive. One example is the Indigenous-led food sovereignty initiatives in Canada, where Indigenous communities are establishing food cooperatives and land stewardship programs to regain control over food production. These initiatives integrate traditional farming practices, enhance local food security, and support community resilience. Another example is the European Union's Farm-to-Fork Strategy, which is designed to transform food production by promoting regenerative agriculture, fair labor practices, and shorter food supply chains. This approach not only improves sustainability but also ensures that small-scale farmers and marginalized communities benefit from the changes.
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	Evaluating resilience in food systems requires a comprehensive approach that captures the ability to absorb shocks, adapt to changes, and undergo transformation. The most effective evaluation frameworks consider social, economic, environmental, and institutional dimensions to provide a holistic understanding of resilience. Key indicators for assessing resilience include food security and availability, which can be measured through tools like the Food Insecurity Experience Scale (FIES) and dietary diversity scores. Adaptive

	capacity is another crucial factor, assessed by looking at farmers' adoption of climate-smart agriculture, access to credit and insurance, and diversification of income sources. Infrastructure and market resilience can be evaluated by examining transportation networks, storage facilities, and the presence of digital marketplaces that enhance adaptability. Environmental sustainability indicators such as soil health, biodiversity conservation, water efficiency, and carbon sequestration provide insight into long-term ecosystem resilience. Social equity and inclusion must also be considered, with measures related to land tenure security, gender inclusion, fair wages, and participation in decision-making processes. Policy and governance strength is equally important, assessed by looking at institutional capacity, emergency response effectiveness, and the integration of resilience-building strategies into national policies.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	Several frameworks are widely recognized for evaluating resilience in food systems. FAO's Resilience Index Measurement and Analysis (RIMA) focuses on food security by analyzing access to assets, adaptive capacity, and social safety nets. The Rockefeller Foundation's Food System Resilience Framework emphasizes the ability of food systems to withstand shocks, ensure equitable access, and promote environmental sustainability. The Sustainable Livelihoods Framework (SLF) assesses resilience through human, social, natural, physical, and financial capital. The Resilience Alliance's Adaptive Cycle Framework looks at the phases of system resilience—growth, conservation, release, and reorganization—to determine transformation potential. To measure equitably transformative resilience, assessments must go beyond adaptation and consider the extent to which food systems are becoming more just, inclusive, and sustainable. Participatory methods that engage marginalized communities through focus groups, storytelling, and participatory mapping ensure that their perspectives are included. Intersectional analysis helps to identify whether resilience-building efforts are benefiting vulnerable groups by examining impacts across gender, ethnicity, and socioeconomic status. Structural change indicators, such as shifts in power dynamics, policy reforms, and resource redistribution (like land rights for smallholder farmers), provide insight into whether systemic transformation is occurring. Longitudinal studies tracking food system changes over time are essential for assessing whether resilience interventions are leading to lasting transformation rather than temporary fixes.
Please insert below any additional comment.	Equitably transformative resilient food systems address food security and nutrition by integrating participatory processes, policies, and actions at multiple scales, ensuring access, availability, utilization, stability, sustainability, and agency. These approaches recognize the interconnectedness of food production, supply chains, circular economies, governance, and rights-based policy frameworks while

	considering regionalized and localized trade, social protections, and climate risk management. At the household and community levels, the Peruvian Andes provide an example of how indigenous-led agroecology enhances food security and nutrition. Communities integrate traditional knowledge with participatory plant breeding to cultivate climate-resilient crops such as quinoa and native potatoes. These efforts strengthen food availability and stability while reinforcing sustainability and agency. Similarly, in Bangladesh, homestead food production programs empower women by providing training and resources for backyard gardening and small livestock rearing, improving household nutrition and creating alternative income streams. At the ecosystem level, Kenya's Farmer-Managed Natural Regeneration (FMNR) initiatives restore degraded lands while ensuring food security. By regrowing indigenous trees and improving soil fertility through low-cost regenerative practices, smallholders enhance agricultural productivity, reduce reliance on chemical inputs, and secure long-term food system stability. In the Philippines, community-led marine protected areas (MPAs) enable small-scale fishers to participate in decision-making, ensuring sustainable fish stocks and supporting livelihoods. Regionally, Brazil's Zero Hunger Program illustrates how multi-scale government-led policy fosters equitable food security. It integrates social protection programs such as Bolsa Família (conditional cash transfers), support for smallholder farmers through public procurement, and regulatory policies ensuring the availability of nutritious foods in markets. In Rwanda, the Crop Intensification Program (CIP) combines land tenure security with farmer cooperatives, market access, and participatory agricultural extension services to enhance food security and resilience. Governance plays a crucial role in securing food producers' rights and strengthening sustainable livelihoods. Senegal's Fishing Agreements with the European Union have incorporated small-scale fisherfolk representation, ensuring equitable resource management and prioritizing local food security over foreign market exports. In Ethiopia, the Productive Safety Net Programme (PSNP) provides food or cash transfers to vulnerable households, reducing seasonal food insecurity while building resilience through public works projects that improve land and water management. Rights-based policy frameworks recognize the interdependence of human and environmental rights in food systems. In India's Forest Rights Act, indigenous and forest-dependent communities gain legal

	access to traditional lands, enabling them to continue sustainable food production while preserving biodiversity. New Zealand's recognition of the Whanganui River as a legal entity exemplifies policies that integrate human and nature's rights in food governance. Grassroots social innovations also play a key role in transformative food system resilience. In Guatemala, the Peasant-to-Peasant Agroecology Movement (Campesino a Campesino) supports knowledge-sharing networks that prioritize local food sovereignty, biodiversity conservation, and sustainable production. In South Africa, urban farming cooperatives in townships use hydroponics and vertical farming to address food deserts, enhancing availability and access to healthy diets. Women's empowerment is central to food security resilience. The Self-Employed Women's Association (SEWA) in India provides financial services, training, and market access for women farmers and vendors.

6

Surname and first name	Meera Raghavendra
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Founder Secretary & Director NGO
Current institution/ organization	WINS (Women's Initiatives), India
Country	India
Please insert below any additional comment.	Most men and boys have migrated or taken up off-land jobs like autorickshaw driving or gig work. They have decided that their women can make enough money from their land to fend for themselves and their families, fighting against the odds. The landed caste (so-called Forward caste) complains that laborers are complacent as they benefit from SOPs or freebies. They grow less irksome crops, like groundnuts and rice, but they are not making any profits. When asked why they do not want to shift to millets, they are unsure of the support from laborers. Though they understand that agroecology is the way to sustain the planet, they expect that systemic change can happen on its own. Farming is not giving them a steady income, unless investments are made, the agricultural sector as well as farming will become redundant. Promoting smallholder women farmers are the worst affected, as they "care" more for the planet, and people (sorry if this has been covered already).

7

Surname and first name	Van Mele Paul
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	International Director
Current institution/ organization	Access Agriculture, Belgium
Country	Belgium
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	In Box on page 51 (The globalization of quinoa), you can make a reference to a learning video that shows how local communities work together with researchers to curb the negative effect of the quinoa boom: Living windbreaks to protect the soil: https://www.accessagriculture.org/living-windbreaks-protect-soil In Box on p57 Interdependencies: food security and biodiversity conservation, you can include reference to an inspiring video Flowering plants attract the insects that help us: https://www.accessagriculture.org/flowering-plants-attract-insects-help-us?cat_id=145 page 85, box Focus on food utilization and marginalized populations in Bangladesh, you can include a reference to a related learning video: Floating vegetable gardens: https://www.accessagriculture.org/floating-vegetable-gardens
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	p 37 at bottom of section 2.4.3 Loss of food systems knowledge, please add sentence and reference: Across Africa, Access Agriculture is strengthening education systems with smart projectors that contain its entire library of learning videos in local languages to strengthen food literacy and food practices. To further strengthen the resilience of local food systems, Access Agriculture often combines this digital learning with hands-on learning through ecological school gardens, which it does in collaboration with Slow Food (Van Mele et al., 2024). Van Mele, P., Mohapatra, S., Tabet, L. and Flao, B. 2024. Young changemakers: Scaling agroecology using video in Africa and India. Access Agriculture, Brussels, 175 pp.
Please provide additional examples that support	the below could be added under 4.2.2 Production support systems. I would be happy to elaborate below for a text box with references of

equitably transformative resilient food systems for food security and nutrition.	multiple dimensions of impact on resilience. To scale agroecological practices, the international non-profit association Access Agriculture has enabled South-South learning since 2012. The Access Agriculture video platform hosts over 5,500 learning videos, covering more than 110 (mainly local) languages. All videos promote agroecological principles. The videos have been used by over 5,000 development organisations, grassroots organisations, education institutes, government agencies, as well as radio and TV stations and have reached millions of people across the Global South (Bentley et al., 2022). In a global review by the CGIAR, Access Agriculture was identified as the only tool fully supporting agroecological transitions (Burns et al., 2022) Bentley, J., Van Mele, P., Chadare, F. and Chander, M. 2022. Videos on agroecology for a global audience of farmers: An online survey of Access Agriculture. International Journal of Agricultural Sustainability 20(6): 1100-1116. Burns, S., Dittmer K.M., Shelton S.W., Wollenberg E. 2022. Global digital tool review for agroecological transitions. Agroecological TRANSITIONS: Inclusive Digital Tools to Enable Climate-informed Agroecological Transitions (ATDT). Cali, Colombia: Alliance of Bioversity & CIAT.

8

Surname and first name	Prathumthong Saowalak
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	NIA
Current institution/ organization	FTFA, Thailand
Country	Thailand
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	A holistic view covers activities involved in fisheries. aquaculture and planting mangrove forests as well Sustainable practices that include agroecology are essential to increasing productivity and reduce environmental impact.

9

Surname and first name	McCune Nils
Are you contributing in a personal capacity or on behalf of an organization or team?	Personal capacity
Current position	Post-doctoral associate
Current institution/ organization	Institute for Agroecology, University of Vermont
Country	United States of America
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	Yes, and please forgive the length of the following response. Although more than 50 countries are targeted by unilateral economic sanctions, this kind of shock has been left outside the report. The discussion of war and conflict is absent any connection with coercive measures that lead or force less powerful countries to take on public policy to support Industrial Food Systems and end or reverse redistributive land reform processes. Speaking of this kind of pressure, it is highly surprising that the report has no mentions of Cuba! If there is any country in the world that highlights climate vulnerability, agroecological transformation, and a resilience approach that centers human well-being through pro-farmer policies, it is Cuba. The history of efforts across Asia, Africa and Latin America to more equitably distribute land has been left out entirely. Countries that have democratized land access through retributive agrarian reform are in better conditions to combine commodified with decommodified FSC, generate endogenous investment cycles and quickly recover from shocks. Additionally, the social and organizational sides of resilience could be analyzed more systematically. One thing is to analyze vulnerable social sectors as beneficiaries of better policies, and another thing is to analyze their organizations as already having proposals that are contextualized to national realities and would bring equity and resilience into food systems. Brazilian social movements are mentioned in helpful ways, but more generally, rural social movements are not mentioned in connection with their primary demand: land as the basic resource to nourish populations. Additionally, their primary framework, food sovereignty, hasn't been considered at the analytical level or as part of the theory of change of the report (food sovereignty is mentioned briefly on page 65). What countries have implemented which parts of the food sovereignty framework, how have these countries been able to respond to shocks and stressors, and what are

	the lessons? Sovereignty is a powerful concept here, precisely because it touches on one of the core themes of the report: the correlation of internal and external factors within recovery from disturbances. Clearly, when the storm hits, there is a difference between places where land is largely held by small farmers who already have soft credit from the state to guarantee adequate supplies of staple crops from those places where small farmers have been pushed off the land or forced to enlarge and narrow their production to cash crops for export and important decisions happen off-site. Indeed, this is one of the major differences notable in post-recovery scenarios in say, the Caribbean between "post-agriculture" Puerto Rico and "agroecological revolution" Cuba and became highly visible after hurricanes Irma and Maria in 2017. In general, the world system perspective would be helpful, due to the tendencies of center economies to export their problems to the periphery. Additionally, the concept of social protection (page 49) could be usefully elaborated within the (missing) section on food sovereignty. (For example, public healthcare systems that use tax funds to prevent and treat illness in food producers, processers, and distributers is a core variable of "bouncing forward.") In general, a reader wonders if we are seeing a step backwards, as the discussion throughout the report about food security fails to connect it with where food comes from or how it is grown. Food security is an outcome of food sovereignty: food self-sufficiency is a central variable. UNDROP is mentioned, but its implementation by nations isn't explored as a way forward to equitable resilience. How would the implementation of UNDROP guide equitably transformative resilience? UNDROP is an extremely relevant tool for building national, regional, and local public policies that provide for food system resilience based on human and social rights.
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	One highly relevant negative indicator is resource grabbing. Post-disaster resource grabbing has been widely demonstrated in every continent. Looking for where this didn't happen, and what governance factors prevent it, would be a real contribution. Another important factor is the market share of food sales and/or consumption controlled by the social economy compared to the part controlled by large corporations. In one country after another, supermarket shelves go bare after disasters or during periods of political or civil conflict, whereas territorial markets stay open. The "classic" distribution of 1/4 to 1/3 of land in the hands of smallholder farmers who then produce 2/3 to 3/4 of food-- true in many if not most countries-- is left out from the report.

	Finally, the report doesn't delve very deeply into how smallholder economies work to produce resilience. It would be interesting to include more about the peasant economy's capacity to shift between monetary and non-monetary values in order to optimize its relationship with the market economy that surrounds it.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	Holt-Giménez, E. (2002). Measuring farmers' agroecological resistance after Hurricane Mitch in Nicaragua: a case study in participatory, sustainable land management impact monitoring. Agriculture, Ecosystems & Environment, 93(1-3), 87-105. Steckley, M., & Weis, T. (2016). Peasant balances, neoliberalism, and the stunted growth of non-traditional agro-exports in Haiti. Canadian Journal of Latin American and Caribbean Studies/Revue canadienne des études latino-américaines et caraïbes, 41(1), 1-22. McCune, N., Perfecto, I., Avilés-Vázquez, K., Vázquez-Negrón, J., & Vandermeer, J. (2019). Peasant balances and agroecological scaling in Puerto Rican coffee farming. Agroecology and Sustainable Food Systems, 43(7-8), 810-826. McCune, N. M., Guevara-Hernández, F., Nahed-Toral, J., Mendoza-Nazar, P., Ovando-Cruz, J., Ruiz-Sesma, B., & Medina-Sanson, L. (2012). Social-ecological resilience and maize farming in Chiapas, Mexico. In Sustainable Development-Authoritative and Leading Edge Content for Environmental Management. IntechOpen. Nelson, E., Scott, S., Cukier, J., & Galán, Á. L. (2009). Institutionalizing agroecology: successes and challenges in Cuba. Agriculture and Human Values, 26, 233-243. Akram-Lodhi, A. H. (2012). Contextualising land grabbing: contemporary land deals, the global subsistence crisis and the world food system. Canadian Journal of Development Studies/Revue canadienne d'études du développement, 33(2), 119-142. Clapp, J. (2014). Food security and food sovereignty: Getting past the binary. Dialogues in Human Geography, 4(2), 206-211. Harahap, H. (2022). A BRIEF HISTORY OF UNDROP AND CHALLENGES TO ITS IMPLEMENTATION IN INDONESIA. Journal of Peasants' Rights, 1(1), 1-6.
Please provide additional examples that support equitably transformative resilient food systems for	The language of the 2024 Agroecological Public Policy in Colombia is very helpful. The language on food and nutritional sovereignty and security in the laws and constitutions of several Latin American countries is also very helpful. Examples of all types of cooperatives in

food security and nutrition.	Central America, South America, and the Caribbean could help ground the report in existing economic models.
Please insert below any additional comment.	One final element that could be useful to include-- across the world, hundreds of thousands of people are imprisoned for challenging unjust and harmful food systems, and/or defending the rights of peasants and indigenous people. Calling for amnesty and release from prison for these land and human rights defenders in a report of this level could be a meaningful example of "equitably bouncing forward." In general, recognizing the criminalization of social protest as an impediment to equitable and resilience food systems is an objective need at this time. Thanks for this incredible feat! The draft looks great and will only strengthen through public commentary!!

10

Surname and first name	Rival Laura
Are you contributing in a personal capacity or on behalf of an organization or team?	Personal capacity
Current position	Professor of Anthropology
Current institution/ organization	University of Oxford
Country	United Kingdom of Great Britain and Northern Ireland
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	I wish I had! But the empirical studies we have with my students tend to embrace the full agrifood system, which is a more challenging thing perhaps. Like always, the largest tension is between ecological and economic resilience. The size and shape of markets should remain a focus of attention, linked with issues of governmental intervention as subsidies, regulation, purchasing, etc. Fabio Castro and Eduardo Brondizio et al's work int he Amazon estuary (Marajo and around) shows the promise of transformative resilience in the development of agroforestry systems. This requires fine tuning of many factors. They have a research programme on this currently called LINKAGES. You cite the Sahel as a case study p. 58. We have a case study further south, so not in the Sahel properly, in northern Ghana, which shows that quality of implementation is of the essence. If water retention and other types of infrastructures are installed, they must be absolutely well built to be functional. Otherwise, it creates more frustration than not having them at all.

Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	If you include Indigenous food sovereignty, you will include richer dimensions about knowledge, memory, will to continue with improved ancestral systems, and so forth. In this light, there's a need to thinking deeper about human mobility beyond the issue of pastoralism. In Latin America, accelerated cyclical mobility between Indigenous and rural areas, and urban centres, can have positive and/ or negative effects.
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	Brondizio's work is very relevant here. I can give you some references. See also Bill Moseley's decolonizing African agriculture Brondizio, Eduardo S. et al 2021. Making place-based sustainability initiatives visible in the Brazilian Amazon. Current Opinion in Environmental Sustainability 49: 66-78. Moseley, William G. 2024. Decolonizing African agriculture. Food security, agroecology, and the need for radical transformation. Newcastle upon Tyne: Agenda Publishing ltd.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	There is a lot of work at the moment on ontological approaches to agricultural knowledge. The work of Angus Fraser is useful. Fraser, James Angus, Thiago Cardoso, et al 2018. Amazon peasant livelihood differentiation as mutuality-market dialectics. Journal of Peasant Studies 45(7): 1382-1409. (he has others more on Africa). see also Carney, Judith and Richard N. Rosomoff 2024. Covert cultivars and clandestine communities: rice and the making of an Afrodescendant peasantry in Maranhão, Brazil. Journal of Peasant Studies 51(7): 1626-1648.
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	I am working on regionalised trade in vegetables in Central America (Guatemala and El Salvador in particular), but do not have all the data at hand yet.
Please insert below any additional comment.	As I said earlier, the challenge is to build political alliances that enable a small/ medium size thriving farming sector to emerge. Moseley is very clear in his explanations and insights. We need more research to show that farming is a key sector of any economy, regardless of the push to industrialise. Cheap energy is a key issue. If we transition to solar energy, it should be much cheaper for the farming sector. However, big corporations will ensure they create markets which will not lower the costs for small and medium farms.

11

Surname and first name	Schneider Sergio
Are you contributing in a personal capacity or on behalf of an organization or team?	Personal capacity
Current position	Professor of Food Studies and Sociology of development, UFRGS, Brazil
Current institution/ organization	UFRGS
Country	Brazil
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	no. The exemple from Brazil, Curitiba and Sao Paulo, are OK, but so far, Van der Ploeg and the other authors are not quoted in the references.
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	Yes, In fact, the report says very few about the supply side of food, especially the role of family farmers. It is not the same when food comes from Agribusiness, highly commodified or it come from family farmers. This subject is already well known and far well discussed in the literature of rural sociology and development studies. I suggest to review this references and benefict from them. But, definitely, the big, big absence in the report is POWER. Where are the power relations, unequal exploratory relations among the actors that play inside the food systems? The report adopts a quite homogenous understanding of the food system, almost taking for grant that the may differences are just among South X North. This is very poor and should be improved. Another point of my main criticism goes to the quite naive understanding about markets. The item 2.4.5 Market failures and volatility is quite naive about markets. It is definitely not a problem of markets failures what explains the problems of the bad functioning of the markets structure of the food system. The key problem is the uneven power relations among actors and players that shape the food system, and this was not touched at all.. The definition: Market failure occurs when the market fails to allocate resources efficiently, leading to negative economic consequences for producers, consumers, and the overall system....it´s a neoclassic piece that clearly differs from the approach and references of the report as a whole. In my opinion, the

	section should be removed, erased form the report. It´s useless for any relevant understanding about food markets and food systems in a market society. I suggest you to consult Mariana Mazzucato & Josh Ryan-Collins (2022): Putting value creation back into "public value": from market-fixing to market-shaping, Journal of Economic Policy Reform, DOI: 10.1080/17487870.2022.2053537
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	Yes, there are, about family farming, about markets, etc, etc

12

Surname and first name	Malerbi Giulia
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Head Of Global Policy
Current institution/ organization	Aquatic Life Institute, France
Country	France
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	Aquatic food systems present a unique but often overlooked case in the resilience spectrum. For example, in response to climate-driven marine heatwaves and shifting oceanic conditions, some small-scale fisheries and aquaculture operations have adopted adaptive management practices that integrate species diversification and habitat restoration. In contrast, industrial aquaculture systems tend to rely on intensive, high-input production models that may exacerbate environmental degradation and reduce resilience over time. A positive example of bouncing forward includes the development of integrated multi-trophic aquaculture (IMTA) systems, which reduce environmental impact by mimicking natural ecosystems. However, these systems must be designed with species-specific welfare in mind to ensure true sustainability. Equitably bouncing forward interventions should prioritize the needs of small-scale fisherfolk, Indigenous coastal communities, and local governance structures, ensuring that resilience strategies do not reinforce inequities in food systems. ALI advocates for policy measures that incorporate aquatic animal welfare within food system resilience frameworks, recognizing the

	interdependence between ecological sustainability and ethical production.
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	The report would benefit from deeper analysis of aquatic food systems, particularly: - Welfare and sustainability challenges in aquaculture, including species-specific needs, mortality rates, and the impacts of intensive farming methods. - Climate risks to wild-capture fisheries, including habitat destruction, acidification, and biodiversity loss. Methane emissions from aquaculture, an often-overlooked but significant contributor to food system emissions. - Over-reliance on wild fish for feed in aquaculture, which undermines resilience by increasing pressure on marine ecosystems. - The role of aquatic plants and invertebrates in providing low-impact, sustainable food sources while supporting biodiversity. Given the increasing reliance on aquatic foods to meet global protein demands, their inclusion in resilience discussions is critical.
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	Resilience in food systems should be evaluated through a multispecies, ecosystem-based lens that considers: - Ecological indicators, such as biodiversity levels, habitat integrity, and ecosystem functioning. - Species-specific welfare metrics, assessing stress levels, mortality rates, and behavioral indicators of well-being in farmed aquatic animals. - Economic and social resilience measures, ensuring equitable access to resources for small-scale and marginalized food producers. - Emissions accounting frameworks, including methane emissions from aquaculture. - Dependency on external inputs, such as fishmeal and antibiotics, which may indicate vulnerabilities in production models. Equitably transformative resilience should be assessed by measuring the distribution of benefits across food system actors, ensuring that solutions do not disproportionately favor industrial models at the expense of small-scale, environmentally sustainable alternatives.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	The report should incorporate key resources from Aquatic Life Institute (ALI) that provide evidence-based insights on how aquatic animal welfare is integral to food system resilience and sustainable development: The Benefits of Aquatic Animal Welfare for Sustainable Development Goals This resource highlights how improving aquatic animal welfare aligns with the UN Sustainable Development Goals (SDGs), demonstrating its relevance to food security, climate resilience, and economic

	sustainability. It underscores how welfare-centered policies contribute to biodiversity conservation, responsible consumption, and sustainable production models within aquatic food systems. Available at: https://www.ali.fish/policy-resources/benefits-of-aquatic-animal-welfare-for-sustainable-development-goals Welfare Guide Library ALI's Welfare Guide Library serves as a comprehensive repository of species-specific guidance on aquatic animal welfare best practices. It provides science-based welfare recommendations for farmed aquatic species, focusing on areas such as humane stunning and slaughter, water quality, stocking density, environmental enrichment, and species-appropriate handling. These guides are essential for integrating welfare into aquaculture resilience strategies. Available at: https://www.ali.fish/welfare-guide-library Capture Fisheries Resource Library This library compiles best practices and policy recommendations for improving welfare in wild-capture fisheries, emphasizing how ethical and sustainable fishing practices contribute to food system resilience. It includes guidance on reducing bycatch, minimizing stress during capture and handling, and implementing humane slaughter practices to ensure that fisheries management aligns with both ecological sustainability and welfare principles. Available at: https://www.ali.fish/capture-fisheries-resource-library By integrating these resources, the HLPE-FSN report can ensure that food system resilience strategies reflect the critical role of aquatic animal welfare in achieving sustainable, equitable, and climate-resilient food production.
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	One key approach to equitable resilience in food systems is shifting incentives away from extractive, intensive aquaculture models toward low-impact, welfare-conscious alternatives. Examples include: - Regenerative seaweed farming as a climate-resilient, low-input food source that provides habitat restoration benefits. - Fishing cooperatives with community-led governance, which ensure equitable distribution of resources and prioritize sustainability over short-term profit. - Moratoriums on high-risk aquaculture expansion, such as prohibitions on octopus farming, which mitigate ecological and ethical concerns while preventing unsustainable industry growth. - Policies that integrate aquatic animal welfare into food system resilience frameworks, ensuring that resilience strategies do not ignore sentience and welfare needs. These solutions should be embedded within regionalized trade policies,

	climate adaptation plans, and social protection programs that prioritize the rights of smallholders, Indigenous communities, and marginalized producers.
Please insert below any additional comment.	Resilient food systems must not only withstand shocks but also transition toward more just, sustainable, and welfare-conscious production models. The inclusion of aquatic food systems in resilience policies is critical, given their growing role in global nutrition and the significant environmental and ethical challenges associated with aquaculture and fisheries. ALI encourages the HLPE-FSN report to explicitly incorporate aquatic animal welfare considerations in food system resilience discussions and policy recommendations.

13

Surname and first name	Albergel Jean
Are you contributing in a personal capacity or on behalf of an organization or team?	Personal capacity
Current position	Secrétaire Exécutif de la CRAI
Current institution/ organization	MESR
Country	France
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	1. Bouncing Back: Absorbing Shocks and Returning to the Previous State exemple: Post-Hurricane Recovery in Puerto Rico. After Hurricane Maria (2017), Puerto Rican farmers faced massive crop losses. In response: - The government and NGOs distributed emergency seed kits and offered financial aid to replant crops. - Farmers were encouraged to repair infrastructure and restore irrigation systems. - While the aid helped farmers resume production, the food system largely returned to its pre-hurricane state without addressing deeper vulnerabilities like import dependence. 2. Bouncing Forward: Transforming the System for Greater Resilience exemple : Rwanda's Crop Diversification Strategy: - After experiencing severe droughts in the early 2000s, Rwanda moved away from monoculture farming. - The government promoted agroforestry, mixed cropping, and improved irrigation to reduce reliance on rain-fed agriculture. - Farmers now cultivate diverse, climate-resilient crops like cassava, beans, and bananas, making food production less vulnerable to droughts and pests.

	3. Equitably Bouncing Forward: Transforming Food Systems to Address Inequality and Justice exemple: Zimbabwe's Agroecology and Women's Empowerment Movement. In rural Zimbabwe, women farmers have led agroecological initiatives that: -Reduce reliance on expensive seeds by saving and sharing traditional seeds. - Improve soil fertility through composting and intercropping. - Strengthen community decision-making power by challenging gender inequities in land access. This program not only improves climate resilience but also shifts power dynamics, giving marginalized farmers control over their food systems.
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	The HLPE draft report provides a comprehensive analysis of food system resilience, but several critical elements remain underexplored: 1- Informal Food Systems: Street vendors, local markets, and small-scale traders are vital for food security, particularly in Global South urban areas, yet remain overlooked in policy frameworks. Strengthening these networks enhances adaptability. 2 - Psychological & Social Resilience: Mental health challenges among farmers facing climate and economic stress impact resilience. Additionally, social cohesion and knowledge-sharing improve crisis responses. 3 - Water Governance & Conflicts: Transboundary water disputes (e.g., Nile, Indus rivers) and groundwater depletion threaten agricultural sustainability. Policies should integrate water security into food system planning. 4- Land Concentration & Corporate Ownership: Land grabbing by multinational corporations displaces smallholder farmers and reduces local food sovereignty. Secure land rights are key to resilience. 5 - Financial Speculation & Food Price Volatility: Commodity speculation, debt cycles, and fertilizer price shocks destabilize food systems. Regulating financial markets is essential for price stability. 6 - Alternative Food Networks & Local Supply Chains: Decentralized food hubs, agroecology, and short supply chains reduce dependency on global trade and increase local adaptive capacity.
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or	Evaluating food system resilience requires multidimensional indicators and frameworks that assess adaptive capacity, social equity, and ecological sustainability. The most effective methodologies combine quantitative metrics, participatory assessments, and systems-based modeling. Equitably transformative resilience should be evaluated using power-sensitive indicators, ensuring that interventions redistribute

methodologies do you consider most effective?	resources, empower marginalized groups, and promote systemic change.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	IPCC Sixth Assessment Report (2023) – Impacts, Adaptation & Vulnerability. It Provides up-to-date projections on climate change impacts on agriculture.
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	1- Rwanda's Land Information System (NLIMS) uses satellite-based soil mapping to guide smallholder farmers in selecting climate-adaptive crops. The participatory system integrates farmer knowledge with AI-driven recommendations, improving yields and climate resilience. 2- Senegal's Early Warning System (AGRHYMET) integrates real-time meteorological data with community knowledge to anticipate droughts, helping farmers adjust planting cycles. 3- The African Risk Capacity (ARC) provides contingent financing for droughts in the Sahel, using climate forecasts to trigger early disbursements to governments and farmer cooperatives.
Please insert below any additional comment.	This HLPE Draft Report provides a comprehensive, systems-based approach to understanding resilience, integrating social, ecological, and economic dimensions. The emphasis on equitably transformative resilience (ETR) is particularly valuable, recognizing that food systems must not only withstand shocks but also address power imbalances, structural vulnerabilities, and long-term sustainability. However, the report could further integrate perspectives from underrepresented regions, particularly small island states, Indigenous communities, and informal food economies. Additionally, more data-driven methodologies, early warning systems, and participatory governance models could strengthen the discussion. The role of financial markets, land tenure security, and corporate power in shaping resilience also requires deeper analysis.

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Surname and first name	McAlvay Alex
Are you contributing in a personal capacity or on behalf of an organization or team?	Personal capacity
Current position	Research Scientist and Kate E. Tode Assistant Curator
Current institution/ organization	New York Botanical Garden
Country	United States of America
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	In many countries indigenous crop varietal mixtures and species mixtures have been used for thousands of years by farmers to mitigate risk and increase adaptive capacity. For example, sorghum varieties are planted together in mixtures by farmers in over 14 African countries, with some farmers planting over 30 varieties together. In the Andes, it is not uncommon for farmers to plant over 40 potato varieties together. These strategies have been disincentivized or actively discouraged in many countries due to a focus on single breeder's varieties grown in monoculture and an emphasis on production for markets. Equitably bouncing forward may be facilitated by policies that support farmers' abilities to leverage the strategies for resilience that they know work.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	McAlvay, A.C., DiPaola, A., D'andrea, A.C., Ruelle, M.L., Mosulishvili, M., Halstead, P. and Power, A.G., 2022. Cereal species mixtures: an ancient practice with potential for climate resilience. A review. Agronomy for Sustainable Development, 42(5), p.100.

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Surname and first name	Muleya Thelma
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	African coordinator
Current institution/ organization	MIJARC Africa, Zambia
Country	Zambia
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	Below are examples: 1. Bouncing Back: Recovery to Original State This stage involves restoring food system functions to their pre-shock conditions. Example: Malawi's Soils, Food, and Healthy Communities Project In Malawi, the Soils, Food, and Healthy Communities project was initiated to combat child malnutrition. By promoting agroecological practices and community mobilization, the project enabled smallholder farmers to recover from food insecurity challenges, restoring household nutritional status to pre-crisis levels. This initiative exemplifies a "bouncing back" approach by reinstating previous food security conditions through sustainable practices. 2. Bouncing Forward: Enhancing Systemic Resilience This stage focuses on not just recovery but improving the system to better withstand future shocks. Example: Belo Horizonte's Food Security Programs in Brazil The city of Belo Horizonte implemented innovative policies to make nutritious food accessible to urban populations while supporting local farmers. By establishing food price subsidies, creating public food distribution outlets, and integrating urban with rural food systems, the city enhanced its food system's resilience. These measures transformed the food landscape, enabling it to better absorb future disruptions—a clear instance of "bouncing forward." 3. Equitably Bouncing Forward: Inclusive and Just Transformation This stage aims for transformative changes that address systemic

	inequities, ensuring all stakeholders benefit from increased resilience. Example: Dairy Nourishes Africa (DNA) Initiative The DNA initiative is a public-private partnership focused on transforming African dairy industries. It adopts a market-led, value-chain approach to support activities across the dairy ecosystem. By enhancing consumer demand, supporting dairy enterprises, and increasing on-farm productivity, DNA has improved nutritional outcomes and created economic opportunities, particularly for women. This initiative exemplifies "equitably bouncing forward" by fostering inclusive growth and resilience in the dairy sector. These examples demonstrate the application of the resilience spectrum in food systems, highlighting pathways from recovery to transformative, inclusive resilience-building efforts.
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	Yes, several additional trends, variables, and elements could be analyzed to deepen the understanding of food system resilience and strengthen future interventions. Here are key areas that would add value to the HLPE-FSN report: 1. Climate Change and Extreme Weather Events Beyond general climate impacts, analyze compound shocks (e.g., droughts followed by floods) and how they interact with food production and supply chains. Study the regional variability of climate impacts and how localized resilience strategies can be scaled up. Explore climate adaptation finance and how funding gaps affect resilience-building efforts. 2. Governance and Policy Responses Examine multi-level governance (local, national, global) and the role of policy coherence in strengthening resilience. Assess the effectiveness of social protection programs (e.g., food assistance, safety nets) in mitigating food system disruptions. Identify policy trade-offs between resilience-building measures and economic priorities, such as export bans versus local food security. 3. Market and Trade Resilience

	Investigate supply chain diversification as a resilience strategy, including the role of shorter, localized food chains versus globalized ones. Examine the impact of financial speculation on food prices and how volatility affects vulnerable populations. Analyze the role of digital platforms in making markets more resilient, such as e-commerce for smallholder farmers. 4. Socioeconomic Inequalities and Vulnerabilities Study how gender disparities affect food system resilience, including access to resources and decision-making power. Assess how informal food economies contribute to resilience but also pose challenges for regulation and policy support. Evaluate the resilience of marginalized communities, including Indigenous food systems and urban food deserts. 5. Innovation and Technological Advancements Explore the role of agritech and AI in making food systems more adaptive (e.g., precision agriculture, blockchain for traceability). Assess the scalability of agroecological approaches and their role in building long-term resilience. Examine how food waste reduction innovations (e.g., circular food economies) contribute to system-wide resilience. 6. Financial and Investment Mechanisms Analyze the role of impact investing and blended finance in supporting resilient food system projects. Assess the resilience of agricultural insurance schemes and their effectiveness in protecting farmers against climate and market risks. Explore the impact of corporate sustainability commitments on smallholder farmers and supply chain resilience. 7. Resilience Metrics and Monitoring Identify key resilience indicators that go beyond traditional food security metrics.

	Develop frameworks for measuring resilience over time, ensuring interventions are tracked for long-term impact. Assess the role of citizen science and participatory data collection in monitoring food system shocks and recovery.
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	Evaluating resilience in food systems requires a mix of quantitative and qualitative indicators, multi-dimensional frameworks, and methodologies that capture short-term recovery and long-term transformation. Below are key evaluation approaches, frameworks, and indicators that can help measure resilience and equitably transformative resilience in food systems. 1. Key Indicators for Evaluating Food System Resilience A comprehensive resilience assessment should track indicators across three key dimensions: Absorptive, Adaptive, and Transformative capacities. A. Absorptive Capacity (Bouncing Back) Food availability & supply chain stability → Changes in food production, storage, and trade disruptions after a shock. Household food security → Food Consumption Score (FCS), Coping Strategies Index (CSI), and Household Dietary Diversity Score (HDDS). Economic resilience → Price volatility of staple foods, household income stability, and savings levels post-shock. Infrastructure resilience → Functionality of food markets, roads, and storage facilities after disruptions. B. Adaptive Capacity (Bouncing Forward) Diversification of food sources → % of food sourced locally vs. imported, dietary diversity scores. Access to credit & safety nets → % of farmers with access to microfinance, insurance coverage, or government assistance programs. Climate adaptation in agriculture → % of farmers using climate-resilient crops, water conservation practices, agroecology, or precision farming. Institutional response & governance → Strength of early warning systems, disaster preparedness policies, and response time to food crises.

C. Transformative Capacity (Equitably Bouncing Forward)

Equity in food access & benefits → Reduction in gender, income, or geographic disparities in food security.

Inclusive governance & participation → Representation of marginalized groups (women, Indigenous communities, smallholders) in food system decision-making.

Structural changes in the food system → Policy shifts favoring agroecology, circular economy, and fair trade practices.

Environmental sustainability → Reduction in greenhouse gas emissions, biodiversity loss, and water stress in agricultural practices.

2. Effective Frameworks for Measuring Resilience

Several frameworks are widely used to assess food system resilience, each with a unique focus:

1. FAO Resilience Index Measurement and Analysis (RIMA)

Evaluates resilience at the household and community levels using indicators such as food security, social safety nets, adaptive capacity, and access to assets.

Strength: Provides a structured, multi-dimensional analysis of food system shocks and recovery.

2. The Food Systems Resilience Framework (HLPE-FSN Report 2023)

Integrates ecological, social, economic, and institutional dimensions to measure resilience across scales.

Strength: Emphasizes transformational aspects of resilience rather than just recovery.

3. The Sustainable Livelihoods Framework (SLF)

Focuses on how different types of capital (natural, financial, social, physical, and human) contribute to food system resilience.

Strength: Useful for understanding vulnerabilities and local adaptive strategies.

	4. The Resilience Alliance Framework Considers resilience as the ability to adapt and transform in response to shocks, incorporating ecological and social factors. Strength: Highlights cross-scale interactions between local and global food systems. 3. Evaluating Equitably Transformative Resilience To assess whether resilience-building efforts are equitable and transformative, specific methods and criteria should be included: A. Social Justice & Equity Metrics Power & Participation Index: Tracks the involvement of marginalized communities in decision-making. Women's Empowerment in Agriculture Index (WEAI): Measures gender equity in access to land, income, and leadership.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	Incorporating a diverse range of recent publications, data sources, and knowledge systems is essential to comprehensively understand and strengthen the resilience of food systems. Below are key resources and references that would enrich the HLPE-FSN report: 1. Recent Publications and Reports "Resilience and Sustainability in Food Systems Research" (2023): This report by the Institute for European Environmental Policy (IEEP) examines the interplay between resilience and sustainability in food systems, offering insights into policy frameworks and research methodologies that promote both objectives. "Global Food Policy Report 2023: Rethinking Food Crisis Responses": Published by the International Food Policy Research Institute (IFPRI), this report analyzes contemporary food crises and proposes innovative strategies for building resilient food systems capable of withstanding global challenges. "The Food Systems Countdown Report 2023": This comprehensive assessment tracks global progress in food systems transformation, providing a set of indicators across multiple domains, including resilience and sustainability. 2. Data Sources and Analytical Tools Food and Agriculture Organization Corporate Statistical Database

	(FAOSTAT): FAOSTAT offers extensive data on food and agriculture, including production, trade, and consumption statistics, which are vital for analyzing trends and resilience factors in food systems. Food Systems Resilience and Equity Data Tool: Developed by the Urban Institute, this tool compiles diverse datasets on climate hazards, agricultural production, food security, and racial equity, enabling comprehensive assessments of food system resilience at the community level. Disaster Resilience Scorecard for Cities: Food System Resilience Module: This scorecard, provided by the United Nations Office for Disaster Risk Reduction (UNDRR), assists cities in evaluating and enhancing the resilience of their food systems against various shocks and stresses. 3. Methodologies and Frameworks "Food System Resilience Measurement: Principles, Framework, and Caveats" (2023): This paper presents a structured approach to measuring food system resilience, discussing key principles and potential challenges in the assessment process. "Local and Regional Food Systems Resilience Playbook": Designed to support food system leaders, this playbook offers guidance on understanding and enhancing the strengths and vulnerabilities of local and regional food systems, promoting resilience through strategic planning and action. 4. Indigenous and Local Knowledge Systems Kenya's National Gene Bank Initiatives: The efforts of Kenya's National Gene Bank in preserving and reintroducing indigenous crop varieties highlight the importance of local knowledge in building resilient food systems. These initiatives support farmers in adapting to climate change and improving food security. 5. Emerging Research and Innovations "FLEE-GNN: A Federated Learning System for Edge-Enhanced Graph Neural Network in Analyzing Geospatial Resilience of Multicommodity Food Flows" (2023): This study introduces an advanced AI-based methodology for analyzing the resilience of food supply networks, offering innovative approaches to understanding and enhancing food system robustness.
Please provide additional examples that support equitably transformative resilient food systems for	Here are additional examples that support equitably transformative resilient food systems for food security and nutrition across multiple scales, with a focus on underrepresented regions:

food security and nutrition.	1. Integrated Participatory Processes and Policies at Multiple Scales Household & Community Scale Participatory Guarantee Systems (PGS) for Agroecology (India, Brazil, Uganda): PGS empowers smallholder farmers and local communities to certify organic or agroecological products through peer-reviewed systems. These systems enhance agency, sustainability, and stability by reducing certification costs, promoting knowledge-sharing, and strengthening local food security. Women-led Food Sovereignty Cooperatives (Nepal, Bolivia, Senegal): Women's agricultural collectives create scale-appropriate technology and economic resilience by producing and selling food locally while advocating for land rights. These cooperatives enhance sustainability, agency, and availability by supporting regenerative farming, securing land tenure, and ensuring nutritious food access. Ecosystem & Regional Scale Pastoralist Livelihoods and Rangeland Management (Sahel, Mongolia, Inner Asia): Community-led sustainable grazing practices and seasonal mobility improve availability, sustainability, and resilience to climate stress. Participatory governance mechanisms engage herders in resource co-management with local authorities. Integrated Coastal Zone Management for Small-Scale Fisheries (Indonesia, Philippines, Mozambique): Protecting mangroves and marine ecosystems enhances fish stocks and food availability, while securing fisherfolk rights through participatory marine resource governance. National & Global Scale Rights-Based Land Reform & Indigenous Land Recognition (Colombia, Kenya, Thailand): Policies that secure land tenure for Indigenous and smallholder farmers increase agency, sustainability, and access by promoting investment in sustainable agricultural practices. Regionalized and Localized Trade (African Continental Free Trade Area – AfCFTA): AfCFTA supports equitable trade policies to reduce food price volatility, enhance availability through intra-African trade, and create multi-scale governance mechanisms that protect smallholder farmers.

	2. Food Systems & Supply Chains Agroforestry and Circular Economies (Cameroon, Brazil, Sri Lanka): Integrating food crops with tree planting supports sustainability and availability while promoting regenerative agriculture and reducing post-harvest loss through decentralized food processing and storage. Small and Medium-Sized Enterprises (SMEs) and Inclusive Food Environments (Ghana, Vietnam, Peru): SMEs provide affordable, nutritious foods by enhancing access, affordability, and consumer preference. Policies support local food businesses, including food vendors, farmer markets, and processing enterprises, through targeted finance and fiscal incentives. Food Loss and Waste Prevention (Nigeria, Bangladesh, Egypt): Initiatives such as solar-powered cold storage, community grain banks, and digital marketplaces reduce food loss and increase availability by linking smallholders to markets while ensuring better post-harvest management. 3. Governance & Policy Frameworks Community-Based Fisheries Management and Indigenous Governance (Pacific Islands, Canada, Ecuador - Sarayaku Model): Strengthens natural resource governance by recognizing Indigenous leadership in marine and land stewardship. Multi-Scale Climate-Resilient Agricultural Strategies (Ethiopia, Bangladesh, Honduras): Blends contingent financing, early warning systems, and social protection programs (such as cash transfers for farmers) to enhance stability and resilience to climate shocks. Social Protection & School Feeding Programs (Brazil, India, South Africa, Rwanda): Linking school meals to local agriculture ensures stability, nutrition, and livelihoods for farmers while improving children's dietary diversity

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Surname and first name	Mbenya Rosinah
Are you contributing in a personal capacity or on behalf of an organization or team?	Personal capacity
Current position	Country Coordinator
Current institution/ organization	PELUM Kenya
Country	Kenya
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	Yes. We can share a case study on local territorial markets
Please insert below any additional comment.	Consider integration of small scale farmers in text as they form a large percentage of Farmers in Africa and play a big role in Food nature nexus. On page 18- Should we use Sub Sahara Africa or just Africa? A focus on shorter food chains for climate resilience is not coming out strong. Longer food chains result to more emissions worsening the climate crisis. In 2.26- the role of indigenous food and practices is not emphasised. Just talks of indigenous people but there is much more like Farmer Managed Seed systems, and indigenous diets. How do you intend to bring out the solution- e.g agroecological practices and principles--?

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Surname and first name	Balvanera Patricia
Are you contributing in a personal capacity or on behalf of an organization or team?	Personal capacity
Current position	Professor
Current institution/ organization	Instituto de Investigaciones en Ecosistemas y Sustentabilidad, Universidad Nacional Autónoma de México
Country	Mexico
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	Transdisciplinary transformations of local food systems towards more sustainable, just and resilient pathways Food systems around the world face the synergic impacts of climate change, biodiversity loss, water depletion, soil degradation, loss of jobs and rural livelihoods, as well as fractures in the social fabric and the intergenerational transmission of biocultural diversity and knowledge. Small holders and their families are particularly vulnerable to these threats. To address these challenges, the transdisciplinary initiative Cocina Colaboratorio was created in 2018, with the aim of developing innovative solutions for small-scale food systems through community-driven approaches and scientific expertise (1). Through our work in three Mexican territories (Loma Bonita, Chiapas; Santo Domingo Tomaltepec, Oaxaca; Xochimilco, Ciudad de México), we aim to regenerate biocultural heritage, foster agroecological practices, and create sustainable food systems by developing protocols, prototypes, media, and manuals that inspire local-to-global movements. While innovating locally, sustainable practices are scaled and adapted across regions. Our approach is rooted in a bottom-up methodology, by empowering local communities to generate ideas that will shape new pathways for the future of local food systems. Over the long term, we engage diverse groups -children, youth, elders, farmers, cooks, artists, communicators, and academics in the three territories. Our theory of change starts within three interconnected “arenas”—spaces for exchange and experimentation: 1- The Kitchen, where food connects communities and territories through what we eat; 2- The Agroecological Plot where regenerative sustainable farming practices are collectively developed and applied; 3- The Living Biocultural Archive, knowledge, stories, seeds, and traditions celebrate local biodiversity and cultural heritage for future action. These arenas facilitate the formation of communities of practice—groups of individuals who come together to reimagine and enact the future of food systems. By empowering community leaders, practitioners, youth and academics, we strengthen their transformative agency and nurture a vibrant network of changemakers. As insights and

innovations emerge, we scale them up through trans-local learning across the three territories and with partner organizations and networks, creating a local-to-global movement where sustainable practices can be scaled and adapted across regions.
We aim at the transformation of the whole local food system by activating shallow to deep leverage points, key places in the systems for which small focal changes can lead to system-wide transformations (2). Changes in materials have included the diversification of ingredients for the recipes at the Kitchen, of the types of plants grown in the Agroecological Plot, or of the diversity of seeds shared through the Living Biocultural Archives. Changes in practices have entailed culinary innovations, the adoption and refinement of agroecological practices, and the promotion of new networks of exchange of agricultural products. Changes in rules (norms, agreements) have occurred as men were invited to cook, women have become the leading agroecological innovators, and through the establishment of agreements for collective action within the communities of practice. Changes in visions have allowed to question the dominant extractive paradigms, the exploration of alternative futures around food security and sovereignty, biocultural diversity, and the defense of the territory in the face of rapid transformations and privatizations. Collective monitoring at each of the ca. 60 activities per year involving ca. 300 people allows to document these shifts and reflect on how to foster such transformations towards more just and sustainable local food systems.
Patricia Balvanera (pbalvanera@cieco.unam.mx), Universidad Nacional Autónoma de México.

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Fischer, J., and M. Riechers. 2019. A leverage points perspective on sustainability. *People and Nature* 1:115–120.

18

Surname and first name	FAO, Rural Transformation and Gender Equality (ESP) division
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	In recent years, shorter, more localized and transparent food supply chains have become the subject of growing interest for their potential to provide opportunities for inclusive, ethical, healthy, and sustainable food systems. Consumers are increasingly aware of the processes behind food products, seeking to address concerns related to health and environment, as well as social, cultural and economic aspects. For example, consumer awareness and civil society engagement reflect on a growing demand for sustainably produced food products directly sold by their producers, often at zero km. Direct-to-consumer markets, such as farmers markets, are often considered a more remunerative option for small-scale farmers. They may reduce transaction costs and increase bargaining power over prices while catalysing new entrepreneurial opportunities. In some instances, farmers markets are found to valorize local productions while protecting crop biodiversity and strengthening the connection between farmers and consumers. Furthermore, the COVID-19 pandemic underscored how alternative market outlets directly connecting farmers to consumers can contribute to the resilience of the food systems. Notably, farmers markets provided a timely response to the changes imposed by the COVID-19 pandemic. Insights from Italy and the United States of America reveal that during 2020, amid the pandemic, farmers markets witnessed an increase in sales by 20 percent as compared to the previous year (McCarthy, 2021). Gaining insight into the opportunities and challenges linked to farmers markets is critical in noting that most food in the world is produced, processed, traded or distributed and consumed within local, national and/or regional food systems, with only 10-12 percent of all agricultural products being traded on the international market (CSM, 2016; FAO, 2015a). According to data from the National Agricultural Statistics Service of the United States Department of Agriculture, in the United States, in 2020 farmers generated USD nine billion in sales of locally grown food products, selling them directly to consumers, retailers, institutions, and intermediaries. Direct farm-to-consumer food sales saw a 3 percent increase from 2015 (NASS, 2022). In recent times, Farmers Markets have witnessed a tremendous expansion (Martinez, 2021). In Italy, for instance, the Farmers Markets promoted by the Campagna Amica Foundation of the producer organization Coldiretti, have increased from fewer than 600 to 1 200 in the last ten years, currently engaging more than 12 000 farmers (Divulga, 2021). Considering that globally more than 80 percent of smallholders operate in local and domestic food markets (CFS, 2015) and that in low- and

lower-middle income countries about 80 percent of farms on average are smaller than 2 ha (Lowder et al. 2021), the opportunity that farmers markets may offer to promote the inclusion and effective participation of small-scale farmers needs to be carefully considered.

On Right To Food, the report Realizing the right to food in a changing world - The Right to Food Guidelines: 20 years on and beyond highlights key examples on how countries have adopted measures to address vulnerabilities to climate and other shocks, including the economic downturn as consequence of COVID-19.

- In Fiji, emergency measures like cash transfers, were employed to support the most vulnerable producers and peoples during the COVID-19 lockdown and because of adverse climate events. In El Salvador, the Special Transitional Law on Measures for the Agricultural Sector to Guarantee Food Security, in view of the National Emergency and its Effects due to the Covid-19 Pandemic (Decree No.642, 2020) creates different economic and financial measures to support the agricultural sector and its actors, in order to guarantee food security for the population and the subsistence and operation of the productive chains that make up the sector, as well as the jobs that they generate, in the face of the national emergency situation due to COVID-19. Honduras in 2020 adopted its Law on assistance to the productive sector and workers in the context of the effects of the COVID-19 pandemic; Panama in 2020 adopted the Law defining economic and financial measures to counteract the effects of Covid-19, and Paraguay passed its Law providing Support and Assistance to organized Soup Kitchens throughout its territory (FAO, 2023a).
- In India, the Supreme Court recognized that the right to food comprises part of the fundamental right to life with dignity under Article 21 of the Constitution. Subsequently, Parliament enacted the National Food Security Act (NFSA), 2013, with the objective of providing food and nutritional security throughout the human lifecycle. This served to advance the rights of the most vulnerable families during the emergency of the COVID-19 lockdown, ensuring their food security as a legal entitlement and that 800 million people who had previously been identified could receive direct relief speedily. It also served to highlight acute gaps in provision, with many people in need still excluded from the food security net.

These examples show how the Equitable Transformative resilience (ETR) can be promoted by states at country level, protecting vulnerable populations, in line with international right to food normative framework.

It is important to highlight that addressing vulnerabilities form a Human rights-based approach is a core obligation of states parties of the

	International Covenant on Economic, Social and Cultural rights (ICESR) and not voluntary actions.
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	**On collective action:** - Building resilient food systems requires a deeper exploration of the role of collective action in expanding farmers' agency. Resilience is not just about adapting to change—it demands a fundamental transformation that enables vulnerable groups to participate meaningfully in decision-making and economic opportunities. Collective action plays a key role in this process, allowing individuals or groups to collaborate toward shared objectives that may be difficult to achieve alone. By joining producer organizations, cooperatives, community-based groups or informal groups, farmers can access financial services, training, and market opportunities while strengthening their bargaining power and overall resilience. Beyond economic benefits, collective action fosters social inclusion and participation, ensuring that rural populations can engage in governance structures. However, persistent challenges—such as hierarchical power dynamics, mistrust, and restrictive membership criteria—must be addressed to ensure that these organizations are truly inclusive and responsive to farmers' needs. - In order to advance equitably transformative resilience, there is a need to acknowledge the importance of dignity and solidarity as foundational values of collective action, and as key elements to redress power dynamics in food systems. Human dignity is mentioned as part of the 'PANTHER' but deserves more attention as a critical aspect of food systems transformation. - Dignity and solidarity are also fundamental to fostering social cohesion, with social cohesion being a critical element for developing resilient societies. - It is suggested to elaborate more on the concept of 'capabilities' and what it means in relation to the dimensions of an equitably transformative food system. The dimensions mentioned in the report are 'structural, systemic, and enables agency, capacity, and values.' Yet, the concept of capabilities could be articulated more as of the range of opportunities that different groups of people have access to and/or are free to access in order to meaningfully engage food system and its transformation. Hence freedom is not only connected to agency, but it is a necessary element of it. Also, in relation to agency, it would be useful to introduce the issue of responsibility and who bears the responsibility for such transformation and the role of different institutions/actors therein, although perhaps this will come more in the recommendations. - To fully harness the benefits of collective action and agency in food system resilience, it is essential to address systemic barriers

that limit farmers' engagement. By participating in both formal and informal networks, small-scale producers and marginalized communities can enhance their agency, influence policies, and improve access to essential resources. This, in turn, reinforces their ability to adapt to external shocks and contribute to the long-term resilience of agrifood systems

- It is suggested more definitional clarity among socio-ecological justice; socio-ecological equity.
- Given the focus on equitable transformation, it is suggested to elaborate on the connection between ETR and migration and ETR and labour exploitation.
- One key challenge lies in membership criteria, as many farmers are excluded from cooperatives due to land ownership requirements and high membership fees. Implementing more inclusive policies, such as allowing shared land as collateral or introducing subsidized membership options, can help remove these barriers and facilitate broader participation. Another major obstacle is mistrust toward cooperatives and skepticism about collective initiatives, which often deter farmers from joining organizations. Raising awareness about the benefits of collective action through education campaigns, peer learning, and farmer-to-farmer knowledge exchanges can help bridge this gap and foster a stronger culture of collaboration.

On Right to Food:

- Applying human rights-based approach to enhance resilience may be also stressed through enhanced participation of civil society in governance mechanisms, so as promoting social accountability. **In Brazil**, the CONSEA is composed by 30% of CSOs representatives as a way to strengthen participatory decision making and monitoring processes. **Malawi's** project on Rural Governance for the Right to Adequate Food in 2021-22, includes mechanisms for grievance redress and evidence gathering, using the RTFG as a normative reference guiding implementation. This provided a Social Accountability process to raise demands on RTF entitlements to relevant authorities, with the evidence generated at district level used to inform national-level advocacy on key programs that affect the RTF.
- It would be important to highlight in the report the connection between vulnerability and state obligations with regards to the right to food. The Committee on Economic, Social and Cultural Rights (CESR) in their General Comment number 12 (GC12) on article 11 of the ICESR on the Right to Food, state clear authoritative interpretation of the core obligations of states with regards to the right to food. In this regard, the CG12 states that "*measures should be undertaken to ensure the right to food is especially fulfilled for vulnerable population groups and*

individuals". In this regard the authoritative content on the right to food provide **entitlements** to those people in vulnerable situations and in connection with this entitlement, resilience can be also considered part of the actions that states must take towards the progressive realization of the right to food. The report could benefit for this connection to strengthen the need to adopt a human. rights based approach to ETR.

- In addition, the right to adequate food "*is indivisibly linked to the inherent dignity of the human person and it is indispensable for the fulfilment of other human rights*". In this respect, the concept of resilience, as presented in chapter 1 of the report "*The ability of individuals, households, communities, cites, institutions, systems and societies to prevent, resist, absorb, adapt, respond and recover positively, efficiently and effectively when faced with a wide range of risks, while maintaining an acceptable level of functioning without compromising long-term prospects for sustainable development, peace and security, human rights and well-being for all*." Is intrinsically linked to the concept of **human dignity,** which is interrelated with the "agency" dimension of food security, and in this regards the concept of resilience in food systems, and notably ETR, could be linked to the right to adequate food. The report could stress these linkages at the beginning of the document.
- The report also stablishes a connection between Corporate concentration and resilience, and in this sections, it is notable mentioning also that power asymmetries across food systems have direct implications on the right to adequate food and may constitute violation of the right to adequate food, either by means of failure of states in the obligation to protect against third parties obligation or either because they can hinder the inherent human dignity that is implicit to resilience.

There appears to be no focus on the use of parametric agri-insurance products for small-scale agricultural actors, which can contribute to strengthening agrifood systems' resilience. On insurance, one example is the "Rural Resilience Initiative (R4) was launched in 2011 as a joint collaboration between the World Food Programme (WFP) and Oxfam America, with the aim of enabling vulnerable smallholder households in Sub-Saharan Africa to increase their food and income security by managing climate-related risks. The initiative provides for a holistic risk management approach for smallholder farmers through a combination of different interventions in four core areas: insurance provision (risk transfer); asset creation (risk reduction); livelihoods diversification and microcredit (prudent risk taking); and savings (risk reserves). Under its Risk Transfer component, R4 provides weather-based index insurance to its target population of smallholder farmers. The payout received by the farmer after a disaster allows him to avoid having to sell his productive

	assets to recuperate from the impact of a natural disaster, while stimulating a more rapid recovery. R4's insurance provision under this component is usually built into existing safety nets established by local governments or the WFP itself."
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective in capturing the ability of food systems to withstand and adapt to shocks and stresses and bounce forward? How can equitably transformative resilience be evaluated?	While "equitably transformative food system resilience (ETR)" is well defined and explained throughout the report, we think the authors should make additional efforts to link this idea to the various food system entry points. In particular, we suggest combine the resilience spectrum and the food system frameworks in Chapter 1. Additionally, we think the reader will better understand the theoretical end empirical linkages between shocks and stressors, food system elements, and food security and nutrition outcomes if the authors unpack the ETR concept. This could also make it more straightforward to understand what bouncing back and forward may represent for different hazards at different food system nodes and population groups, as well as make it easier to explain whether the examples presented in Chapter 4 fully or partially cover the ideas of bouncing back or bouncing forward. For an example on how integrate social protection into the food system framework, we suggest checking the proposal made by the UN Food Systems Summit Coalition on Social Protection and Food Systems Transformation: *Transforming Food Systems, Improving Nutrition, and Supporting Sustainable Livelihoods through Social Protection Systems.* We encourage a type of evaluation that puts at the core the voice of the marginalized and excluded and understand what counts for them as an ETR and develop indicators based on their views/statements. Indicators to measure resilience should consider the PANTHER principles and elements of human dignity. - The recognition of the right to food at constitutional or domestic legal levels could be integrated as part of the analysis. - Identification of vulnerabilities and people exposure to them is also a critical element in understanding resilience capacities at institutional level. - Exposure to vulnerabilities as result of copying strategies is another element that can be considered in the analysis.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	We strongly suggest reviewing past editions of The State of Food Security and Nutrition in the World (SOFI), which link various types of food systems shocks and stressors with food security and nutrition outcomes. In particular, the 2017 SOFI edition explores food security and nutrition resilience to conflict, as well as the main pathways to building resilience and sustaining peace. This material could help strengthen the HLPE-FSN 2025 report's definitions, approach, and indicators associated with resilience and related concepts.

Similarly, the SOFI editions from 2019 to 2021 focus on the effects of various drivers on food security and nutrition and policy actions to address these drivers. The 2019 report focuses on economic slowdowns and downturns; the 2020 edition on the affordability of healthy diets and the impact of the COVID-19 pandemic, and the 2021 report emphasizes the role of conflict and climate variability and extremes. These reports also offer a comprehensive discussion on the potential role of repurposing food and agricultural subsidies to improve FSN

A clear reference to the General Comment 12 of the CESR could be beneficial. https://www.ohchr.org/en/documents/general-comments-and-recommendations/ec1219995-general-comment-no-12-right-adequate-food

Other relevant publications include:

1. Bhalla, G. 2023. The role of social protection in strengthening local food systems and inclusive rural transformation. FAO. https://doi.org/10.4060/cc5125en
2. Borda-Rodriguez, A., Johnson, H., Shaw, L. & Vicari, S. 2016. What Makes Rural Co-operatives Resilient in Developing Countries? Journal of International Development, 28(1): 89–111. https://doi.org/10.1002/jid.3125
3. Chatterjee, M. 2023. Ensuring Social Protection Delivery for, with and by Women: The Experiences of Informal Women Workers' Solidarity Organisations. ILO & UN Women Expert Group Meeting 'The World Survey on the Role of Women in Development 2024: Harnessing Social Protection for Gender Equality, Resilience and Transformation' 5 and 6 October 2023
4. FAO. 2023. Good performance and inclusiveness of poor people in cooperatives and other producer organizations: a possible match? Rome, FAO. http://www.fao.org/documents/card/en/c/cc4917en
5. Geary, C., Hassen, A. B., Saleh, A. & Awad, A. 2022. The Role of Civil Society in Promoting Social Protection Reforms: A Comparative Study of Jordan and Tunisia. ERF Working Papers Series, Working Paper No. 1591.
6. ILO. 2022. Social Protection & Cooperatives Spotlight: Mobilizing social and solidarity economy units towards universal social protection. Geneva, Switzerland. https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/---coop/documents/publication/wcms_844037.pdf
7. Stavropoulou, M., Holmes, R. & Jones, N. 2017. Harnessing informal institutions to strengthen social protection for the rural poor. Global Food Security, 12: 73–79. https://doi.org/10.1016/j.gfs.2016.08.005
8. Vinci, I., Hani, M. & Djeddah, C. 2016. Local solutions to social protection: The role of rural organizations. FAO: Rome.

9. FAO. 2024. Social protection as a pathway to sustaining peace. Rome. https://doi.org/10.4060/cc9175en\
10. Pignatti, C., Galian, C., Peyron Bista, C. 2024. Extending social protection in times of crises: The data revolution, Geneva: International Labour Office https://www.social-protection.org/gimi/ShowRessource.action;jsessionid=LJLBG9CQSiYaLPJAwIvfbfWRcCEK3CXi5rA4Iun3UAF-LBnPI9J4!-688150444?id=58428
11. Rosas, Nina, Maria Cecilia Acevedo, and Samantha Zaldivar. 2022. "Starting Points Matter: Cash plus Training Effects on Youth Entrepreneurship, Skills, and Resilience during an Epidemic." World Development, https://doi.org/10.1016/j.worlddev.2021.105698.
12. Sato, Lucas et al. 2022. "Social protection response to COVID-19 in rural LAC: Protection and promotion of employment in the agricultural sector." Policy Research Brief, No. 83. Brasília: International Policy Centre for Inclusive Growth. https://ipcid.org/sites/default/files/pub/en/PRB83_Social_protection_response_to_COVID_19_in_rural_LAC_Protection_and_promotion.pdf
13. Tebaldi, R. 2019. "Building Shock-Responsive National Social Protection Systems in the MENA Region." Brasília and Amman: International Policy Centre for Inclusive Growth and UNICEF Middle East and North Africa Regional Office. https://ipcid.org/sites/default/files/pub/en/RR30_Building_Shock_Responsive_National_Social_Protection.pdf
14. Winder Rossi, N., Spano, F., Sabates-Wheeler, R. & Kohnstamm, S. 2017. Social protection and resilience: Supporting livelihoods in protracted crises and in fragile and humanitarian contexts. Policy brief/paper. FAO and Institute of Development Studies. Rome, FAO.
15. FAO. 2021. Protecting livelihoods - Linking agricultural insurance with social protection (https://openknowledge.fao.org/server/api/core/bitstreams/70f8c4fa-32b1-480f-a0f7-50af8946e27e/content) https://openknowledge.fao.org/handle/20.500.14283/i7606en
16. A clear reference to the General Comment 12 of the CESR could be beneficial. https://www.ohchr.org/en/documents/general-comments-and-recommendations/ec1219995-general-comment-no-12-right-adequate-food
17. Divulga. 2021. First World Farmers Markets Report. https://www.divulgastudi.it/wp-content/uploads/2021/07/Report_FM_Web_23-luglio.pdf
18. Crocker, David A., and Ingrid Robeyns. "Capability and Agency." Chapter. In Amartya Sen, edited by Christopher W. Morris, 60–90. Contemporary Philosophy in Focus. Cambridge: Cambridge University Press, 2009.
19. Sen, A., 2010. Sustainable development and our responsibilities. Notizie di Politeia, 26(98), pp. 129-137.
20. Nussbaum, M.C., 2011. Creating capabilities : the human development approach.

	21. Sen, A., 2017. Collective choice and social welfare. Expanded edition. ed. UK: UK : Penguin Books.
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	On **Women's empowerment**, some observations by Page: 1. 2.1 Shocks, stresses, vulnerabilities (p. 23): Elaborate women's adaptive capacity: Add a sentence on how "inequities in land tenure, credit access, and social norms often limit women's ability to implement adaptive strategies (Rao et al., 2019)." Rao, N., Mishra, A., Prakash, A., Singh, C., Qaisrani, A., Poonacha, P., ... & Bedelian, C. (2019). A qualitative comparative analysis of women's agency and adaptive capacity in climate change hotspots in Asia and Africa. Nature Climate Change, 9(12), 964-971. 2. 2.2.7 Land use change, urbanization and displacement (p. 29–30): Highlight gendered land tenure insecurity "Women in peri-urban areas often lack formal tenure, losing farmland or settlement rights when cities expand." Ingwani, E. (2021). Struggles of women to access and hold landuse and other land property rights under the customary tenure system in peri-urban communal areas of Zimbabwe. Land, 10(6), 649; Nchanji, E. B., Chagomoka, T., Bellwood-Howard, I., Drescher, A., Schareika, N., & Schlesinger, J. (2023). Land tenure, food security, gender and urbanization in Northern Ghana. Land use policy, 132, 106834. 3. Also mention women's livelihood: Note that forced displacement typically breaks women's social networks, harming their ability to collectively market goods or secure credit. Klugman, J. (2021). The Gender Dimensions of Forced Displacement: Findings from New Empirical Analysis. World Bank-UNHCR Joint Data Center's Quarterly Digest on Forced Displacement, Fourth Issue. World Bank Group. https://doi.org/10.47053/jdc.141221. 4. 2.4.6 Income disparities and poverty (p. 39): Wage gap: Women engaged in wage employment in agriculture earn 82 cents for every dollar that men earn, highlighting a persistent wage gap that reflects broader gender inequalities in agrifood systems (FAO, 2023). FAO. 2023. The status of women in agrifood systems. Rome. On finance: Suggest the expansion of gender-targeted interventions (e.g., cash transfers, micro-loans) to strengthen female producers and entrepreneurs. Kabeer, N. (2017). Economic pathways to women's empowerment and active citizenship: What does the evidence from Bangladesh tell us?. The Journal of Development Studies, 53(5), 649-663. 5. 2.4.7 Livelihood threats (p. 40–41): Emphasize women's informal employment: Add: "Women often hold precarious or informal jobs in farm and off-farm sectors, lacking formal protections and benefits." FAO. 2023. The status of women

in agrifood systems. Rome. Also propose gender-responsive vocational/extension services (e.g., digital literacy, business training) to expand women's livelihood options and adaptive capacity.

6. 2.4.8 Global trade & power imbalance (p. 40–41): Suggest gender-sensitive trade agreements that protect or promote small-scale women producers (tariff exemptions, preferential quotas). We suggest including a box on the Empowering women and boosting livelihoods through agricultural trade (EWAT)

Box 1.

Across Malawi, Ghana, South Africa, and Nigeria, the EWAT initiative supports women's meaningful participation in agrifood markets under the African Continental Free Trade Area (AfCFTA). Recently expanded to Senegal and the United Republic of Tanzania, EWAT offers four core components: knowledge generation, capacity building, awareness-raising and dialogue, and access to finance. Through detailed value chain studies (e.g. fish, soybean-to-poultry), EWAT identifies women's current roles, barriers, and untapped opportunities for inclusive market expansion. Policy briefs and public-private dialogues guide decision-makers on removing non-tariff trade barriers, adopting gender-responsive sanitary and phytosanitary measures, and incorporating women's priorities into AfCFTA negotiations. Women entrepreneurs, producers, processors, and traders benefit from trainings on market intelligence, food safety, packaging, and border procedures. In-person bootcamps strengthen business models, while partnerships with financial institutions facilitate tailored lending and gender-responsive credit schemes. By building women's competitive edge in cross-border commerce and engaging policymakers to align trade frameworks with women's needs, EWAT helps ensure agrifood trade is more inclusive, equitable, and an engine for better livelihoods under the AfCFT.

We also suggest including a box on the programme to promote the dissemination and uptake of the CFS Voluntary Guidelines on Gender Equality and Women's and Girls' Empowerment in the context of Food Security and Nutrition.

Box 2.

The FAO umbrella programme, including the project "Promoting the Dissemination and Uptake of the CFS Voluntary Guidelines on Gender Equality and Women's and Girls' Empowerment in the context of Food Security and Nutrition", aims to boost awareness, capacities, and policy coherence worldwide, with dedicated activities in Nepal and the United Republic of Tanzania from 2025 to 2027. Implemented by FAO and financed by the Swiss Agency for Development and Cooperation, it disseminates the Guidelines through tailored workshops, e-learning modules, policy assessments, and community campaigns. The project works closely with governments, civil society, and private stakeholders

	to tackle gender inequalities in agriculture, land, and food systems. It aligns with FAO's Strategic Framework and supports key Sustainable Development Goals on ending hunger (SDG 2) and empowering women and girls (SDG 5). It also builds synergies with the Joint Programme on Accelerating Progress towards Rural Women's Economic Empowerment, ultimately fostering an enabling environment where rural women and girls can thrive, ensuring more inclusive, food-secure societies
Please insert below any additional comment.	We suggest explicitly incorporating a food system framework (e.g., HLPE 2020) to help guide the theoretical discussion and contextualize the empirical and policy debates Beyond the examples requested in this template, the report could benefit for a more mainstreamed rights-based lens and can benefit from a more solid connection between the authoritative content of the right to food and its connection with ETR and agency.

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Surname and first name	Bagnara Gian Luca
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	project manager
Current institution/organization	Cà Colonna srl, Italy
Country	Italy
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	yes, the first is the full vertically integrated value-chain
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	adoption of carbon farming practices and criteria of "scope 3" on value-chain improvement of soil biodiversity as a sustainable criteria of the capacity of soil to stock CO2 in long term Within COM/2021/699 EU Soil Strategy for 2030 Reaping the benefits of healthy soils for people, food, nature and climate, the European Commission is proposing of Directive on Soil Monitoring to improve the state of soils: healthy soils are essential for achieving climate neutrality, a clean and circular economy and stopping desertification and land degradation. Over 60% of European soils (EUSO – EU Soil Observatory,

	Joint Research Center-JRC) are unhealthy or degraded due to unsustainable management of the land, sealing, contamination and overexploitation, combined with the impact from climate change and extreme weather events. Degraded soils reduce the provision of ecosystem services such as food, feed, fibre, timbre, nutrient cycling, carbon sequestration, pest control or water regulation. The loss of these essential soil ecosystem services costs the EU at least 50 billion euro per year (European Commission). Thus, the following dependency wheel shows (following figure) the extent of the overlapping area (in hectares) between groups of soil degradation processes of the convergence of evidence map (EC JRC-EUSO, 2024). Soil biodiversity is an important resource that regulates ecosystem processes essential to the functioning of earth's ecosystems (D.H. Wall, M.A. Knox, 2014): understanding of the species, their interactions, and effect on processes occurring in the soil food web in natural systems are an important contribution to management of land, particularly agriculture. The link between aboveground and belowground diversity is strong, although occurring at different temporal scales for organisms, and changes affecting aboveground diversity and function are reflected in belowground ecosystems. However, soil biodiversity across biomes seems correlated, but need of data and precise evaluation, with multiple dimensions of ecosystem functions and contributed to key ecosystem services such as microbially driven carbon pools, organic matter decomposition, plant productivity, nutrient cycling, water regulation, plant–soil mutualism, plant pathogen control and antibiotic resistance regulation. Soil biodiversity plays a crucial role in regulating services by effectively sequestering carbon dioxide (CO2) and it represent a key issue of sustainability of the incoming EU regulation on carbon farming (CRCF - Carbon Removal and Carbon Farming Regulation). Plant biomass has a dual role in gas exchanges. It reduces atmospheric CO2 via photosynthesis and also stores a portion of the captured carbon in the soil as organic matter. Soil micro and macrofauna break down plant litter and microorganisms convert it to stable soil organic carbon (Delgado-Baquerizo et al., 2020; Liang et al., 2019; Liang, C., Amelung, W., Lehmann, J., & Kästner, M. (2019). Quantitative assessment of microbial necromass contribution to soil organic matter (Global change biology, 25(11), 3578-3590). Natural ecosystems and conservation-managed agroecosystems are renowned for their significant capacity to store soil organic carbon and effectively regulate erosion. Thus, the accumulation organic carbon in the soil mostly occurs in the upper layers of the soil, though some soil organisms like earthworms can redistribute soil carbon.
How should resilience and the process of building resilience in food systems be evaluated? Which	Economic valuation explicitly applies agreed-upon methods to reveal diverse values for ecosystem services (ES), depending on the valuation's design (IPBES 2022). Soil biodiversity's role in stabilizing ES flow has been conceptualized as its "natural insurance value" (Sidibé et al. 2018).

indicators, frameworks, or methodologies do you consider most effective?	The project will use direct market valuation to estimate soil biodiversity-based ES values, utilizing biophysical soil quality data and surveys on soil biota.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	FAO White Paper: Economic Policies Related to the Conservation and Sustainable Use of Soil Biodiversity Authors: Gian Luca Bagnara*1, Andrea Mattia Pacifico2, Giulio Malorgio3 Rosalina González4, Giacomo Rocchegiani4, J. Jacob Parnell4, Luca Montanarella5, Carlos Barreto8 1. Cá Colonna srl, Via Dismano 676, 48125 Ravenna, Italy. E-mail: g.bagnara@agraria.it 2. Dipartimento di Scienze e Tecnologie Agro-Alimentari, Università di Bologna, Viale Fanin 50, Bologna, Italy. E-mail: andreamattia.pacifico@unibo.it 3. Dipartimento di Scienze e Tecnologie Agro-Alimentari, Università di Bologna, Viale Fanin 50, Bologna, Italy. E-mail: giulio.malorgia@unibo.it 4. Facultad de Ingenieria, Universidad de La Salle, Bogota, Colombia. E-mail: rogonzalez@unisalle.edu.co 5. Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, 00153 Rome, Italy. E-mail: Giacomo.rocchegiani@fao.org, 6. Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, 00153 Rome, Italy. E-mail: john.parnell@fao.org 7. The Soil Health Foundation, Rome, Italy E-mail: montalu80@gmail.com 8. Global Soil Partnership - Land and Water Division – FAO, email carlos.barreto@fao.org *Corresponding Author: g.bagnara@agraria.it
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition. In particular examples of integrated participatory processes, actions a	https://www.linkedin.com/posts/ca-colonna_carbon-farming-activity-7176660493829365760-TFJM?utm_source=share&utm_medium=member_desktop&rcm=ACoAAAHw3JkBFFryHTPKH38yfRx76tlkUyX6pKs
Please insert below any additional comment.	

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Surname and first name	Banjaw Biniyam
Are you contributing in a personal capacity or on behalf of an organization or team?	Personal capacity
Current position	Food and Nutrition Researcher
Current institution/organization	Ethiopian Public Health Institute, Nutrition, Environmental Health and Non-communicable Disease Research Directorate
Country	Ethiopia
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	Resilience in food systems should be evaluated through a holistic and multi-dimensional approach that considers the ability to withstand, adapt to, and transform in response to shocks and stresses. This evaluation must integrate ecological sustainability, food security, market stability, governance, and social equity to ensure long-term resilience and transformation. 1. Evaluating Resilience in Food Systems The process of building and assessing resilience should focus on key components, including: Agroecological sustainability – Promoting biodiversity, climate-smart agriculture, and efficient water use. Post-harvest management and food supply chains – Reducing food loss, enhancing storage, and improving infrastructure. Food safety and nutrition security – Ensuring food quality, safety compliance, and access to diverse, nutritious foods. Market access and equitable distribution – Strengthening food supply networks, price stability, and inclusion of smallholder farmers. Emergency preparedness and response – Developing early warning systems and maintaining national food reserves. Governance and equity – Strengthening multisectoral collaboration, transparency, and policy coherence. 2. Effective Indicators, Frameworks, and Methodologies A combination of indicators, global frameworks, and adaptive methodologies is required to capture food system resilience effectively: Indicators: These include agricultural biodiversity, food loss rates, household dietary diversity, food price stability, and emergency food aid coverage. Frameworks: Existing models such as the FAO Resilience Index Measurement and Analysis (RIMA), Global Food Security Index

	(GFSI), and Sustainable Livelihoods Framework (SLF) provide comprehensive tools for resilience assessment. Methodologies: A mixed-methods approach that integrates quantitative data, participatory assessments, and scenario-based risk analysis is essential to monitor resilience over time and ensure data-driven decision-making. 3. Evaluating Equitably Transformative Resilience (ETR) Equitably transformative resilience (ETR) ensures that resilience-building efforts address systemic inequalities and create long-term, just, and sustainable change. This can be assessed by: Equity in governance and decision-making – Measuring the representation of marginalized communities in food policy. Resource redistribution and inclusion – Evaluating market access, gender equity, and food sovereignty policies. Structural transformation – Assessing shifts toward agroecology, food sovereignty, and local ownership of food systems. By incorporating social equity, governance reform, and sustainability principles, resilience evaluation can lead to meaningful transformation rather than merely returning to pre-crisis conditions. Recommended Reference This approach aligns with the Ethiopian National Food and Nutrition Strategy, which provides a comprehensive framework for strengthening food system resilience through policy coherence, institutional capacity building, and multi-sectoral governance. The strategy serves as an important reference for designing resilient, sustainable, and equitable food systems at both national and global levels.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	To strengthen the evaluation of food system resilience, I recommend referencing the Ethiopian National Food and Nutrition Strategy. This strategy provides a comprehensive framework for enhancing food security, nutrition governance, and resilience-building through multi-sectoral collaboration, policy coherence, and institutional capacity development. It outlines key indicators and interventions to improve agroecology, post-harvest management, equitable food distribution, emergency preparedness, and nutrition security. The strategy serves as an important guiding document for assessing and implementing resilient, sustainable, and equitable food systems.

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Surname and first name	Clapp Jennifer
Are you contributing in a personal capacity or on behalf of an organization or team?	Personal capacity
Current position	Professor and Canada Research Chair in Global Food Security and Sustainability and Member of IPES-Food
Current institution/organization	University of Waterloo
Country	Canada
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	I liked this way explaining the resilience spectrum, though I did wonder if the 'Equitably Transformative Resilience' concept is already in the literature or is this an idea put forward by the report team? The concept came in the report before resilience was even defined in the introduction. I thought that the ETR concept was a bit complex and perhaps it is better to stick with the established categories and definitions in the literature and bring in the attributes necessary for FSN, like equity and human rights. I wasn't sure a new concept was required to describe these attributes.
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	The discussion of shocks and other disturbances in chapter felt like it repeated past HLPE reports like the Global Narrative report, equity report, etc. that give a state of the situation on a range of issues. It seemed like there was too much description there that has already been covered extensively by HLPE reports. I wondered if that chapter (2) could simply list the kinds of disturbances and be dramatically shorter to get to the new content on resilience sooner?
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	The report has a lot of sources already incorporated, but in some places in the text it seemed like more referencing on key points and definitions was needed - especially on different resilience concepts, at least in chapter 1.
Please insert below any additional comment.	These are my high-level comments, summarized: Is the term 'Equitably transformative resilience' a new concept being promoted by the report? I.e. are other terms in the literature more used/familiar/common? My sense is that HLPE reports normally draw on existing literature to bring forward the state of the art rather than new research. Of course, bringing those ideas together in a new way can be a useful contribution of the report, but I wasn't sure if the ETR concept was in the literature already. Also, it is introduced in chapter 1 before resilience is defined. I would suggest t that the report focus on resilience and how it's being utilized in different settings and in the existing literature and identifying the kinds of ways that policy has fallen short of

	supporting resilience, and what can be done to address those weaknesses. I think it's fine to define that resilience is more robust when it is equitable and has the traits identified in the report by enabling a bouncing forward in a way that upholds human rights. But I wasn't sure what differentiated ETR from Transformative resilience more broadly (Is the latter not equitable? Are studies on transformative resilience not taking equity into account? for me, that seemed implied in addressing power imbalances. I also thought more citations were needed to the text in chapter 1. Some language is jargonistic and readers who are not academics might not follow. E.g. "this will necessitate fostering complex, multi-scalar synergies between socio-ecological interdependencies and connections across geographies and time through explicit institutional changes to realize ETR food systems" – there is a lot going on in that sentence, yet it's not exactly clear what it refers to. I suggest writing in a way that those without the theoretical background can follow easily. Chapter 2 – This chapter strikes me as a repeat of much of the info in HLPE 2020 Global Narrative report chapter on these same kinds of issues. Maybe a few new ones are mentioned here and it's a bit updated, but this chapter is 20 pages long and most readers will likely skip the long descriptions. I suggest this chapter could be half as long and just list issues and cite previous HLPE reports. Plus, on page 22, the inequalities report was not published in 2019. Chapter 3 is the substance of the report on resilience, and again, I think it's coming quite late in the report (in this draft, it's already halfway through the report). The bullet points in the text box of key messages raised some questions – if HLPE is reporting on the state of the literature, here we have what appears to be an evaluation of the literature by saying some of it overemphasizes some points and others are too restrictive. Is this according to the HLPE-FSN? The existing literature? The drafting team? It was not clear to me. I think it's important to focus on resilience in its different formulations and then lead the reader to the point that the kinds of resilience outlined in the literature that are likely to be most supportive of improved FSN are ones that contain key elements – such as equity, rights, etc. That seems a better way than trying to make an argument at the front that readers should adopt this new term. I would suggest leading readers to that understanding through the overview of the existing literature. And I wondered if this could even be chapter 2 (?) Finally, putting human rights at the centre of resilience of food systems doesn't get full discussion in this draft until page 66. That

	felt like it was too late in the report. I would suggest discussing human rights and its place in resilience thinking earlier on.

22

Surname and first name	Da Silva Costa Savio
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Office advisor.
Current institution/organization	National Secretariat for Food and Nutrition Security of the Ministry for Social Development and Assistance, Family and Fight Against Hunger (SESAN/MDS) of Brazil
Country	Brazil
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	Regarding what follows in the Panel: "Tendall et al. (2015) describe food system resilience as the 'capacity over time of a food system and its units at multiple levels to provide sufficient, appropriate, and accessible food to all, in the face of various and even unforeseen disturbances.' This definition emphasizes how disturbances impact food security and the robustness or capacity of food systems to withstand these disturbances, their ability to absorb them (by having replaceable or redundant elements), adapt to the effects of the disturbance, and do so quickly and flexibly" (...) An example of this occurs in the city of Belo Horizonte, MG, Brazil, where various actions have been implemented to promote resilience in food systems, ranging from the recovery of vacant lots to the equitable transformation of production methods. These efforts can be analyzed along the resilience spectrum, as discussed in Chapter 3: Recovery ("bouncing back"): The city has implemented several initiatives focused on recovery and resistance to shocks in food systems. One example is the Collective and Community Productive Units (UPCC), which help recover local food production, often affected by extreme weather events or economic crises. These units promote the inclusion of resilience practices, such as the adoption of sustainable agricultural technologies to address issues like water scarcity, using efficient irrigation techniques, or the recovery of degraded areas for food cultivation. Local producer training is also an important strategy to strengthen recovery and restore the

	production of essential foods. Equitable Transformation ("bouncing forward"): In addition to promoting recovery, Belo Horizonte has been dedicated to transforming food systems in a deeper and more inclusive way. The city invests in actions aimed at creating structural changes that enhance social equity and food security. One example is the food sovereignty projects implemented in communities, which aim to transform how food is produced, distributed, and consumed. These projects involve creating local distribution networks and strengthening producer cooperatives, promoting community autonomy and reducing inequalities in access to healthy and nutritious food. Furthermore, the City Hall supports the organization of local fairs and markets that encourage the production and consumption of organic and sustainable foods, contributing to long-term resilience and the transformation of the food system.
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	SISAN: established by Law 11,346/2006, with the goal of ensuring the Human Right to Adequate Food. Its objectives are to formulate and implement food and nutritional security policies and plans, stimulate the integration of efforts between government and civil society, and promote the follow-up, monitoring and evaluation of food and nutritional security across the country. BOLSA FAMILIA PROGRAM: It's Brazil's largest cash transfer program, internationally recognized for having lifted millions of families out of hunger. The Federal Government has relaunched the program with additional protection for families, with a benefit model that takes into account family size and characteristics. Families with three or more people will now receive more than a single person. BASIC FOOD BASKET: Its a selection of essential foods, defined by a national decree and designed to promote healthier eating habits and support local agriculture. It includes ten food groups, such as legumes (beans, lentils), cereals (rice, wheat), roots and tubers (potatoes, sweet potatoes), vegetables, fruit, nuts and seeds, meat and eggs, milk and cheese, sugars, salt, oil and fats, coffee, tea, yerba mate and spices, in line with the Food Guide for the Brazilian Population. ALIMENTA CIDADES STRATEGY: Implementation of the National Strategy for Food and Nutritional Security in the Cities (Alimenta Cidades) began in 2024, with the aim of expanding the production, access, availability and consumption of adequate and healthy food, prioritizing vulnerable populations in peripheral urban territories. The initiative maximizes the benefits for the population by linking various public policies. With eight lines of action, it prioritized 60 cities, which together account for 64 million inhabitants. FOOD ENVIRONMENT - SCHOOLS: school environment is one of the most propitious places for promoting healthy habits, as it is a place where children and adolescents spend a large part of

	their time developing and enhancing habits and practices. Decree 11,821/2023 setting out the strategic axes and guidelines for the promotion of adequate and healthy food in the school environment, in Brazil's public and private basic education networks. CLIMATE AND FOOD SECURITY PLAN: The Plan is being developed and will guide Brazil's climate policy until 2035. It has two main pillars. The first is the National Mitigation Strategy, which aims to reduce emissions of Greenhouse Gases (GHG), which cause global warming. The second is the National Adaptation Strategy, which seeks to reduce the vulnerability of cities and the environment to climate change and improve the country's ability to cope with extreme weather events. FOOD ACQUISITION PROGRAM (PAA): recreated by Law 14,628/2023 and regulated by Decree 11,802/2023, aims to promote the food and nutritional security of the most vulnerable population served by entities in the social assistance network, the public health and education network, popular restaurants, community and solidarity kitchens, among other facilities through the distribution of food purchased from family farming. CISTERNS PROGRAM: aims to promote access to water for consumption and food production by implementing simple, low-cost social technologies for low-income rural families registered with the Unified Registry. The cisterns have a direct impact on people's quality of life, improving health indicators, food security and social and productive inclusion. II BRAZILIAN STRATEGY FOR REDUCING FOOD LOSSES AND WASTE: The strategy (PDA) was drawn up, which aims to increase access to healthy food, especially for low-income populations, by promoting the consumption of fresh or minimally processed food. It also seeks to strengthen the rural-city connection, reduce the environmental impact of organic waste and foster technological and social innovations that help food production achieve its goal of feeding people in a fair, healthy and sustainable way.

23

Surname and first name	Bombassei Michele
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Senior Migration Policy Advisor
Current institution/organization	International Organization for Migration (IOM)
Country	Switzerland
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	Migration is often a strategy for households to manage the risks of poverty and food insecurity, building resilience to fluctuations in agricultural production, income and employment. Migration can be a powerful driver of sustainable development, adaptation, and resilience in the face of food insecurity, allowing food-insecure individuals better livelihood opportunities and providing additional income to food-insecure households through remittances. For more information, please see: https://environmentalmigration.iom.int/sites/g/files/tmzbdl1411/files/CA0922EN.pdf
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	- Migration can serve as a valuable adaptation strategy to climate change, with some individuals relocating when food security is at risk. Remittances from migrants play a crucial role in helping families in their home countries cope with climate challenges, both by purchasing food and investing in adaptation measures. In many cases, households respond to climate stressors by integrating local adaptation efforts with the migration of family members. - Effective interventions for food security and climate adaptation require meaningful and inclusive engagement with local communities. Extensive evidence highlights the value of local and Indigenous knowledge, not only for fostering more inclusive policies but also for ensuring long-term sustainability. - The complex relationships between human mobility, climate change, conflict, and food insecurity are highly context-dependent and should not be overlooked. In some regions, non-climatic and ecological factors amplify climate-induced conflicts, leading to migration and tensions between farmers and herders. In other areas, migration is primarily driven by structural vulnerabilities in low-resilience regions, while food security—shaped by environmental changes—acts both as an outcome of these shifts and as a catalyst for violent conflict and migration among vulnerable populations.

How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	• Youth engagement: Youth can engage in climate change and food security issues in various ways, such as education, advocacy, innovation, and action. They can innovate and develop new technologies, products, and services that can reduce greenhouse gas emissions, increase food production and quality, and enhance resilience and adaptation. They can also take action at the individual, household, and community levels, by adopting more sustainable and healthy food consumption and production practices, such as reducing food waste, choosing local and organic food, diversifying diets, and supporting small-scale farmers. • Remittance: In about 25 developing countries, remittances constitute more than 10 percent of GDP, contributing to the improvement of food security and nutrition, education, health, well-being and housing for millions of families. 205 Remittances also consist of an important safety net in times of crisis and function as a risk management tool, improving poor people's resilience to shocks. (Source: https://environmentalmigration.iom.int/sites/g/files/tmzbdl1411/files/CA0922EN.pdf)
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	Escribano, P. and D. Pons Ganddini (2024). Climate change, food insecurity and human mobility: Interlinkages, evidence and action. In: World Migration Report 2024 (M. McAuliffe and L.A. Oucho, eds.). International Organization for Migration (IOM), Geneva; https://publications.iom.int/books/world-migration-report-2024-chapter-7
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	• Six dimensions of food security: access, availability, utilization stability, sustainability, and agency. • Food systems: systems supporting food production (ecosystems, human, health, energy, economics); food supply chains (production, storage, processing, distribution, markets/ retail, promotion and advertising; food loss and waste); circular economies and flows of resources; private sector considerations, in particular, small and medium-sized enterprises; food environments: availability; access; affordability of healthy diets; policy; consumer behaviours and preferences. • Governance: smallholders, harvesters, food producers, fisherfolk rights; labour and workers' rights; natural resources, including land (access, tenure) and water; strategy and action; sustainable livelihoods; multi-scale government-led policy; funding; negotiations; action and advocacy; policy sequencing knowledge creation spaces that legitimize, value and empower experimental knowledge and the ways of knowing. • Rights policy frameworks that recognize interdependencies between human and nature's rights in food systems. • Social protection programmes: https://environmentalmigration.iom.int/protection-and-insertion-migrant-labour-and-environment-urban-and-peri-urban-agriculture-senegal-and-cote-divoire • Grassroots social innovations (that can be supported by or enhanced by state-led resourcing). • Women's empowerment: https://yemen.iom.int/stories/yemeni-

	women-lead-communities-fight-against-climate-change • Scale-appropriate technology. • Data: publicly available, innovative data (e.g. soil mapping; census data) for decision-making, indicators and metrics (qualitative and quantitative). • Finance and fiscal space. • Regionalized and localized trade, equitable global trade, and managing food price volatility. • Supporting equitably transformative food systems resilience in the face of (protracted and emerging) conflict: https://mptf.undp.org/project/00133698 • Managing climate risks/shocks/stresses through early warning, early action systems, anticipatory actions, contingent financing, among others. • Multi-stakeholder partnerships for innovation and collaboration in food systems transformation: For example, IOM partnered with local authorities and a training center to address food security challenges in drought-prone areas of Papua New Guinea. With funding from USAID, IOM organized a five-day training program for 60 participants, focusing on sustainable farming practices like crop cultivation and organic fertilization. This initiative aims to equip communities with skills and tools to enhance food resilience amidst worsening droughts, providing ongoing support with drought-tolerant seedlings and farming equipment. For more information, please see: https://roasiapacific.iom.int/news/promoting-resilience-food-security-drought-prone-communities

24

Surname and first name	FAO, Forestry Division, Food, Nutrition and Wildlife Team
Please insert below any additional comment.	• It could highlight more on the contributions of forests, forest foods, and NWFPs, especially regarding climate change mitigation. • The report mentions biodiversity loss and land-use change as threats to food security, which indirectly points to the importance of forests. It also discusses the vulnerability of indigenous food systems, many of which rely heavily on forest resources. However, it misses opportunities to strengthen these points with concrete examples and a more direct discussion of the value of forests: For instance: 1. Indigenous Forest Gardens: The report cites a study showing high biodiversity in these systems. This is good but doesn't explicitly connect biodiversity to food security by directly providing NWFPs or forest foods. It focuses on biodiversity generally, not on the role of NWFPs as a crucial food source. 2. AWR and Nashipay Maasai Initiative: These examples showcase successful community-based initiatives improving food security through agroecology and empowerment. While these projects might indirectly support carbon sequestration and the sustainable use of forest resources, this connection isn't made. The focus is on community empowerment and resilience, not the specific role of NWFPs in achieving food security. • The report can bring in more specific examples demonstrating communities directly depending on NWFPs for food and livelihoods; NWFPs and forest foods contributing significantly to diets and nutrition, particularly in vulnerable communities; forest management and conservation strategies that enhance food security; policies and programs promoting the sustainable use of NWFPs and forests for improved food security; mountainous regions and water cycles. • Deforestation and degradation in these areas reduce biodiversity and NWFP availability and disrupt water supplies, impacting food security. This interconnectedness between ecosystems needs a thorough examination. • Forests and Carbon Sequestration: While the report mentions forests' role in carbon sequestration within the broader discussion of planetary boundaries and climate change, it does not highlight this as a major strategy for climate change mitigation or improving food system

	resilience. It focuses more on deforestation as a problem than on the potential of forests to help solve it.

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Surname and first name	Cruz Earlene
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Director
Current institution/organization	Kitchen Connection, United States of America
Country	United States of America
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	The report discusses this concept theoretically, and it includes examples of transformative change, but it could more explicitly illustrate the full spectrum within school meal systems. Here's how the spectrum can be seen in practice, and how the report addresses it: Bouncing Back (Restoring Function): A basic level of resilience is when a school meal program can absorb a shock and return to normal operations relatively quickly. For instance, after a natural disaster or a pandemic-related school closure, a resilient program might reopen kitchens and restore meal service as soon as schools resume, ensuring students experience little long-term disruption. During the COVID-19 pandemic, many countries' school feeding programs showed bouncing back resilience by finding interim ways to feed students (drive-through meal pickups, home deliveries, or food vouchers) and then reopening at scale when schools did. The report implies this level of resilience in its discussion of "absorptive capacity" and examples like WFP's crisis responses, but it doesn't explicitly label a school meals example as a pure bounce-back. A concrete example could be the way France and the UK managed to reinstate their national school meal services after initial COVID disruptions – they largely aimed to get back to prior coverage levels, using stopgap measures in the interim. The key indicators of bouncing back are speed of recovery (minimal downtime in meal provision) and preservation of service levels (delivering roughly the same quantity/quality of meals post-shock as pre-shock). The report's content on stability and shock-responsive programs hints at these aspects, but a clearer narrative example (perhaps a short case of a program that was hit by a shock and recovered to status quo) would help illustrate "resilience as recovery." Bouncing Forward (Improving and Adapting): The report strongly emphasizes moving beyond recovery to transformation – essentially using shocks as an opportunity to innovate and address underlying vulnerabilities. The Brazil and Kenya cases in the report are prime

	examples of bouncing forward. Brazil's PNAE wasn't born from a single shock, but over time it has evolved into a more equitable and robust program, as described earlier. In Kenya, the handover of school feeding to the government and the scaling up of local procurement was a forward leap spurred by the desire for sustainability. The report explicitly notes that such programs "paint a picture of food systems that are bouncing forward toward ETR food systems. "Moreover, globally, the shock of the pandemic prompted a bounce-forward response: not only did school meal programs rebound, but coverage actually exceeded pre-pandemic levels by 2022 (418 million children fed vs. 388 million before). This expansion came with reforms – many governments increased budgets, adopted universal meal policies, or improved nutrition standards in direct response to weaknesses revealed by the pandemic. The report could strengthen this point by highlighting such post-shock improvements. Bouncing forward is evidenced by changes like new policies, better integration with farmers (local sourcing initiatives blossoming after supply-chain failures of global food), and enhanced equity (waiving means-testing to ensure all hungry children are reached). In summary, the report leans toward the "bounce forward" narrative, which is inspiring and aligned with long-term goals. To fully address the resilience spectrum, it should also recognize and illustrate "bounce back" scenarios – these are often the first step in resilience building. By presenting both, the analysis can show a progression: absorb and recover (bounce back), then learn and improve (bounce forward). This makes the concept of resilience less abstract and shows policymakers that even maintaining a program through a crisis is an achievement, while also encouraging them to seize opportunities for positive change post-crisis.
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	Broadening Scope of Analysis: The report could consider a wider range of trends and variables that influence the resilience of school meal systems. Key factors include: Climate Change and Disaster Risk: Increasing climate variability and extreme weather threaten food production and supply chains. School meal programs must plan for droughts, floods, and other shocks – for example by diversifying food sources and establishing emergency food reserves or delivery mechanisms. The COVID-19 pandemic similarly highlighted the need for contingency plans when regular school operations are disrupted Local Procurement and Supply Chains: Emphasizing home-grown school feeding is a growing trend that links school meals with local agriculture. Sourcing from local smallholder farmers not only supports rural livelihoods but also shortens supply chains, making programs less vulnerable to global market. Strengthening local supply networks (e.g. community gardens, farmers' cooperatives) and cold-chain

	infrastructure for schools can improve reliability. Policy and Funding Stability: Resilient programs require stable funding and institutional support. Legal frameworks or dedicated budget lines can shield school feeding from political changes or economic downturns. For instance, Brazil's school feeding law guarantees meals as a right for all public school students and mandates budget minimums for local food procurement, helping ensure continuity through government transitions. Nutrition and Health Trends: Modern school meal programs are expanding their focus from caloric intake to nutrition quality. Incorporating nutrient-dense and culturally appropriate foods (including biofortified crops) can improve dietary outcomes and long-term resilience by combating both malnutrition and obesity. Trends like integrating nutrition education and dietary guidelines into school feeding (as in Japan's Shokuiku or other curricula) can make food systems more robust by building healthy habits. Equity and Coverage Expansion: A resilient food system is an inclusive one. Many countries are moving toward universal or expanded coverage of school meals as a social protection measure. Globally, about 41% of primary school children now have access to free or subsidized meals, but this rises to 61% in high-income countries – pointing to gaps in low-income regions. Closing this gap by reaching more vulnerable children (e.g. in low-income, rural, or conflict-affected areas) is critical for equity and shock resilience. During emergencies, programs have innovated to reach out-of-school children (for example, delivering take-home rations or vouchers during COVID-19 closures), demonstrating the importance of flexible coverage. By examining these additional elements – from climate adaptation to governance and technology – the report can more fully capture what strengthens or weakens the resilience of school meal programs.
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	Measuring resilience requires a multi-dimensional approach. The report should establish how to evaluate both a system's ability to withstand shocks ("bouncing back") and to adapt or improve in response ("bouncing forward"). Effective evaluation frameworks and indicators include: 1. Resilience Capacities (Absorptive, Adaptive, Transformative): Many agencies assess resilience by looking at capacities in three areas: the ability to absorb shocks, adapt to evolving conditions, and transform structures if needed. For school meal systems, absorptive capacity could be measured by continuity of meal delivery during a crisis (e.g. the percentage of planned meals still provided during a disaster). Adaptive capacity can be seen in how programs adjust – for instance, switching

	from in-school meals to take-home rations or cash transfers when schools close. Transformative capacity involves long-term changes like new policies or infrastructure that improve future responses (for example, establishing food warehouses or multi-school procurement networks post-crisis). The report touches on these concepts by noting pillars like anticipate, absorb, adapt, and transform in a World Food Programme initiative, but a clearer framework for school meals specifically would strengthen the analysis. 2. Food Security and Nutrition Indicators: Resilient school meal programs support the pillars of food security – availability, access, utilization, and stability – even under stress. Thus, useful indicators include meal availability (e.g. diversity and local availability of foods for the program), access (coverage rates among students, including marginalized groups), utilization (nutritional quality of meals and uptake by children), and stability (consistency of service throughout the year and during emergencies). For instance, tracking the number of feeding days lost (or not lost) due to shocks is a direct stability indicator. In India, researchers found that the national mid-day meal scheme completely compensated for the nutrition losses that would have occurred during droughts 3.Qualitative Assessments (Case Studies & Community Feedback): In addition to quantitative indicators, methodologies like case studies, after-action reviews, and community feedback sessions are valuable. They capture nuances – for example, how empowered local school committees feel in responding to a crisis, or how culturally acceptable the emergency menu was. These qualitative insights can be mapped to frameworks like the "Getting to Equity" model used in a recent U.S. review, which examined multi-level factors influencing nutrition equity during emergency school meal operations. Incorporating community voices and frontline worker experiences helps evaluate agency – a dimension the report itself notes as vital for resilience (empowering local people to take action) In summary, evaluating resilience in school meal systems should use a blend of quantitative metrics (continuity of service, recovery time, diversity of suppliers, etc.) and qualitative evaluations (governance effectiveness, community adaptation, lessons learned). Established food security resilience frameworks and indicators can be tailored to capture how well a school meals program can withstand shocks and adapt over time.
Are there other references, data, publications, or other kinds of knowledges,	While the report provides a solid foundation, there are several pertinent publications and data sources it could leverage to deepen the analysis of school meal systems: 1. Global School Feeding Data: The report would benefit from

which should be included in the report?	incorporating recent global statistics on school meal coverage and trends. For example, the World Food Programme's State of School Feeding Worldwide 2020 and 2022 reports detail how, prior to the pandemic, 388 million children were receiving school meals – a number that dropped drastically during COVID but rebounded to 418 million in 2022 as programs expanded. Citing these figures underscores the scale of school feeding and its recovery, highlighting its importance as the world's largest safety net for children. 2.Evidence on Program Impacts: Academic and institutional studies can provide data on the multi-faceted impacts of school meal programs. For example, a World Bank paper by Alderman et al. (2023) titled "School Meals Are Evolving: Has the Evidence Kept Up?" reviews new evidence on outcomes and cost-effectiveness of school feeding. It highlights trends like the shift toward broader objectives (education, nutrition, agricultural development) and provides statistical comparisons of coverage by country income level. Including such references would show that the report is informed by the latest research on what works in school feeding. 3. COVID-19 Lessons Learned: The report can strengthen its resilience angle by referencing publications on how school meal programs managed during the COVID-19 crisis. UNICEF, WFP, and academic reviews have documented strategies used to reach children amid school closures, as well as the nutritional consequences of missing school meals. For instance, a joint WFP/UNICEF press release noted that at the peak of school closures in April 2020, 370 million children worldwide were suddenly deprived of their main daily meal – a stark data point illustrating vulnerability.
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	The report introduces the concept of "equitably transformative food system resilience" (ETR) – meaning changes that not only recover from shocks but also transform food systems in equitable ways. School meal programs can indeed be drivers of such transformation. Below are several examples that illustrate equitable, resilient, and transformative approaches, touching on access, stability, governance, social protection, and sustainability: 1. Brazil's National School Feeding Program (PNAE): Brazil's program is a flagship example of ETR in action. It provides free daily meals to about 40 million students nationwide as a legal right, ensuring universal access and acting as a massive social safety net. Critically, the program was redesigned with equity and resilience at its core. a. Inclusive & Equitable Procurement: The law specifically prioritizes marginalized groups – family farmers, traditional communities, women, Indigenous and Quilombola communities – to supply the program. Recent legislation even stipulates that when buying from individual

families, at least half the value must be paid to women, boosting women's economic empowerment.

b. Social Protection & Nutrition: By reaching essentially all public school children, PNAE closes the hunger gap for the poorest families (who might struggle to feed children at home) – a powerful form of social protection. During school holidays or disruptions, many Brazilian states adapt by providing take-home food baskets, showing absorptive resilience. The meals follow nutrition guidelines emphasizing diverse, minimally processed, and culturally appropriate foods, which supports long-term health.

2. Kenya's Home-Grown School Meals Program: Kenya illustrates how a program can evolve from external aid to an institutionalized, resilient national system. For decades WFP ran school feeding in Kenya, but in 2009 the government launched Home-Grown School Feeding to boost local economies and self-reliance

a. Access & Education: By 2018, about 1.5 million Kenyan children (especially in arid and semi-arid regions) received meals at school, improving attendance and education outcomes, especially for girls

b. Local Sustainability: Rather than relying on imported commodities, funds are sent directly to schools, where committees of teachers and parents buy fresh food from local small-scale farmers via competitive bidding . This creates a structured market for local farmers, stimulating production and income in the community. Farmers, many of them women, receive training to increase yields and supply nutritious crops sustainably. This link builds a rural economic buffer – when schools need food, local agriculture provides it, making the system less vulnerable to global supply disruptions.

3. India's Mid-Day Meal Scheme: India runs the world's largest school feeding program, serving about 120 million children daily. It has a strong social equity rationale – improving nutrition for children in poverty and incentivizing school attendance – but it also demonstrates resilience benefits.

a. Social Protection & Stability: Studies have shown that India's mid-day meals act as a safety net during shocks: during drought years, the presence of the school meal program completely offsets what would otherwise be a decline in child nutrition outcomes. In other words, even when household food security falters, children's calorie and protein intake are maintained because the school meal fills the gap. This finding exemplifies stability: the program absorbs climatic shocks at scale.

Each of these cases highlights different dimensions of equitably

	transformative resilience. Common threads include institutionalization, multi-sector collaboration, and a pro-poor focus. By ensuring access for vulnerable groups, stable and locally rooted supply chains, integration with social protection, and environmental and nutritional sustainability, school meals can act as cornerstones of resilient food systems.
Please insert below any additional comment.	The report provides a strong analysis of resilience in school meal systems but could benefit from additional clarity and depth in key areas: 1. Evaluation Framework for Resilient School Meal Systems The report lacks a structured framework for assessing resilience in school meal programs. A recommended addition would be a resilience checklist, covering indicators like emergency preparedness, funding stability, supply chain diversity, and community participation. Existing resilience measurement tools (e.g., WFP's RIMA) could be adapted to assess school meal continuity, adaptability, and transformation after crises. 2. Addressing Crisis and Conflict Situations School feeding programs play a crucial role in conflict-affected and displacement settings, yet the report focuses primarily on development contexts. Incorporating examples from humanitarian school feeding (e.g., WFP programs in Syria, Yemen, and refugee camps) would provide a more complete picture of resilience in extreme conditions. 3. Nutritional Outcomes and Diet Quality While the report discusses food security, it could better emphasize nutrition quality and the dual burden of malnutrition (both undernutrition and obesity). Including data on fortified foods, dietary diversity, and health outcomes would strengthen the resilience narrative. School meal programs increasingly serve as platforms for nutrition education and behavior change, which should be highlighted. 4. Economic Efficiency and Cost-Effectiveness Scalability and sustainability require cost-effective implementation. The report should address strategies for reducing per-meal costs without compromising quality, such as regional procurement hubs, community contributions, and reducing food waste. Quantifying returns on investment (e.g., every $1 spent on school meals yields $3+ in social and economic benefits) would reinforce the case for long-term investment. 5. Equity and Inclusion Considerations The report embraces equitable transformation but could better outline how to reach vulnerable groups like girls, children with disabilities, and those in remote areas. Expanding case studies on targeted interventions (e.g., take-home rations for girls, mobile kitchens for underserved communities) would strengthen its recommendations.

	6. Learning from Success and Failure While the report highlights successful programs, it could analyze both high-performing and struggling school meal systems to extract key lessons. For example, examining why some countries expanded school feeding during COVID-19 while others saw programs collapse could yield actionable insights on governance, preparedness, and funding resilience. Overall, the report is well-structured but could be enhanced with a clearer resilience assessment framework, crisis-specific strategies, deeper nutrition focus, economic efficiency insights, inclusion tactics, and a balanced review of successes and challenges. Addressing these gaps would provide a more comprehensive and actionable guide for policymakers working to strengthen school meal programs globally.

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Surname and first name	Hincapie Daniel
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	leader of evaluation and systematization at Alpina Foundation
Current institution/organization	Alpina Foundation, Colombia
Country	Colombia
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	Since 2020, collaborative efforts have been underway with eight Wayuu communities in Alta Guajira, Colombia, to transform their food systems and strengthen their resilience to adverse environmental and socio-economic conditions. This desert ecosystem faces extreme temperatures and prolonged droughts, limiting access to water for both human consumption and agricultural production. Traditionally, water sources have included rivers, wetlands, and artisanal wells, while the nearest urban center is nearly 200 km away, making market access and the availability of essential goods more difficult. These communities have historically faced high levels of poverty and food insecurity. Before the intervention, average incomes were approximately 200,000 Colombian pesos (50 USD), with 42% of the population living in multidimensional poverty. Food insecurity was widespread: 79% of families did not consume three meals per day, and 86% only had two meals per day. Through a participatory process, key strategies have been implemented to strengthen resilience, leading to significant progress in multiple areas: • Water access: wells with pumping systems were built, ensuring a reliable water supply for irrigation and human consumption. This has

	enabled the development of community and household gardens, with at least 8 hours of daily water access in all communities. • Food diversification and recovery of traditional crops: the availability of food increased from 5 to over 20 nutritionally rich products, including vegetables, fruits, eggs, and tubers, which can be grown year-round. Additionally, efforts have been made to recover traditional seeds and crops, such as Guajiro beans, strengthening cultural identity and self-recognition. • Economic diversification and sustainability: income-generating activities have been strengthened by supporting productive units that complement traditional livelihoods, such as handicrafts and livestock sales. • Environmental sustainability: soil and water conservation, reforestation, and waste management practices, including composting and vermiculture, have been implemented. This has facilitated a transition from deforestation to a circular economy model focused on environmental conservation. • Strengthening social cohesion and governance: eight self-managed savings and credit groups were created, improving the communities' financial autonomy and enhancing organizational capacity and socio-emotional skills for self-management and governance. • Market access and commercialization: short supply chains have been promoted, reducing intermediaries and making it easier for communities to sell agricultural products locally in community stores. These changes have enabled communities to strengthen both absorptive and transformative resilience, as they have maintained improvements in food security and economic sustainability despite harsh environmental conditions. Additionally, community reorganization has reinforced social ties and self-managed structures, promoting long-term sustainability. A key milestone in this process has been the creation of the Kottirawa'a Wapushuaya (All United in Wayuunaiki) association, which has allowed communities to collectively market their products and access essential goods at more affordable prices. Through this initiative, they have strengthened community governance, fostered local leadership, and promoted more equitable relationships within the community. While this experience has laid a strong foundation for advancing toward Equitably Transformative Resilience (ETR), the process is still ongoing. The consolidation of the association represents a first step toward greater equity in community relationships and engagement with other food system actors. However, to fully achieve ETR, it is necessary to improve access to public services and state programs while expanding development opportunities under a rights-based and social justice approach
Are there any additional trends/variables/elements that should be analyzed	It is essential to consider the use of technological tools and access to digital information as a key strategy for strengthening the resilience of food systems. The availability of data on precipitation, humidity,

in the report to understand and strengthen the resilience of food systems?	sunlight, and other climatic factors allows for the anticipation of environmental variations and informed decision-making to reduce production risks. Additionally, early warning systems can help identify correlations between climate events and their impact on agricultural production, enabling faster and more effective responses to potential crises. Moreover, access to digital information on prices, production costs, and market dynamics is crucial for improving economic adaptability. Having updated data on price fluctuations of agricultural products allows producers to make strategic decisions on what, how much, and how to produce, minimizing risks and increasing the economic sustainability of their activities. The integration of digital tools and access to information in food systems not only improves response capacity to climate and economic shocks, but also enhances efficiency and planning in decision-making, making these systems more resilient in the long term. Additionally, it is important to consider the development of psycho-emotional skills for self-management, which can be understood as part of the human capital necessary to strengthen food system resilience. Having strong socio-emotional skills enables individuals and communities to adapt, manage uncertainty, and improve their responses to shocks and adversities, supporting sustainable recovery and transformation processes. Finally, strengthening social cohesion and community organization, as part of social capital, plays a crucial role in food system resilience. The existence of solidarity and cooperation networks allows food system actors to collectively face crises, serving as an alternative to the State in areas with low institutional presence or as an alternative to the market in contexts with limited access to commercial and financial networks.
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	To assess the resilience of a food system, it is essential to consider multiple dimensions that reflect its ability to withstand, adapt to, and transform in response to shocks and adversities. The key components to evaluate include: • Environmental sustainability: conservation of soils and water sources, preservation of flora and fauna, biodiversity protection, and strengthening the circular economy through recycling, organic fertilizers, composting, vermiculture, and biopreparations. • Food security: regular access to nutrient-rich foods and dietary diversification. • Economic sustainability: diversification of income sources and the development of sustainable productive activities. • Market access: direct commercialization with fewer intermediaries and reduced dependence on external inputs and products. • Access to public goods and services: including health, education, technical assistance, credit, land, subsidies, and insurance. • Human capital: education, innovation, technology adoption, and the development of psycho-emotional skills for self-management.

• Preservation of cultural traditions and knowledge in food production and consumption practices.
• Social cohesion and community organization: cooperation networks, social cohesion, and social capital.
• Gender equity: equal participation in decision-making, access to resources, and opportunities for women.

Agroecological Characterization as a Proxy for Resilience
An effective approach to measuring resilience in food systems is agroecological characterization, as it captures key dimensions such as:
• Sustainable environmental practices (soil, water, and biodiversity management).
• Food security and production diversification.
• Economic sustainability through income diversification and livelihoods.
• Market access and diversification of commercialization channels.
• Strengthening social capital and access to savings and credit schemes.
• Gender equity in access to resources and decision-making.

Methodologies and Tools for Measuring Resilience
Several methodological frameworks and tools can be used to assess resilience in food systems, including:
1. Resilience Index Measurement and Analysis (RIMA)
o Access to basic services.
o Availability of productive assets (transportation, infrastructure, livestock, tools, machinery).
o Social protection networks (subsidies, economic transfers).
o Adaptive capacity (education, technical knowledge, crisis response strategies).
o Food security (household food access and availability).
2. Consumption-Based Coping Strategies Index (CSI)
o Evaluates strategies used by households to cope with food insecurity and shortages.
3. Farming Thriving Index
- A well-being measurement index for rural areas, covering four dimensions: Living standards: establishes daily income thresholds to determine whether a household is above extreme poverty, moderate poverty, or has a middle income.
- Resilience: includes financial resilience, emergency income, savings behavior, access to services, and agroecological practices.
- Agricultural outlook: assesses farm profitability, investment in farming, expected years of continued farming, and intergenerational transition. This last aspect is particularly relevant in Latin America, where rural populations are aging, affecting the long-term resilience of food systems.
- Food security.
4. Complementary Qualitative Tools
- Focus groups and interviews to understand community perceptions of

	resilience, adaptation strategies, and responses to shocks and adversities.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	To enhance the analysis of resilience in food systems, the following references are recommended: • Resilience and Sustainability in Food Systems Research (2023) provides an updated analysis of approaches and strategies to strengthen resilience in food systems from a sustainability perspective. https://ieep.eu/wp-content/uploads/2023/11/Resilience-and-sustainability-in-food-systems-ESAD-IEEP-2023.pdf • The Path of Latin America and the Caribbean Towards Resilient, Healthy, and Fair Food Systems (2025) applies the indicators from the Food Systems Countdown Initiative, offering a detailed view of the challenges and opportunities in the region. • Food and Agriculture Organization Corporate Statistical Database (FAOSTAT) provides key data on agricultural production, trade, food security, and sustainability, which can be useful for analyzing food system resilience at a global scale. • Measuring Well-Being and Progress (OECD) explores well-being dimensions that, while not exclusively focused on food systems, can be relevant for assessing resilience from a broader macro-level perspective. Factors such as equity, social cohesion, and resource access contribute to a more comprehensive approach to measuring food system resilience. https://www.oecd.org/en/topics/measuring-well-being-and-progress.html • Sustainable Livelihoods Framework (SLF) offers a methodology to analyze resilience from a holistic and participatory approach, considering five key capitals: social, human, natural, productive, and financial. • Farmer Thriving Index (FTI) – A holistic index designed to assess whether farmers are thriving or merely surviving. The index is built around four themes: living standards, resilience, livelihood outlook, and food security. Developed by 60 Decibels using lean data collection techniques, this standardized tool is applicable to farmers in any context or value chain, making results comparable across different populations. • Family Farming in Latin America and the Caribbean: Policy Recommendations (2014) – Conducted by FAO, this report provides a deeper understanding of peasant, community-based, and family farming in the region. https://www.fao.org/4/i3788s/i3788s.pdf
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	to watch more about projects in La Guajira https://www.youtube.com/watch?v=oCSNCA-0ijs&ab_channel=Fundaci%C3%B3nAlpina
Please insert below any additional comment.	to see more about our work https://fundacionalpina.org

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Surname and first name	Li Belinda
Are you contributing in a personal capacity or on behalf of an organization or team?	Personal capacity
Current position	PhD Candidate
Current institution/organization	Simon Fraser University
Country	Canada
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	Equitably bouncing forward - Transformation by community composting. Rebuild healthy soils locally so that food can be grown without relying on as many chemical and imported fertilizer inputs. This is not just the act of composting, but the social connection, knowledge, skills, and relationships involved. I have several examples of community composting in rural parts of British Columbia, Canada, which I can provide more information about if it is of interest.
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	I was surprised that composting was only mentioned twice in the whole report, and just in passing. It was framed in a waste context, but it is much more than that. Compost is crucial for healthy soil, which is needed for resilience, and I feel that has very much been missed.
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	I think it is very important to frame resilience as an evolving property, not an end state. You do not just "achieve" resilience and that is it. Resilience should encompass the numerous elements of a community that interact and contribute in different ways to resilience. The elements related to resilience also change based on scale. The definition of resilience should be place based, so the evaluation then should stem from that. I recommend this framework: Worstell, J., & Green, J. (2017). Eight Qualities of Resilient Food Systems: Toward a Sustainability/Resilience Index. Journal of Agriculture, Food Systems, and Community Development, 1–19. https://doi.org/10.5304/jafscd.2017.073.001
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	Already shared in question 10: Worstell, J., & Green, J. (2017). Eight Qualities of Resilient Food Systems: Toward a Sustainability/Resilience Index. Journal of Agriculture, Food Systems, and Community Development, 1–19. https://doi.org/10.5304/jafscd.2017.073.001
Please provide additional examples	I think the report should go beyond food security and aim for food sovereignty. That accounts for equity much more.

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Surname and first name	Yamato Hiroaki
Are you contributing in a personal capacity or on behalf of an organization or team?	Personal capacity
Current position	Official in charge of issues on UN and relevant organizations
Current institution/organization	Ministry of Agriculture, Forestry and Fisheries
Country	Japan
Please insert below any additional comment.	(Comments: Page 27) 2.2.3 Indebtedness [...] [DEL: As Perry (2024) noted, high levels of debt servicing and payment of compounding interest to international financial institutions such as the World Bank (WB) and International Monetary Fund (IMF) prevent countries from investing in a just energy transition and trap them in a cycle of further debt and exploitation making them less resilient.] For example, populations living in Caribbean islands face increased displacement, debt burdens and dispossessions due to climate shocks and policies that will result in many people becoming climate refugees (Perry, 2023). Yet their indebtedness [DEL: to financial institutions] has made it difficult for these countries to fund climate adaptation and mitigation strategies or to invest in equitably transformative resilient food systems. (Rational) I guess that the WB/IMF reject such criticism. This report should not intend to condemn specific countries or organizations even the Bretton Woods Institutions. The opinion of Dr Perry in the Aljazeera just focused the WB's CAT-DDO for Jamaica and overgeneralized regarding conditions in assistances from the WB/IMF. Moreover, the WB/IMF as well as donor countries are struggling to advance debt restructuring and to improve debt management capacity of low and middle-Income countries. For example, the WB/IMF published the "Non-Paper on Actions to Support Countries Faced with Liquidity Challenges" that proposed three approaches: structural reforms and domestic resource mobilization, external financial support, and reducing debt servicing burdens where relevant. (Reference) World Bank (2024) "IMF-World Bank Non-Paper on Actions to Support Countries Faced with Liquidity Challenges" http://documents.worldbank.org/curated/en/099806310222417124 , accessed on March 3, 2025

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Surname and first name	Al Sane Khaldoun
Are you contributing in a personal capacity or on behalf of an organization or team?	Personal capacity
Current position	Dept. Head and Researcher
Current institution/organization	National Agricultural Research Center (NARC)
Country	Jordan
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	Jordan's food system has adopted a number of resilience-related strategies, ranging from bouncing back to equally bouncing forward: 1. Bouncing Back: This refers to the process of returning the food system to its pre-disturbance status. The Jordanian government, along with foreign organizations, has put in place programs to improve agricultural techniques and water management in an effort to boost productivity following drought or flooding. 2. Bouncing Forward: This stage entails enhancing and modifying the eating system to better endure upcoming difficulties. The HortiFuture project is one example of a government program that aims to advance horticultural production through controlled-environment agriculture. These programs seek to lessen the negative consequences of climate change while enhancing the resilience of Jordanian food production. 3. Equitably Bouncing Forward: this strategy focuses on making the food system more robust while guaranteeing that everyone involved benefits equally. An excellent illustration is the collaborative initiative that Jordan's Ministry of Agriculture, FAO, and UNIDO started with the goal of transforming agri-food systems into ones that are resilient and sustainable. In order to ensure that these marginalized populations fairly benefit from advancements in the agri-food sector, this project focuses on empowering women, youth, and refugees.
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	No. Your report is comprehensive and well-analyzed!
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or	While it is important to have publicly funded and publicly owned weather and environmental stress data in order to monitor and prepare for natural hazards, these systems need to be combined with robust systemic responses that increase resilience. Longer-term resilience includes trade (both domestically and internationally), public stockholdings, and means of earning money so that food can be

methodologies do you consider most effective?	purchased. FAO's Food System Resilience Framework, USAID's Resilience Framework, HLPE's Food System Resilience Framework and the Food Systems Dashboard are effective frameworks and methodologies for evaluating food system resilience. Key indicators include: food security (e.g., undernourishment, FIES), resilience capacity (e.g., adaptive strategies, asset access), climate resilience (e.g., CSA adoption, water efficiency), economic stability (e.g., price volatility, supply chain disruptions), and social equity (e.g., land tenure, financial access, etc.).
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	Your draft provides more general frameworks that could be used to control Jordan's food systems, such as the PANTHER principles (Participation, Accountability, Non-discrimination, Transparency, Human Dignity, and Empowerment). The report also highlights the significance of community involvement, structural and systemic policy reforms, and multi-scalar governance in promoting food system resilience. In addition, agroecological practices in the Jordan Valley to conserve water and promote sustainable farming could be a good example. Also, cooperatives that support small-scale farmers in marketing their produce and improving livelihoods is another good practice in Jordan.

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Surname and first name	Utheim Iversen Anita
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Specialist Director
Current institution/organization	Ministry of Trade, Industry and Fisheries, Norway
Country	Norway
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	Reference is made to the HLPE report on Sustainable fisheries and aquaculture for food security and nutrition (HLPE Report # 7 - Sustainable Fisheries and Aquaculture for food security and nutrition), as well as the CFS recommendations based on this report: (Sustainable fisheries and aquaculture for food security and nutrition).
Please insert below any additional comment.	The main goal of food systems is food security. In the V0 draft "six dimensions" of food security are highlighted: availability, access, utilization, stability, agency, and sustainability. The UN defines food security as: when all people, at all times, have physical and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life (World Food Summit 1996). We recommend using agreed UN language. Otherwise, the main reason for having a food system -dietary needs will be left out as well as the other important elements for food security. Sustainable food systems must ensure both human and planetary health. All the element of food security needs to be addressed. Food security is not just a question of enough/ volume of food- but the right kind of food - with the right kind of nutrients, safe to eat etc. While elements such as nutrition or food safety are mentioned, they are not treated as fundamental pillars to ensure that food is not only available and accessible, but also safe for consumption and providing essential nutrients. In 4.2 the report refers to food safety among "other systems", however food safety is very much an integrated part. The essential elements in the UN definition on food security, should not be referred as other systems. The triple burden of malnutrition is referred to, but it lacks connecting this to tackling this at a systemic level in the food system. Furthermore, sustainable food systems must include both aquatic- and land-based foods. The CFS recommends making aquatic food a visible, integral element, thus the V0 draft, should address the role of sustainable fisheries and aquaculture and aquatic foods as well. The HLPE report highlights the fact that aquatic foods contain essential nutrients, which is of global health concern. It can help fight hidden hunger, caused by lack of micronutrients. We suggest following the CFS recommendations and ensure that aquatic food systems are a visible part of this work, and properly addressed.

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Surname and first name	Carey Rachel
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Senior Lecturer (Food Systems), University of Melbourne
Current institution/organization	Foodprint Melbourne research team, School of Agriculture, Food and Ecosystem Sciences (SAFES), University of Melbourne, Australia
Country	Australia
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	The report has comprehensively analyzed the complex variables that contribute to undermining the resilience of food systems. However, it could benefit from further unpacking some of the elements that build the resilience of food systems to future shocks and stresses, particularly related to integrated governance for equitably transformative food system resilience. The report helpfully highlights the importance of 'a socio-ecological and holistic approach' to equitably transformative resilience (ETR) (p61) that recognises interdependencies between social and ecological dimensions of food systems and the need to consider tensions and trade-offs between various food system outcomes. The report also emphasizes that human rights must be central to ETR and that an integrated approach is needed to realise human rights for ETR. However, the report could strengthen its emphasis on the importance of government accountability for realising an integrated approach to the governance of food systems for ETR. As the report highlights (p 52), resilience in one dimension (e.g. economic) can come at the expense of resilience in another dimension (e.g. social or ecological). There are multiple examples of integrated 'whole of government' food policy initiatives, which aim to adopt a holistic 'food systems' approach, but where trade offs are resolved in favour of economic goals. One example is the development of Australia's National Food Plan (2013), in which goals related to environmental sustainability and nutrition were sidelined in favour of industry goals related to growing export-oriented agriculture (Carey et al. 2015). The report recognises the significant impact of concentrated industry power on outcomes related to ETR. It could be strengthened by also highlighting the importance of robust governance mechanisms to address the influence of concentrated industry power on policy

	initiatives to advance ETR. Governance mechanisms are required to ensure that governments are accountable for balancing goals related to broad socio-ecological dimensions of resilience with economic dimensions to deliver genuinely holistic and integrated policy initiatives that advance ETR. The governance of food system resilience also involves many different policy portfolios (Carey and Murphy 2024), and governance mechanisms are needed to co-ordinate actions across these policy portfolios. One example of a governance mechanism that aims to make government accountable for delivery of integrated food systems policy is Scotland's Good Food Nation Act (Scottish Government 2022). The Act makes relevant Ministers accountable for the development of a national food plan that must have regard to food system outcomes related to social and economic wellbeing, the environment, health, animal welfare and child poverty. The legislation also requires the establishment of an independent Commission with functions that include reviewing progress against the outcomes (Scottish Government 2022). References: Carey, R. and Murphy, M. 2024. Unpacking "the surprise chain": the governance of food security during the COVID-19 pandemic in Melbourne, Australia. Agriculture and Human Values, 42, 107-120. https://doi.org/10.1007/s10460-024-10629-5 Carey, R., Caraher, M., Lawrence, M. and Friel, S. 2015. Opportunities and challenges in developing a whole-of-government national food and nutrition policy: lessons from Australia's National Food Plan. Public Health Nutrition 19 (1), pp 3-14. https://doi.org/10.1017/S1368980015001834 Scottish Government. 2022. Good Food Nation (Scotland) Act 2022. Available at: https://www.legislation.gov.uk/asp/2022/5/contents/enacted
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	Elements of food systems that contribute to equitably transformative food system resilience Section 4.2.3 of the report discusses some of the factors that undermine the resilience of food supply chains (such as 'just in time' delivery systems) and some factors that build resilience (such as diversity). However, the report might be strengthened by a greater focus on summarizing the evidence from empirical studies about the features of food systems that contribute to equitably transformative food system resilience. For example, decentralization of food supply chains can contribute to a redistribution of power within food systems (Murphy et al. 2022). Diversity in the scale (small, medium and large) and type of food enterprises (social and commercial) can support a shift in power within supply chains, as well as greater flexibility in responses to shocks (Murphy et al. 2023). Smaller scale enterprises can be nimble in responding to food supply chain disruption and may have better local

	knowledge of alternative suppliers and supply routes (Smith et al. 2016). References: Murphy, M., Carey, R. and Alexandra, L. 2022. The resilience of Melbourne's food system to climate and pandemic shocks. University of Melbourne, Australia. https://doi.org/10.46580/124370 Murphy, M., Carey, R. and Alexandra, L. 2023. Building the resilience of agri-food systems to compounding shocks and stresses: A case study from Melbourne, Australia. Frontiers in Sustainable Food Systems, 7. https://doi.org/10.3389/fsufs.2023.1130978. Smith, K., Lawrence, G., MacMahon, A., Muller, J. and Brady, M. 2016. The resilience of long and short food chains: a case study of flooding in Queensland, Australia. Agriculture and Human Values 33 (1), pp 45-60. Indigenous Knowledges The report helpfully recognizes the importance of Indigenous food systems and biodiversity stewardship to equitably transformative food system resilience (e.g. p 29). However, it could be strengthened by also emphasizing the benefits of integrating Indigenous Knowledges about how to promote the resilience and sustainability of food systems and Indigenous concepts and ways of knowing that advance ETR. One example of a municipal food policy that is grounded in Indigenous ways of knowing is the Wellington City Council (Aotearoa New Zealand) food system action plan, Our City's Food Future, which adopts a Māori framework and is grounded in Māori ways of knowing about food systems and the environment (Wellington City Council 2023). Reference: Wellington City Council. 2023. Te Anamata Ā-Kai o Tō Tātou Tāone, Our City's Food Future. Available at: https://wellington.govt.nz/-/media/environment-and-sustainability/sustainability/files/sustainable-food/food-future-action-plan.pdf?la=en&hash=A3AE8EDDD1AB9733E4C83597662A02D3187D57DA
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	We suggest additional examples of integrated participatory processes, actions and policies at multiple scales that could be considered for inclusion in the document: • Moving Feast is a network of food system social enterprises established in the Australian state of Victoria in 2020 during the COVID-19 pandemic (Moving Feast 2021). It is an example of a grassroots social innovation, with civil society organizations forming a new network to deliver healthy and culturally appropriate food relief to residents of low-income public housing towers that were "locked down" in August 2020,

	early in the COVID-19 pandemic. The network developed a holistic model for delivering food relief, which included sourcing food from local farmers and community gardens. The network aims to generate multiple social, environmental and economic benefits, and it has evolved into a coalition with broader aims for long term transformation of Victoria's food system (Carey and Murphy 2024). • The Victorian Food Security and Food Systems Working Group was established in 2020 during the COVID-19 pandemic, and is an example of grassroots social innovation and co-governance that was supported by state-led resourcing (Carey & Murphy 2024). The working group was established by VicHealth, a statutory Victorian Government agency focused on health promotion. It coordinated action across a wide range of civil society organizations, and with local and state government, with an immediate focus on addressing food insecurity during the pandemic. Over time, the working group collaborated on the development of a consensus statement to transform Victoria's food system towards a more healthy, regenerative and equitable food system (Victorian Food Security and Food Systems Working Group 2022). • Open Food Network is a free open source software platform that strengthens local and regional food supply chains (Open Food Network Australia 2025). By connecting farmers and wholesalers directly to consumers, Open Food Network builds the resilience of food systems, and was a critical asset for community food enterprises during the COVID-19 pandemic, enabling them to move their businesses online (Murphy et al. 2022). References: Carey, R. and Murphy, M. 2024. Unpacking "the surprise chain": the governance of food security during the COVID-19 pandemic in Melbourne, Australia. Agriculture and Human Values, 42, 107-120. https://doi.org/10.1007/s10460-024-10629-5 . Moving Feast. 2021. A Moving Feast: Victorian social enterprises building a fair, regenerative and connected food system for Victoria. Year 1 Report. Available at: https://movingfeast.net/vision/measuring-impact Murphy, M., Carey, R., and Alexandra, L. 2022. The resilience of Melbourne's food system to climate and pandemic shocks. University of Melbourne, Australia. https://doi.org/10.46580/124370 Open Food Network Australia. 2025. About us. Available at: https://about.openfoodnetwork.org.au/about-us/ Victorian Food Security and Food Systems Working Group. 2022. Towards a Healthy, Regenerative, and Equitable Food System in Victoria: A Consensus Statement. Available at: https://vicfoodsystem.org.au/

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Surname and first name	Kipsang Dorothy Nduku
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Global Advisor on Sustainable livelihoods
Current institution/organization	We Effect, Kenya
Country	Kenya
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	We Effect works to strengthen resilience of smallholder farmers through building adaptive capacity. Some of the approaches that We Effect uses are: - Facilitating development of efficient gender inclusive, climate responsive agricultural value chains that lead to food security, increased incomes and sustainable livelihoods - Facilitating uptake of climate smart agriculture through implementing Sustainable Agriculture, Land Management and Agroecology practices, biodiversity conservation and reducing pollution. In addition, adoption of seed varieties that are drought and pest resistant, adoption of shade trees/agroforestry as well as supporting irrigation mechanisms. Ennvironmental Social Impact Assessments are a pre-requisite for any programme or project supported by We Effect. - In addition, We Effect, in collaboration with insurance companies promotes development of appropriate, affordable and accessible insurance products such as livestock insurance and weather index insurance.
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	Financing food systems could be strengthened in the report to include availability of appropriate products which are affordable and delivered on a timely manner. Role of financial institutions in capacity strengthening farmer-based organisations to ensure that loans contribute to resilience. To elaborate, the basis of this proposal is the fact that we all know the importance of financial services in food systems yet there are still exclusions due to cost of the loans, timing of loan disbursement and even availability of sufficient budgetary portfolio dedicated to agriculture and value chains accompanied by capacity strengthening grants and collaborations/partnerships. Here we should see more of partnerships and financing of along the value chains. Another area for further elaboration is dealing with the value chain brokers commonly known as middlemen. The role they play in market distortion and negatively influencing pricing could be amplified more. This is because in the end, it is the farmer who gets very low returns yet they bear all the risks of farming. Market development could also be amplified more so from the

	perspective of what governments should do to ensure the physical spaces and policy related frameworks are supportive of the farmers. Genetic modification in relation to food systems might need a little bit for discussion in the report. Looking at the place for genetic modification vs right to indigenous seed varieties
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	In a nutshell, assessment based on growth (members, trading volumes, turn over etc) of farmer organisations, returns to their members as well as institutional sustainability would be important. Governance elements should also be considered. Availability of sufficient food in quality, quantity and variety in markets and sold at reasonable prices would be another dimension to measure. Of course participation of women, men, and young people in food systems should be included.
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	Food systems: We Effect is supporting development and strengthening of various types of agricultural value chains in 17 countries. The goal is to have efficient, gender inclusive and climate responsive agricultural value chains where women and young people freely participate and derive value. The focus is on commercialising value chains to ensure availability of food or the means to procure it especially where a value chain specialises in cash crops. We Effect is also working with circular economy. Currently the focus is on keeping markets clean and deriving economic value from waste generated in farmers' markets. We have seen that there is a lot of waste which is generated due to farmers' activities. So, the interventions focus on having the farmers and traders gain more from the farming activities while reducing waste substantially. Social protection: We Effect facilitates the Village Savings and Loans Associations methodology as a tool for inclusion and strengthening capacity of smallholder farmers. In addition, supporting smallholder farmers to access insurance; livestock, crop, medical etc. Grassroots innovations: Welfare groups came up to fill a gap and have existed to provide mutual support to members who are mainly women. These groups support members to access medical services, education and in some cases food. The agendas of these groups could be better addressed if governments passed and implemented policies that provide opportunities of inclusion for marginalised groups in economic activities. These groups include women, men and young people living in poverty as well as those in far to reach areas. For example, the groups working with We Effect always incorporated a welfare fund (which is a necessity) which a member in good standing benefits from when they are in need. The amounts are normally small and so to governments could; - Enforce policies that promote inclusive value chains - Finance universal health care through budget allocation and disbursements

	- Finance universal free education to allow for increased re-investment in food systems by smallholder farmers. Women's empowerment: Women participation in sustainable value chains provides them with opportunity to engage in farming as a business. This in turn creates a sustainable livelihood characterised by consistent cashflows, food security and a sense of security and safety. We Effect facilitates development of institutional policies that promote women participation including looking at dual membership and alternative value chains that complement the primary value chain. These strategies have led to increased women participation in agriculture as producers not only as providers of labour. Finance and fiscal space: Continued advocacy for budgetary allocation for extension services and delivery of public goods including infrastructure which would facilitate access to markets. Localised trade and price volatility: We Effect supports cooperative businesses and other farmer-based organisations to bulk produce towards economies of scale driven by market demand. This goes hand in hand with storage facilities which enables the farmers to avoid selling their produce when the prices are low. To be able to sustainably bulk and wait for better prices, there should be investments/financing to support farmers to meet their financial needs in the interim, as they wait for better prices. Warehouse receipt system is critical in addressing issues around post-harvest handling, bulking and marketing for better prices.

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Surname and first name	Brümmer Bernhard
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Professor of Agricultural Market Science at the Department of Agricultural Economics and Rural Development
Current institution/organization	Georg-August University of Göttingen, Germany
Country	Germany
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	No, I don`t have other examples that are not already mentioned in the report.
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	1. A general change in diet could be addressed in more detail. In industrialized countries, the promotion of a more plant-based diet in particular is seen as an effective lever for a more sustainable food system. For developing countries, on the other hand, perhaps even more meat could be recommended to reduce malnutrition/the lack of important nutrients. 2. I have seen diversification of production and reduction of dependence on external means of production mentioned only marginally in the report here. However, I find the points of diversification and decentralization important in order to prevent the formation of monopolies/oligopolies and to become more independent as an individual farmer. 3. The revision of agricultural policy and the strengthening of governance in rural areas is addressed in the report. However, I would like to add here: Market information systems in particular should be strengthened to enable people to help themselves. In addition, market interventions should always be questioned very critically and should only be used with caution; in principle, functioning (not regulated) markets should be aimed for. 4. I would consider enabling innovation in technologies to be a game changer for a resilient food industry. It seems to me that this has hardly been mentioned in the report so far. There is a lot of talk about “social innovation”, but technical innovations and technological advances in particular are not (sufficiently) addressed. 5. The human rights-based approach is of course correct and desirable. However, the accountability obligations associated with it must not get

	out of hand and lead to unrealizable bureaucracy. (The order of the additional points here is arbitrary and does not imply any ranking or prioritization.)
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	Not a spontaneous idea, a committee should get together to set up a suitable evaluation system. However, such an evaluation system should only serve to evaluate in a positive sense, not to impose penalties or hurdles on those involved.
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	The examples given in the report are already very comprehensive, I have nothing to add here.

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Surname and first name	Huna Lungisa
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Director
Current institution/organization	Rural Women Assembly, South Africa
Country	South Africa
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	1. Introduction Yes, as the Rural Women's Assembly of Southern Africa RWA (SADC) we want to highlight our work in building resilience in food systems amongst our members in the SADC countries where we currently organise. We think that RWA's work makes a positive contribution to the current very interesting case studiers illustrated in the HLPE-FSN REPORT #20 Draft Version 0 but can add a voice to the SADC region, besides the focus on pastoralists in Tanzania and informal street traders in South Africa. • In this respect we think that RWA's work outlined below also provides some answers to some of the issues raised in question 12 in this CFS e-consultation form (more specifically on issues regarding: a) Grassroots social innovations (that can be supported by or enhanced by state-led resourcing) and b) Women's empowerment). Born in 2009 RWA (SADC) has now grown to 170.000 members, part of

a large network of self-organised women small-scale producers, associations and NGOs across eleven countries of the SADC region (country chapters in: Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe). We work with both smallholder women farmers and with those still struggling to access land for food production and fishers in the region

We engage in advocacy and lobbying to bring out the voices and lived experiences of grassroots women smallholder producers from RWA to try and influence and shape policies and actions and for their inclusion in decision and policy making at local, national, continental and internal levels – by engaging local municipalities/ authorities, including traditional authorities, national Departments/ Ministries, Summits of the SADC Heads of State, the African Union Commission (AUC) and UN structures such as FAO, the CFS and the UPR processes.

The FAO acknowledges that "according to the FAO, women produce between 60 and 80% of the food in most developing countries and are responsible for half of the world's food production, yet their role as food producers and providers—and their critical contribution to household food security—is only recently being recognized ……. while women are essential to small-scale agriculture, farm labour and day-to-day family subsistence, they experience greater difficulty than men in accessing land, credit, as well as productivity-enhancing inputs and services". The same applies to the SADC region, where women are the main producers of food and labour providers, producing 60 to 80 % of food both for household consumption and for sale, while women and children constitute the majority of those experiencing hunger.

And as all official statistics show, hunger and malnutrition have been increasing and as the CFS own current Draft report states (p. 8- quoting CFS 205) it is 'projected to further increase'. In our understanding as RWA, this is NOT ONLY due to recurrent events related to climate change and to conflicts (e.g. in Mozambique) but also to the neo-liberal policies adopted by our own governments, often imposed as conditionalities for foreign investments, IMF, World Bank loans, and the repayments by our countries of a never ending spiral of national foreign, debts that have colonial and neo-colonial roots. Hunger and malnutrition in Africa, including SADC, are increasing while our lands and resource rich countries continue subjected to the neo-colonial extraction of our natural resources through land and water grabs (for agricultural and mineral extraction), remain exporters of agricultural commodities (which include food products), and providers of "cheap" African labour. The most marginalised, including women and children are paying the highest prices, who experience very high levels of gender-based violence. Our societies are experiencing high levels of political, socio-economic instability and social distress: Several countries in the African Region stand out as having the highest suicide age. No space

Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	• In our RWA opinion the report could have greater emphasis on the gender dimensions, patriarchy and the need to increase women's agency. • We also think that there is not enough emphasis on the need to address the vicious circle of unsustainable debt, debt repayments at high interest rates that will prevent any advances in eventually eliminating hunger and malnutrition. • There have been several initiatives and calls over many years for debt restructuring, and the cancellation of debt, including the calls under Jubilee 2000. The debt relief given to Highly Indebted Countries under that initiative did not address the roots of the debt problems. Besides some corruption, much of the current debts of countries in the Global South are linked to past imperial and colonial domination, resource and labour extraction and exploitation. • At the time of the recent COP 29 (in Baku, December 2024) RWA shared the following with its members: CALLS FOR JUBILEE 2025 The Pope Francis has declared 2025 a "Jubilee Year" to "restore (hope and) access to the fruits of the earth to everyone". Historically the Church called Jubilees as times for the forgiveness of debt, freedom for slaves and returning of land to their original owners. In May 2024 the Pope made an appeal for "the more affluent nations to acknowledge the gravity of some of their past decisions and determine to forgive the debts of countries that will never be able to repay them. More than a question of generosity, this is a matter of justice". The partial cancellation of some debts as a result of the Jubilee 2000 campaign (between 2000-2015) saw money being invested into public services and increases in the number of children attending schools, for example. But the scheme did not prevent debt crises from recurring – the regulations and structural causes remained the same. Besides the Church calls for Jubilees, more ancient calls were already made by others. Solon (born around 630 B.C.E and died around 560 BCE), known as the greatest statesman and lawmaker of the Athenians, has come down to us in history as a major and wise figure and of Antiquity. Solon ended exclusive aristocracy's control of the government and changed control by the wealthy. He also wiped 'the debt-slate clean'. The alternative, we are told, would have been a blood soaked and costly revolution, because the Athenian peasants had been ground down too far" (quoting Margaret Atwood's PAYBACK (Debt and the Shadow Side of Wealth- House of Anasi Press, 2008) in which she reminds us of the unsustainable levels of consumption by the wealthy

	and the debt that ultimately has to be paid (by all of us, including the most exploited and marginalised) to Nature on Earth's Day.
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	RWA has done a seed audit and through the photo seed exhibition RWA have found an expression of the role played by women in food system through the resilience of traditional seeds Presently RWA has not developed means or indicators to evaluate resilience in food systems. RWA's journey is ongoing, and we learn as we move forward and in conjunction with other social movements in Africa and beyond. RWA uses agroecology and promote it as a resilient strategy to food sovereignty and food system.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	At this stage RWA does not make any additions. See RWA website.
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	Grassroots social innovations (that can be supported by or enhanced by state-led resourcing). Women's empowerment.
Please insert below any additional comment.	Perhaps something that our struggles and advancements must be focused on local and national struggles. The current multiple crises (from climate change to the war on Gaza, Sudan, DRC, Ukraine) are beyond any control of bodies such as the Un and structures created to mediate conflicting interests and wars.

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Surname and first name	Firmian Ilaria
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Senior Technical Specialist - Indigenous Peoples
Current institution/organization	IFAD
Country	Italy
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	We suggest to give more recognition in the document to Indigenous Peoples' Food Systems (IPFS) , because they have consistently adapted to challenges such as climate impacts, market shifts, and cultural changes. Their resilience comes from a mix of traditional knowledge, diverse production methods, and adaptive strategies, as well as the integration of new approaches alongside long-standing practices. Key references include : The White Wiphala Paper (on how Indigenous Peoples' food systems contribute to building resilient food systems). Additionally, IFAD Toolkit on IPs Food Systems can serve as an important reference to further explore how Indigenous Peoples' food systems enhance resilience through community governance, resource management, and sustainable practices. See Q11.
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	The report already highlights climate shocks, biodiversity loss, and economic stressors as major threats to food system resilience. However, several key elements should be further emphasized: Food Supply Chain Volatility: The report highlights that food systems increasingly depend on long, fragile supply chains. However, a stronger emphasis is needed on regionalized and localized trade networks that can buffer against supply disruptions. Financial and Fiscal Mechanisms for Resilience: The draft mentions contingent financing but should also explore how innovative financial tools—such as climate risk insurance, sovereign resilience bonds, and public procurement programs for smallholders—can improve resilience. Urbanization and Land Displacement: The rapid expansion of urban areas is tripling built-up spaces by 2030, leading to large-scale cropland losses and forced displacement of vulnerable populations. Addressing food resilience must therefore incorporate land tenure security and urban food policy planning.
How should resilience and the process of building resilience in food systems be evaluated? Which	To effectively evaluate resilience, the report should integrate multi-dimensional frameworks that go beyond standard economic indicators. These frameworks should include among other social indicators, i.e. Land tenure security, gender equity in agricultural labor, inclusion of

indicators, frameworks, or methodologies do you consider most effective?	Indigenous Peoples' governance; Ecological indicators: Agroecological biodiversity, soil fertility maintenance, sustainable water use; and Economic indicators: Stability of smallholder incomes, regional trade diversification, fair labor conditions. Integration of Indigenous Peoples' Knowledge: Current evaluation frameworks rely heavily on Western scientific methodologies, but the experiential knowledge of Indigenous Peoples' should be incorporated into resilience assessments.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	The White Wiphala Paper: A foundational document on Indigenous Peoples' Food Systems and their resilience strategies. https://sc-fss2021.org/wp-content/uploads/2021/06/The_White_Wiphala_paper_en.pdf IFAD's Digital Toolbox on IPs Food Systems: Provides actionable guidelines on resilience-building within Indigenous Peoples' food systems. https://www.ifad.org/digital-toolbox/indigenous-peoples-food-systems/
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	Governance and Rights-Based Approaches: Policies that protect land tenure and communal resource management are essential for long-term resilience. Case studies from Latin America show that Indigenous Peoples' land titling programs significantly increase food system stability and community self-sufficiency.
Please insert below any additional comment.	For consistency with the Coalition on Indigenous Peoples' Food Systems and UN language, it is recommended to use Indigenous Peoples' Food Systems instead of Indigenous Food Systems across the document

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Surname and first name	Libert Antoine
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Ecosystem-based Adaptation expert
Current institution/organization	FAO, Forests and Climate team (NFO)
Country	Italy
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	See Fedele et al. 2019. Transformative adaptation to climate change for sustainable social-ecological systems. https://doi.org/10.1016/j.envsci.2019.07.001
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	The report could benefit by including from the offset a wide definition of food systems as including crops, livestock, forests, fisheries and aquaculture (I believe aquaculture is not mentioned throughout the report). This is part of the resilience discussion in that it emphasizes heterogeneity and flexibility of food systems and diversified income source of households. Also, we suggest a better recognition of forests as part of food systems and of the role of forests in disaster risk management. Disaster risk is a probabilistic function of the interactions between hazards, exposure to these hazards, and vulnerability (depending on the definition, adaptive capacities are considered a separate part of the equation or integrated into the term vulnerability). Forests and trees can reduce disaster risk by: - capturing and sequestering CO2, which contrasts the increase in intensity and frequency of climate extreme hazards - reducing exposure to hazards (grazing with trees provides shade to livestock in the face of heatwaves, agroforestry systems combining high-standing trees with low-lying crops generate a microclimate that protects agricultural ecosystems, protection forests can shield mountain communities and infrastructure from landslides, urban forests reduce the heat island effect and reduce flooding by absorbing rainwater)

	- reducing vulnerability and increasing coping capacities: forests and trees provide complementary livelihoods (timber and NWFP), additional food (with notable nutrition benefits) for forest users
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	Discussions under the UNFCCC on the global goal on adaptation are exploring indicators, metrics and data sources for measuring adaptation action. COP28 adopted the UAE Framework for Global Climate Resilience with 11 targets, understood as the framework to the GGA. An important part of this framework under discussion in 2025 is the two-year UAM-Belém work programme on indicators for measuring progress achieved towards the targets of the UAE Framework to identify and develop indicators and potential quantified elements for those targets. See https://unfccc.int/sites/default/files/resource/GGA%20Target%209b%20Progress%20and%20analysis%20report_updated.pdf and Distefano, E., Rai, N. & Wolf, J. 2023. Using metrics to assess progress towards the Paris Agreement's Global Goal on Adaptation: Transparency in adaptation in the agricultural sectors. Rome, Italy, FAO. https://doi.org/10.4060/cc2038en
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	Angioni, C., Haensel, M. & Wolf, J. 2023. Catalysing climate solutions: an introduction to FAO's work on climate change adaptation in agrifood systems. Rome, FAO. https://doi.org/10.4060/cc9070en Libert-Amico, A., Duchelle, A.E., Cobb, A., Peccoud, V. & Djoudi, H. 2022. Forest-based adaptation: transformational adaptation through forests and trees. Rome, FAO. https://doi.org/10.4060/cc2886en The reference to planetary boundaries (2.2.1) could be strengthened as relevant to building resilient agrifood systems and the rights-based approach by making reference to complementary conceptualizations that add to the biophysical 'ceiling' social 'foundations' that delimit the safe operating space based on equity, justice and well-being (see Kate Raworth doughnut economics).
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	Potential examples to add: Forest and Farm Facility (FFF) https://www.fao.org/forest-farm-facility/ The Forest and Farm Facility provides direct financial support and technical assistance to strengthen forest and farm producer organizations representing smallholders, rural women's groups, local communities and indigenous peoples' institutions Grazing with trees: https://www.fao.org/3/cc2280en/cc2280en.pdf See case study on silvopastoral restoration in Tunisia, in Angioni, Haensel, & Wolf, 2023, p. 16, available here:

	https://openknowledge.fao.org/server/api/core/bitstreams/2f4a23bc-afa4-496f-a551-212ef7f9ceae/content
Please insert below any additional comment.	p. 10, paragraph after Fig. 1: This definition of resilience comes from the UN Guidance on Building Resilient Societies, cited above (2021), not the UNFSS action track. Key definitions p.14: to avoid pleonasm you may consider including "differentiated" and "inequitable" vulnerability in the definition of vulnerability above.

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Surname and first name	Anne Brunel
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Coordinator, Global-Hub on Indigenous Peoples' Food Systems
Current institution/organization	FAO, Global-Hub on Indigenous Peoples' Food Systems team
Country	Italy
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	We like the elaboration of ideas in Chapter 3 around “bouncing forward”. We feel that this resonates well with the approach to resilience exemplified by many Indigenous Peoples’ food systems, which enable them to be proactive in reducing vulnerability to shocks and stresses, rather than simply reacting and recovering. Often central to their ability to bounce forward is their traditional governance systems, institutions and systems of collective action and agency. More attention could be given to these aspects within the report, and would fit well within section 2.4.
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	Thank you for the incredible work of compilation of information and comments. We would like to offer a few suggestions based on our expertise on Indigenous Peoples’ food and knowledge, and further to the earlier contributions submitted by the Global-Hub on Indigenous Peoples’ Food Systems on the scoping note. Unfortunately, we do not see any inclusion of the Global-Hub's contribution and we understand in case that it could not be read. Overall, when it comes to Indigenous Peoples, we suggest that the report better highlights the key elements of resilience that are specific to them and their food and knowledge systems. Indeed, in its contribution, the Global-Hub on Indigenous Peoples’ Food Systems shared the result of research conducted by Ford and al. (2020) after peer-review of 227 articles published in the last 10 years. The

	research identified the common interacting drivers contributing to the resilience of Indigenous Peoples to environmental change (FAO et al., 2020; Redvers, et al., 2022). Those are place (land, territories, resources and the relationship better people and environment); agency; traditional governance systems, institutions and collective action; Indigenous Peoples' knowledge systems; mobility; biodiversity. We think that those elements are highly relevant for the report and could be usefully referenced in particular on page 63.
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	Dominant frameworks used to conceptualize and monitor food systems and food security are often inadequate for understanding Indigenous Peoples' views and experiences, and would benefit from attention to more holistic, culturally sensitive and rights-based perspectives and indicators. For example, the 2006 "Cultural Indicators for Food Security, Food Sovereignty and Sustainable Development" adopted at the Second Global Consultation on the Right to Food and Food Security for Indigenous Peoples in Puerto Cabezas, Nicaragua identified indicators relevant for their food security and resilience including, inter alia, indicators on: • Legal recognition and protection of Indigenous Peoples' customary rights to their lands, territories and subsistence resources. • The percentage of lands, territories and natural resources used traditionally for food production currently used by Indigenous Peoples. • Status and trends in traditional occupations relating to the generation and use of food • The consumption of diverse traditional or locally produced foods Further elements of resilience for Indigenous Peoples' food systems can be found within the FAO and Alliance of Bioversity International and CIAT publication (2021) on Indigenous Peoples food systems: insights of sustainability and resilience from the front line of climate change, and include: exposure to disturbance, social self-organisation, human capital coupled with natural capital, and spatial and temporal heterogeneity. These elements were identified and informed by the Self-evaluation and Holistic Assessment of climate Resilience of farmers And Pastoralists (SHARP) methodology, which was adapted for the local context and study objectives. Attention to such aspects is likely to be an important feature of measuring "transformative resilience" as they are connected with the underlying drivers of food systems integrity and sustainability for Indigenous Peoples -and not only the capacity to "bounce back".
Are there other references, data, publications, or other kinds of knowledges,	The contribution to the Scoping Note of the report from the Global-Hub on Indigenous Peoples' Food Systems included a list of references. Unfortunately, the word limit does not allow us to share it in full. Please feel free to refer to the previous contribution.

which should be included in the report?	In addition, the paragraph "Indigenous approached to land use and forest management…" (p.30) could be complemented with further background information shared in the contributions from the Global-Hub (in particular, Ford et. al, 2020). The paragraph "Levkoe (2014) argues that food literacy also includes…"(p.37) can include the following references: FAO (2021); FAO and Alliance of Bioversity International and CIAT (2021) Publications from the Indigenous Peoples' Observatory Network are also likely to be useful additions to this paper: https://ipon-research.net/publications/ Useful examples of resilience responses from Indigenous Peoples can be found within Zavaleta Cortijo et al (2023). Indigenous knowledge, community resilience, and health emergency preparedness, as they describe how Indigenous Peoples across the world were proactive in their response to the COVID-19 pandemic – and how structural socioeconomic inequities reduced Indigenous peoples' community capacity to respond. For example, how the Shawi people in Peru closed their borders, and some families went to live in the forest, built new houses and relied on forest food, while others who had access to fish farms, home-grown foods, and food from small farms stayed in their communities. Similarly, during the first wave of COVID-19, Indigenous communities in the Nilgiris district in Tamil Nadu, India, moved far into the forest and revived traditional agricultural practices.
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	We would like to draw attention to the importance of the terminology related to Indigenous Peoples' food and knowledge systems. We strongly recommend using the terms "Indigenous Peoples" when referring to their food systems, knowledge systems, crops, approaches, communities, management, etc. (e.g. "Indigenous Peoples' food systems" instead of Indigenous food systems). Indigenous Peoples are knowledge- and rights-holders. The risk in using the term "Indigenous knowledge" (e.g. page 20 of the HLPE V0 report) is to consider that this body of knowledge can be shared with a broad audience and replicated elsewhere. Given the use of the term "Indigenous" can denote things that are local or traditional, it risks being removed from the bundle of rights that Indigenous Peoples (the same applies to "Indigenous crops" (p.73) as it can be misinterpreted between Indigenous Peoples' crops and native crops). Indigenous Peoples have the right to self-determined development within UNDRIP, which recognizes the ownership of Indigenous Peoples over their food and knowledge systems. Our argument is supported by recommendation 8 of the Outcome Document following Rome Meeting with UN Mechanisms of Indigenous Peoples. In addition, Indigenous

	Peoples' knowledge systems are inherently local and lose value when displaced. They support understanding of the local ecosystems, and are rooted in worldviews, languages, culture, and spiritualities that are specific to each Indigenous Peoples (FAO, 2021, chapter II.2.). In addition, this terminology will align with the upcoming HLPE report on "Preserving, strengthening and promoting Indigenous Peoples' food and knowledge systems and traditional practices for sustainable food systems." On page 20, there appears to be an unfortunate generalization that Indigenous Peoples farm using "single crop fields reliant on fossil fuels and chemicals" and that they must "transition". In its current form, the sentence propagates a deeply negative and often inaccurate view of Indigenous Peoples food-generation practices, and we suggest removing mention of Indigenous Peoples within this sentence. Many Indigenous Peoples do not identify as "farmers"; their food systems often make use of many more diverse food-generating activities such as hunting, gathering, fishing, gardening, livestock herding and forestry. Second, if Indigenous Peoples are using monocultures and chemicals, it is often because they have been forced to abandon their more diverse, resilient sustainable traditional practices. To transition back, in this context, requires attention to often deeply rooted drivers of change, including colonial practices. In line with the comment made above, we would like to draw attention to the paragraph "ETR food systems, such as agroecology", which does not appear to consider Indigenous Peoples as knowledge holders. (p.76). This conflicts with the rightly statement made by the report to put human rights at the centre. (p.66) We draw attention to the term "informal education" (p.37) as linked to Indigenous Peoples. Whilst we understand the reason behind the use of this term, we see a risk of putting it alongside Indigenous Peoples' knowledge systems when Indigenous Peoples, as knowledge holders, are increasingly recognized in the efforts of transformation towards more sustainable food systems (Global-Hub on Indigenous Peoples food systems, 2021).
Please insert below any additional comment.	Other comments on specific pages:** • Page 22 - we suggest that the sentence on "systemic inequities between the global north and south" also acknowledges inequities that exist within countries and national populations, such as between Indigenous and non-Indigenous Peoples. • Page 26 – we suggest that Indigenous Peoples are added as a group that is "particularly disadvantaged because of power imbalances" • Page 28 - we suggest that the knowledge of Indigenous Peoples is also mentioned here, alongside the knowledge of local farmers Page 29 - on

	the marginalization of Indigenous Peoples' food systems, the section could be elaborated further, citing the White/Wiphala paper on Indigenous Peoples' food systems (FAO, 2021). • On page 30 - in section 2.2.7, the lack of land titles and formal recognition of common land owned, managed and used by Indigenous Peoples is a common driver of vulnerability to land grabbing and displacement for Indigenous Peoples. This could be highlighted. • On page 37 – in Section 2.4.3. it is important to see that the report emphasizes the active suppression of Indigenous Peoples' knowledge (via assimilation attempts) as a reason for knowledge loss. The report could go further to emphasize that there are also many indirect ways in which Indigenous Peoples' knowledge can be lost – such as through environmental degradation, declining consumption of traditional foods, and the migration of youth away from their communities. Page 42/43 – in line with the recommendation 8 of the Outcome Document following Rome Meeting with UN Mechanisms of Indigenous Peoples, and the FAO Indigenous Peoples Unit "Narrative for Working Together" (FAO, 2024), we suggest that the sentence "Local communities, typically Indigenous…" is rephrased to avoid the conflation of Indigenous Peoples and local communities. This is extremely important. • On page 71 – where attention is brought to the harms of food aid, it could be mentioned that food aid can also undermine traditional food practices and systems of resilience, offering only a sticking plaster/temporary relief to food shocks and introducing new dependencies on external sources - but failing to acknowledge and strengthen longer-term mechanisms of resilience. • Page 83 - the Maasai self-identify as Indigenous Peoples. • Page 90 - on metrics of resilience, attention could be given to the need for culturally sensitive indicators for Indigenous Peoples, as indicated in our response to question 4 and highlighted in Ford and al. (2020) This contribution is submitted by FAO Indigenous Peoples Unit. It follows-up on the response to the e-consultation on the scoping note of the report made by the Global-Hub on Indigenous Peoples' Food Systems. We thank you very much in advance for your attention. Kind regards, Anne Brunel.

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Surname and first name	Ally Bibi
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Vice President, Multilateral Affairs
Current institution/organization	Emerging ag / CFS Private Sector Mechanism
Country	United States of America
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	The private sector plays a pivotal role in enhancing food system resilience across the bouncing back to equitably bouncing forward spectrum through investment, innovation, and strategic partnerships. Examples of private sector interventions to help the immediate recovery from shocks can be related to investments in cold storage and logistics by agribusinesses and SMEs during COVID-19, ensuring the continued movement of food across supply chains. There are also many examples of initiatives led by the private sector that strengthen adaptive capacity, livelihood, and social inclusiveness, which can be included under both bouncing forward and equitably bouncing forward kinds of interventions. The adoption of climate-smart agricultural practices by private sector actors plays a crucial role in reducing long-term vulnerabilities to climate change while enhancing agricultural productivity, sustainability and livelihood. • The development of climate-resilient seed varieties provides farmers with crops that can withstand extreme weather conditions such as droughts, floods, heatwaves, and unexpected frost. These improved seeds are bred to enhance tolerance to environmental stressors, ensuring stable yields even in challenging climatic conditions. By using climate-resilient seeds, farmers can recover more quickly from adverse weather events, reducing crop losses, securing food production, and maintaining livelihoods. Additionally, these varieties contribute to long-term agricultural sustainability by increasing adaptability to changing climate patterns. • In the fertilizer industry, initiatives such as carbon sequestration programs, soil health enhancement, and precision agriculture help optimize nutrient use, reduce emissions, and improve soil fertility. Efficient use of inputs, including advanced fertilizers and bio-based alternatives, contributes to lower greenhouse gas emissions and reduced environmental impact. • In the livestock sector, a combination of mitigation strategies—including improved feed efficiency, dietary supplements, manure

	management, and breeding for lower methane-emitting livestock—supports a reduction in methane emissions. These approaches, along with sustainable grazing practices and circular bioeconomy models, enhance carbon storage and ecosystem resilience. • The forestry sector also plays a vital role in climate adaptation and mitigation, with afforestation, reforestation, and sustainable forest management improving carbon sequestration, biodiversity conservation, and resilience to extreme weather events. Private sector investments in agroforestry and landscape restoration further strengthen carbon sinks and reduce land degradation. • Carbon markets and sustainability-linked finance instruments are creating incentives for climate-smart practices across the supply chain. • Agri-tech firms are developing AI-driven tools to predict droughts, pest outbreaks, and extreme weather events, allowing farmers and agribusinesses to take proactive measures. In addition, supply chain digitization and blockchain traceability initiatives by major food companies and SMEs are improving risk management, reducing losses, and strengthening market access for smallholders. • Digital supply chain platforms enable real-time monitoring of production, processing, storage, and transportation, helping companies anticipate and respond to risks such as crop failures, contamination, or disruptions due to extreme weather. • Digitized supply chains enable efficient coordination between producers, distributors, and retailers, reducing delays and spoilage, particularly for perishable goods such as fruits, vegetables, and dairy. • Blockchain traceability ensures that smallholder farmers receive fair compensation by directly connecting them to buyers, reducing reliance on middlemen and improving price transparency.
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	Some key elements to support resilience are missing in the report and addressing them would strengthen its ability to provide actionable recommendations and a balanced perspective on food system transformation. 1. Role of trade: One of the most critical omissions is the role of trade in building food system resilience. While the report discusses the benefits of regionalized trade, it does not adequately acknowledge how global trade networks stabilize food prices, ensure supply continuity, and provide critical buffers against food system shocks. International trade allows food to move from surplus regions to those facing shortages due to climate shocks, conflicts, or economic disruptions. It is particularly

	crucial during crises, as it prevents localized food shortages from escalating into full-scale food insecurity. International trade can allow for food produced where practices are most efficient to be made available where it is needed, optimizing environmental footprint, combating climate change and making foods more affordable. Further, as demonstrated by the COVID-19 pandemic, countries must think globally and act together to strengthen diverse, resilient supply chains that can adapt to crises. The private sector plays a fundamental role in maintaining the efficiency and reliability of global trade flows through investments in logistics, storage, and distribution networks. Disruptions in trade, such as export bans, protectionist policies, or supply chain failures, can exacerbate food crises. International trade is essential to building sustainable food systems that deliver food and nutrition security for all without compromising the economic, social and environmental well-being of future generations. Reference: HLPE, "Food security and nutrition: building a global narrative towards 2030", (2020), https://www.fao.org/3/ca9731en/ca9731en.pdf Therefore, the report should present a more balanced view that recognizes how global trade, in conjunction with strong regional and local markets, is an essential pillar of resilience and trade should be positioned as a driver of food systems resilience and food and nutrition security. 2. Trade as a contributor to Food and Nutrition Security: The HLPE report notes that the liberalization of trade has opened the doors to cheap and industrialized products, increasing the overall availability of unhealthy food and contributing to increasing levels of food and nutrition insecurity. These assertions do not acknowledge the findings of the 2024 FAO SOCO report: Trade and Nutrition: Policy Coherence for Healthy Diets. According to the report, food imports are "critical for food security and nutrition" and openness to food trade can lower prices, spur economic growth, improve access to food, and help reduce the prevalence of stunting. The report finds significant overall benefits of food trade and also explores how food trade can affect nutrition "through multiple pathways." • Countries that are more open to trade achieved higher levels of nutrient adequacy for their populations • Benefits of increased global food trade include doubling the diversity of foods available in a country and driving more equal distribution of nutrients such as vitamin C, calcium, and zinc. Per capita trade of calcium and vitamin C increased by almost 90%. • A 2020 study published in the journal Nature Climate Change found that restricting trade would worsen the impacts of climate change on hunger, increasing the prevalence of undernourished people by up to 47%. In contrast, the study found that reducing trade barriers would partially alleviate climate change's impact on hunger, decreasing climate-related undernourishment by up to 64%.

	• The study concludes, "International trade can substantially contribute to climate change adaptation by reducing global hunger driven by the heightened pressure of climate change on agricultural markets. Reference: Janssens, C., Havlík, P., Krisztin, T. et al, "Global hunger and cli
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	To be meaningful, resilience metrics should capture both sustainability and economic viability. Key indicators for evaluating resilience in food systems should include: 1. Business Continuity & Supply Chain Resilience For agribusinesses, resilience is about ensuring stable operations and supply chains even during crises. Key indicators include: • Operational Recovery Rate: Percentage of agribusinesses that resume operations within a specific timeframe after a shock. • Supply Chain Diversification: Number of sourcing regions or alternative suppliers in case of trade disruptions. • Market Access Stability: Ability of farmers and small-scale producers to continue selling products despite economic or environmental shocks. 2. Financial Resilience & Investment in Adaptive Capacity Access to finance, insurance, and climate investments determines whether agribusinesses and food producers can recover and transform. Key indicators include: • Percentage of Farmers & SMEs with Risk Insurance: Coverage against weather, price fluctuations, and input supply disruptions. • Investment in Climate-Smart Technologies: Measured as the share of agribusiness revenues reinvested into climate-smart seeds, regenerative agriculture, water-efficient irrigation, or precision farming. • Access to Credit & Blended Finance: Number of food system actors (farmers, processors, retailers) benefiting from financing mechanisms designed for resilience (e.g., climate bonds, sustainability-linked loans). 3. Trade & Market Resilience Food systems rely on efficient trade mechanisms to prevent shortages and price volatility. Resilience should be assessed through: • Food Price Volatility Index: Tracking price stability of staple crops and key commodities across local, regional, and global markets. • Export & Import Flexibility: Measuring the ability to shift trade flows in response to supply chain shocks. • Fair Trade & Market Inclusivity: Evaluating how well smallholder farmers, SMEs, and women-led enterprises are integrated into agribusiness value chains. 4. Innovation & Digital Resilience Agricultural innovations and digital tools help agribusinesses adapt and build real-time response mechanisms for climate and market risks. Effective metrics include:

	• Levels of investment in adaptive technologies (e.g., climate-smart seeds, drought-resistant crops, smart irrigation and water management technologies etc). • Levels of investment in mitigation technologies (. e.g. Renewable Energy in farming, Enhanced Efficiency Fertilizers, Methane -Inhibiting feed Additives, Precision Irrigation etc) • Adoption of Digital Supply Chain Tools: Number of firms using blockchain, AI-driven forecasting, and precision agriculture to optimize operations. • Real-Time Monitoring Systems: Presence of early warning systems for climate shocks, pest outbreaks, and market disruptions. • Connectivity & Technology Access: Percentage of smallholder farmers with access to mobile platforms for market data, finance, and weather alerts.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	1. The Canadian Roundtable for Sustainable Beef (CRSB) published the second National Beef Sustainability Assessment (NBSA), providing the first measure of progress against the baseline assessment published in 2016. The NBSA is a comprehensive scientific study evaluating the sustainability performance of the Canadian beef supply chain from environmental, social and economic perspectives. The first baseline NBSA, published in 2016, utilized data collected from 2014 as its base year; the current NBSA utilizes data collected from 2021. The NBSA is set to update every 7 years to allow for substantial data updates and address research gaps. Summary Report: 1. SUMMARY REPORT_CRSB National Beef Sustainability Assessment & Strategy_EN Environmental and Social Assessment: https://crsb.ca/wp-content/uploads/2023/11/FULL-REPORT_CRSB-Environmental-Social-Assessment_FINAL.pdf Economic Assessment: https://crsb.ca/wp-content/uploads/2023/11/FULL-REPORT_CRSB-Economic-Assessment_FINAL_July-2023.pdf 2. Canadian beef industry 2030 Goals: https://beefstrategy.com/2030-goals To position the Canadian beef industry as part of the solution, rather than the problem. These goals aim to build government and public support for beef production and its activities through a clear and consistent message that addresses the challenges faced head-on, while also communicating its benefits. 3. Guidelines on the role of livestock in circular bioeconomy systems: https://openknowledge.fao.org/server/api/core/bitstreams/cfb89e72-76cf-449c-b8b8-7e2a37f2c89d/content During the production and consumption of foods, residuals and co-products are generated from agricultural activities, industrial food processing, food losses & waste, and animal and human excreta. A

	principal priority is to prevent human edible co-products from becoming food waste. Under this paradigm, livestock can play a crucial role in the circular bioeconomy by recycling resources that are not part of the primary food basket, through diverse contributions in areas such as food production, utilization of plant-based products, residual management, nutrient cycling, soil health and renewable energy generation (Figure 2). Thus, livestock play an important role in the circular bioeconomy as they enable the upcycling of agricultural products that cannot be consumed by humans into valuable and nutritional food, produce manure as a fertilizer and deliver other ecosystem services and cultural value.
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	Public-private partnerships such as P2DNZ in the dairy sector are fostering blended finance models that support livestock producers in developing economies to access climate funds and size carbon credit opportunities. • Leveraging Multilateral Climate Finance Mechanisms: PPPs like P2DNZ enable dairy producers in emerging economies to tap into international climate finance sources, such as the Green Climate Fund (GCF), the Global Environment Facility (GEF), and regional development banks, for climate-resilient livestock management. • Carbon Credit Opportunities: Through improved farm practices, methane reduction strategies, and regenerative grazing, dairy farmers can generate carbon credits that provide additional revenue streams, enhancing their financial stability and incentives for sustainable practices. Private sector actors are increasingly focusing on gender-inclusive approaches. Such as financing for women-led agribusinesses, which enhances resilience at the household and community level. • The International Agri-Food Network (IAFN) has played a key role in establishing the SME Accelerator Programme, developed in collaboration with the FAO. This program has been instrumental in providing knowledge, technical assistance, and networking opportunities to women-led small and medium-sized enterprises (SMEs), fostering economic empowerment and rural development. The program is estimated to have positively benefitted 500,000 people – including employees, farmers, value chain participants, and customers.
Please insert below any additional comment.	A truly resilient food system requires a combination of evidence-based policies, strategic partnerships, and practical solutions that address both immediate and long-term challenges. While the report provides an important discussion on social justice and equity, it leans too heavily on these frameworks without offering sufficient actionable recommendations. Achieving resilience is not just about identifying vulnerabilities—it also demands a clear focus on scalable solutions, investment mechanisms, and enabling environments that drive real-world impact. The role of the private sector in this process cannot be

overstated, as businesses, from multinational corporations to smallholder enterprises, are actively shaping food systems through innovation, sustainability initiatives, and market-driven strategies. A more constructive and solution-oriented approach would recognize these contributions while ensuring that resilience efforts remain inclusive and pragmatic. It is important to recognize that different countries have unique agri-food production conditions, practices, and systems and that there is no one size fits all approach for improving food security and sustainability outcomes.
The Theory of Change (ToC) would benefit from clearer causal sequences linking resilience outcomes to structural, systemic, and enabling approaches. While the report effectively outlines the need for transformation, it lacks specificity on how these approaches interact and contribute to resilience-building over time. A stronger framework should articulate the mechanisms through which interventions lead to measurable improvements, ensuring that resilience strategies are not only aspirational but also actionable. Additionally, it would be useful to contrast the ToC's approach with alternative resilience models to clarify its added value and applicability across different contexts.

One additional critical area for improvement is the need for increased focus on evidence-based solutions. While equity considerations are important, resilience-building must be grounded in clear, implementable strategies. The report introduces the concept of equitably transformative resilience, but without a strong foundation of actionable measures, this remains an abstract framework rather than a tangible roadmap for change. Resilience should be addressed through policies and investments that directly improve food security, supply chain stability, and climate adaptation, ensuring that recommendations are both practical and scalable.

Additionally, constructive engagement of the private sector is necessary to strengthen resilience efforts. The report presents corporate concentration and power imbalances as primary barriers to resilience, framing them as challenges to be dismantled rather than opportunities for reform and strategic collaboration. While fair competition is crucial, eliminating or restricting private sector structures is not always the most effective approach. Large-scale agribusinesses play a key role in funding research, improving supply chain efficiency, and advancing sustainability practices. A more balanced narrative should acknowledge both the risks of market concentration and the potential for corporate investments to drive resilience. Many businesses, from large multinational firms to SMEs, are already integrating climate-smart innovations, strengthening supply chains, and implementing higher sustainability standards—efforts that enhance food system resilience while fostering economic opportunities. Given the UN Secretary-General's call for an SDG rescue plan, greater collaboration between

	governments, the private sector, research institutions, and civil society is needed. Public-private partnerships have already proven their effectiveness in scaling climate adaptation, improving food security, and supporting rural economies. Instead of portraying businesses solely as contributors to food system vulnerabilities, the report should highlight successful

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Surname and first name	Huna Lungisa
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Director
Current institution/organization	Rural Women Assembly, South Africa (2)
Country	South Africa
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	Rural Women's Assembly of Southern Africa RWA we build resilience in food systems amongst our members in the 10 SADC countries. Positive contributions to the current case studiers illustrated in this HLPE-FSN REPORT illustrates a regional SADC voice. RWA has grown to about 170,000 members. We advocate and lobby to bring out the voices and lived experiences of grassroots women, influence and shape policies and actions and for their inclusion at local, national, continental and internal levels – by engaging local municipalities/ authorities, including traditional authorities, national Departments/ Ministries, SADC Heads of State, AUC and UN structures such as FAO, the CFS and the UPR processes. Women are the main producers of food and labour providers in SADC, 60 to 80 % of food they constitute the majority of those experiencing hunger. As hunger and malnutrition are projected to further increase. We are experiencing high levels of instability and social distress – manifested in the highest suicide rates in the world i.e. Lesotho. Over 900 children attempt suicide monthly in South Africa RWA aims to build local, national and regional formations in defence of commons, food sovereignty, small-scale farming, agroecology and biodiversity. We are inspired by black African ecofeminists. We seek justice and equity through an intersectional ecofeminist lens, interlinking gender, class, race, sexual orientation, disability, etc, including other species and ecosystems. RWA (SADC) work, actions and resistance aims at moving us towards an equitable transformative resilient food system, emphasising that our wellbeing and survival is inherently linked

	to our environment and nature and we challenge the current (un)balance of power and social relations that go beyond the food system. While some of RWA's own interventions can be seen as expressions of "thin resilience" (e.g. when trying to respond to repeated crises precipitated by extreme climate events our work does not stop with the crises. Our solidarity actions include sharing of farmer managed seeds, to help rebuild livelihoods planting and discourage our members from having to rely on seeds distributed by corporates. RWA's 'internal solidarity" actions are followed by and part of broader areas of action to "bounce forward". RWA is building the longer-term capacity of its members indeed advance what your report designates "an equitable transformative agenda". We highlight: Ø Feminist agroecology schools annually: ensuring women's agency. Besides building capacity in agroecological agricultural practices we emphasise that AE's foundations are on calls for social justice. land reform and challenge property relations and tenure systems; promotes saving, multiplication and exchanging of seeds from farmer managed seed systems (FMSS) and challenging our national governments for UNDROP implementation; women hold seed fairs; build capacity in alternative irrigation, integration of agroforestry in our food gardens (of both indigenous trees and some exotic trees for food and income purposes and in some countries RWA works with governments in planting thousands of trees; promoting African and traditional leafy vegetables and root crop vegetables; the "Right to Say No" and "No to land grabs" as per UNDRIP 2007 and FPIC. Ø Seed photographic exhibition that has travelled to several countries: The exhibition was held in December 2023 RWA at the University of Johannesburg, after an extensive 'seed journey' PAR in seven SADC countries, bringing together and honouring 400 women seed savers. Ø We promote intergenerational integration in all our activities as well as inter-regional respect for different cultures, cooperation, solidarity and we say "no to xenophobia". We use a feminist approach.
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	• In our RWA opinion the report could have greater emphasis on the gender dimensions, patriarchy and the need to increase women's agency. • We also think that there is not enough emphasis on the need to address the vicious circle of unsustainable debt, debt repayments at high interest rates that will prevent any advances in eventually eliminating hunger and malnutrition. • There have been several initiatives and calls over many years for debt restructuring, and the cancellation of debt, including the calls under

	Jubilee 2000. The debt relief given to Highly Indebted Countries under that initiative did not address the roots of the debt problems. Besides some corruption, much of the current debts of countries in the Global South are linked to past imperial and colonial domination, resource and labour extraction and exploitation. • At the time of the recent COP 29 (in Baku, December 2024) RWA pointed out that the Pope Francis has declared 2025 a "Jubilee Year" to "restore (hope and) access to the fruits of the earth to everyone". Historically the Church called Jubilees as times for the forgiveness of debt, freedom for slaves and returning of land to their original owners. In May 2024 the Pope made an appeal for "the more affluent nations to acknowledge the gravity of some of their past decisions and determine to forgive the debts of countries that will never be able to repay them. More than a question of generosity, this is a matter of justice". • The partial cancellation of some debts as a result of the Jubilee 2000 campaign (between 2000-2015) saw money being invested into public services and increases in the number of children attending schools, for example. But the scheme did not prevent debt crises from recurring – the regulations and structural causes remained the same. Besides the Church calls for Jubilees, more ancient calls were already made by others. For example, Solon (born around 630 B.C.E and died around 560 BCE), known as the greatest statesman and lawmaker of the Athenians, has come down to us in history as a major and wise figure and of Antiquity. Solon ended exclusive aristocracy's control of the government and changed control by the wealthy. He also wiped 'the debt-slate clean'. The alternative, we are told, would have been a blood soaked and costly revolution, because the Athenian peasants had been ground down too far" (quoting Margaret Atwood's PAYBACK (Debt and the Shadow Side of Wealth- House of Anasi Press, 2008, p. 182) in which she reminds us of the unsustainable levels of consumption (and destruction) by the wealthy and the debt that ultimately has to be paid (by all of us, including the most exploited and marginalised) to Nature on Earth's Day.
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	RWA promotion of traditional climate resilient seeds contributes to building resilience in food systems. Presently RWA has not developed means or indicators to evaluate resilience in food systems. RWA's journey is ongoing and we learn as we move forward and in conjunction with other social movements in Africa and beyond.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	Please refer to Rural Women's Assembly website.
Please provide additional examples that support equitably transformative	Grassroots social innovations (that can be supported by or enhanced by state-led resourcing). Women's empowerment.

resilient food systems for food security and nutrition.	
Please insert below any additional comment.	Our struggles and advancements must be focused on local and national struggles. The current multiple crises (from climate change to the war on Gaza, Sudan, DRC, Ukraine) where food is used as a weapon of war, are beyond any control of international bodies such as the UN created to mediate conflicting interests and wars.? women and children are vulnerable and suffer the most.

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Surname and first name	Sietz Diana
Are you contributing in a personal capacity or on behalf of an organization or team?	Personal capacity
Current position	Group Leader
Current institution/organization	Thünen Institute of Biodiversity
Country	Germany
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	Section 2.3.2 'Biodiversity loss' would benefit from broader and more in-depth perspectives. Particularly the paragraph starting "In addition to ecosystem failures..." could go beyond "Monocultures of genetically uniform crops or livestock..." and also address narrow crop rotational schemes, overstocking of livestock, related nitrogen overloads etc. The part on "beneficial insects, mycorrhizae and other beneficial microbes, and soil biome or microbiome..." could be extended to show in greater detail how biodiversity is not only threatened by agricultural land use but also how food production misses essential opportunities to incorporate ecosystem services. A discussion of lack of and emergence of resilience in high mountain regions would be useful. High mountains where people and societies have co-evolved with the unique contexts are high-risk areas of marginalisation, biodiversity loss, climate change. But at the same time they present opportunities to learn about past and newly emerging resilience building (e.g. https://doi.org/10.1007/s10113-016-1053-9). "Agroecological practices recommend increasing agrobiodiversity ..." (p. 33): Future pathways and targeted agroecological approaches have been tailored to typical agricultural land systems presenting a differentiated transformative vision for building resilient systems (e.g. https://www.nature.com/articles/s43247-022-00527-1). It emphasizes that implementing agroecological principles in uniform ways everywhere is not appropriate because the interactions and dependencies between agriculture and biodiversity vary depending on the intensity of food production and pressures imposed on biodiversity. The distinction between conserving non-use values of biodiversity and

	fostering ecosystem services sheds light on distinct transformation opportunities. It also supports the tailoring of agri-environmental policy measures to those regions where they can effectively contribute to resilience building. This could then be taken up in Section 3.3.1. (e.g. in the box "Agroecology as an illustration..."). Section 4.2.6 'Policy and institutions': currently a major problem is the uniform design of policy measures. As a consequence the measures are often not applied in regions where they are most effective. Tailored ETR-building approaches could help refine policy designs and build up ETR in more targeted ways.
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	Mottet et al. (2020) (https://doi.org/10.3389/fsufs.2020.579154) presents indicators to evaluate resilience, efficiency, human and social values, responsible governance, co-creation and other Elements of Agroecology that may be useful to consult.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	IPBES Nexus Assessment, IPBES Transformative Change Assessment Transdisciplinary research and action including diverse stakeholders would be key to realize the vision of building ETR based on co-design processes. Landscape/living laboratories provide transdisciplinary learning spaces (e.g. https://www.final-projekt.de/en/).
Please insert below any additional comment.	Congratulations on this well-designed and rich document. Beside the text I went through the visual parts and have a few suggestions. Fig. 3 could more strongly depict transformative change (and may be easier to read) when placing the elements (left-hand side within the box) in a horizontal order. This may represent temporal changes. But importantly it would allow to show the 'forward bouncing' more clearly. Now, the circle in the upper right-hand corner seems to indicate that both forward and backward bouncing aspects are important.

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Surname and first name	Hasiner Eva
Are you contributing in a personal capacity or on behalf of an organization or team?	Personal capacity
Current position	Senior Agriculture Economist
Current institution/organization	World Bank
Country	United States of America
Please insert below any additional comment.	I would suggest thinking about how "equitable transformative food system resilience" could look like in real terms. We often talk in big terms about food system transformation, but how will this transformed food system look like in reality? Which measure would we use to trace our success? For example, the results of successful energy transformation is clear to all of us, the results can be measured. Yet, for a transformed food system we lack a similar clear definition and approach for the assessment of results. I would suggest consolidating the different action areas (in buckets) to facilitate the reading of the report. I would suggest presenting impactful interventions in general terms and substantiate them with data. While selected impactful interventions are useful, presenting them in more general times will help with their application in different contexts.

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Surname and first name	Nyárai Orsolya
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Programme Officer - Agriculture NbS & Policy Advocacy
Current institution/organization	International Union for Conservation of Nature (IUCN)
Country	Switzerland
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	- Soil resilience and its impact on food production - Risk mitigation mechanisms in food systems - Land health as the basis of food systems resilience (on the production level)
How should resilience and the process of building	- Agroecosystemic resilience index https://www.researchgate.net/publication/347349123_Agroecosystem

resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	ic_Resilience_Index_AgRI_a_method_to_assess_agrobiodiversity - IUCN Land Health Monitoring Framework https://portals.iucn.org/library/sites/library/files/documents/CGA-001-En.pdf - Agrobiodiversity Index https://www.nature.com/articles/s43016-021-00344-3 - The ABCD of food systems' resilience https://edepot.wur.nl/580782
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	IUCN (2024). Agriculture and conservation: Living nature in a globalised world. IUCN Flagship Report Series No. 2. Gland, Switzerland: IUCN. Dussán López, P. (2023). Land health monitoring framework. Towards a tool for assessing functional and habitat diversity in agroecosystems. IUCN Common Ground in Agriculture Series No. 1.) Gland, Switzerland: IUCN. IUCN (2020). Common ground : restoring land health for sustainable agriculture https://portals.iucn.org/library/sites/library/files/documents/2020-023-En.pdf IUCN (2024) Assessing the biodiversity-agriculture nexus : an overview of international and European Union methods https://portals.iucn.org/library/sites/library/files/documents/CGFAS-002-En.pdf
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	- IUCN Global Standard for Nature-based Solutions https://portals.iucn.org/library/sites/library/files/documents/2020-020-En.pdf and Online NbS Self-Assessment Tool https://nbs-sat.iucn.org/ - The Forest and Farm Facility (FFF) Approach https://www.iied.org/sites/default/files/pdfs/2022-11/21186iied.pdf

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Surname and first name	Tremblay Judith
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Adjointe exécutive
Current institution/organization	Ministère de l'Agriculture, des Pêcheries et de l'Alimentation, Canada
Country	Canada
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	1. L'ancrage des activités de développement des systèmes alimentaires en lien avec les priorités régionales 2. La gouvernance des systèmes alimentaires
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	- Politique bioalimentaire 2018-2025 – Alimenter notre monde du MAPAQ -Plan d'agriculture durable 2020-2030 du MAPAQ
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	Données publiques et innovantes : Cartographie des sols : Utilisation de données de cartographie des sols pour optimiser les pratiques agricoles (info-sols.ca) Les programmes suivants sont des initiatives du MAPAQ qui peuvent servir de modèles pour les politiques similaires à différentes échelles. Ils répondent à plusieurs aspects de la question, notamment en matière de durabilité, de résilience, de gouvernance et de soutien aux producteurs agricoles : 1. Le programme Prime-Vert à l'échelle nationale soutient l'agriculture durable et influence sur les dimensions de la sécurité alimentaire suivantes : a. Disponibilité : soutient la diversification des cultures et l'augmentation de la production locale b. Stabilité : met en place des stratégies de gestion des risques climatiques et de renforcement des infrastructures agricoles, c. Durabilité : promeut les pratiques agroenvironnementales et l'agriculture biologique, d. Le programme encourage la participation des producteurs agricoles, ce qui peut renforcer leur capacité à prendre des décisions informées. 2. Les Plans de développement des communautés nourricières et les Plans de développement de la zone agricole sont des démarches concertées de planification et de développement du secteur bioalimentaire à l'échelle locale (municipalités) ou supra-locale (municipalités régionales de comté. Ils sont des outils qui permettent d'établir une vision commune du développement du secteur, basé sur

	les particularités régionales, les opportunités, les défis et les besoins, et à établir des priorités d'actions. 3. Les diagnostics territoriaux réalisés dans le cadre de ces démarches de planification du secteur bioalimentaire (PDCN, PDZA) permettent d'identifier les forces, les faiblesses, les opportunités et les menaces d'un système alimentaire sur un territoire donné. Comprendre et connaître le contexte dans lequel interviennent les diverses sphères du système alimentaire est nécessaire afin de définir des actions et des activités basées sur des conditions gagnantes, et ainsi plus souvent résilientes. 4. Politique bioalimentaire 2018-2025 - Alimenter notre monde : a. A comme ambition de maintenir un haut niveau de confiance des consommateurs et de développer un secteur bioalimentaire prospère, durable, ancré sur le territoire et engagé dans l'amélioration de la santé des Québécoises et des Québécois. b. Contribue à définir une vision qui rallie toutes les sphères de la société, y compris les consommateurs, l'ensemble de la chaîne bioalimentaire (agriculture, pêches, transformation, distribution de gros, vente de détail, services alimentaires et restauration) ainsi que les représentants des municipalités et des milieux de la santé, de l'environnement, de l'économie, de l'enseignement, de la recherche et autres. c. Dépasse le cadre de l'État et interpelle ainsi une pléiade d'acteurs. De portée gouvernementale, la Politique donne lieu à une coordination accrue entre plusieurs ministères et organismes du gouvernement du Québec de même qu'avec le gouvernement fédéral. Par sa structure, elle invite ainsi l'ensemble des acteurs gouvernementaux à instaurer une réelle synergie misant sur la complémentarité de leurs interventions afin d'accompagner et d'appuyer les acteurs du milieu dans l'offre d'aliments et de produits bioalimentaires répondant aux attentes des consommateurs d'aujourd'hui et de demain. d. Le contexte de pandémie et ses répercussions dans le secteur bioalimentaire québécois ont mis à l'avant-plan la priorité du gouvernement pour une plus grande autonomie alimentaire du Québec. Les mesures qui en découlent s'inscrivent à travers quatre grands piliers : i. Favoriser l'achat local ii. Accroître l'offre québécoise iii. Renforcer la chaîne d'approvisionnement iv. Accélérer le virage écologique

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Surname and first name	Cattaneo Andrea
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Senior Economist
Current institution/organization	FAO, Agrifood Economics and Policy Division (ESA)
Country	Italy
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	I do not have any examples. I struggled to understand how the spectrum functions. Some more insight on Figure 2 would help. In particular I find the framing to be very abstract without specifying who the stakeholders are, especially if we refer to changing structure of power. Bouncing forward is appealing, but who will bounce forward? is the idea that the whole system bounces forward? The narrative seems to imply that shocks and stresses are an opportunity to bounce forward, but in many situations stakeholders may be happy with just bouncing back. I am wondering how to distinguish situations when to bounce forward and when to bounce back.
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	This initial draft does not really have, at this stage, an analysis based on trends and variables. It could build on recent work on resilience of food systems as done in the 2021 report on the State of Food and Agriculture (SOFA 2021) and also by a recent paper published by the Food system Countdown Initiative (FSCI) titled "Governance and resilience as entry points for transforming food systems in the countdown to 2030". Both these efforts developed resilience indicators across many countries on which the HLPE could build.
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	See my comment to Question 8. Indicators in SOFA 2021 and in FSCI could be a starting point to reflect on what is still missing. In any case they should be acknowledged. Indicators that measure the ability to bounce forward are conceptually difficult to develop. The ability to bounce forward will depend in part on how much one falls back, and the dynamic response of the system. I would think that one would need a set of indicators that establishes who is vulnerable to falling back and by how much, and whether the ambition should be to bounce back or bounce forward. Both may require transformation, but the issue is what is a reasonable level of ambition to ensure a successful outcome in a practical context.
Are there other references, data, publications, or other kinds of knowledges,	I believe the following paper will be important in supporting the narrative of this year's HLPE: Cattaneo, A., Sadiddin, A., Vaz, S., Conti, V., Holleman, C., Sánchez, M.V. and Torero, M., 2023. Ensuring affordability of diets in the face of shocks. Food Policy, 117, p.102470.

which should be included in the report?	The reason I believe it is important is because it supports that inequality is at the core of vulnerability and limited resilience of stakeholders. The covid pandemic highlighted how economic access to food is a very serious vulnerability food systems are facing. This paper can support the argument for Equitably Transformative Resilience actions.
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	
Please insert below any additional comment.	

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Surname and first name	Valim Magalhaes Bruno
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Technical Adviser and Researcher
Current institution/organization	Instituto de Pesquisas em Ciências Sociais (Fundação José Luiz Setúbal), Brazil
Country	Brazil
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	'Bounce back' to restore a pre-disturbance status -> Social protection and philanthropy A bounce back approach can ensure the continuity of essential food security programs during crises. School feeding programs, originally designed to address nutritional deficiencies, have become critical social protection mechanisms. In Brazil, the National School Feeding Program (PNAE) evolved into a universal initiative, guaranteeing students' right to food even during emergencies. During the COVID-19 pandemic, Law No. 13,987 (2020) authorized food distribution to families during school closures, ensuring the program's continuity while maintaining support for smallholder farmers, who supply at least 30% of PNAE's food purchases. A similar response occurred in São Tomé and Príncipe, where the World Food Programme (WFP) collaborated with the government to maintain school feeding operations. From January to June 2022, emergency school meals reached 20,000 children, supported by the Chellaram Foundation, which also provided hygiene kits to mitigate COVID-19 risks. Beyond health crises, school feeding programs also serve as anchors for climate resilience. In late 2021 and early 2022, tropical

	storms destroyed crops and affected thousands of rural households, prompting WFP to deliver food assistance, demonstrating the role of school feeding in stabilizing food systems amid shocks. Both cases highlight school feeding as an adaptive social protection tool, preventing disruptions in food and nutrition security. Legal frameworks that enable flexible food distribution, engagement with smallholder farmers, and emergency funding partnerships are crucial to ensuring program resilience. By integrating these strategies, school feeding programs not only bounce back during crises but also strengthen long-term food system stability. 'Bouncing forward' for food system transformation -> Centring resilience on the knowledge, experience and resistance of the marginalized Localized Food and Nutrition Surveillance Systems can contribute to a bouncing forward approach to food system transformation by centering resilience on the knowledge, experience, and resistance of marginalized communities. Rather than aiming only to return to pre-crisis conditions (notably COVID-19), this perspective emphasizes structural change and long-term equity. Localized FNS systems help recognize and document the lived realities of populations most affected by food insecurity, offering a more nuanced understanding of food access challenges. By decentralizing data collection and fostering community participation, these systems strengthen local decision-making and allow for more context-specific responses to food crises. They also provide space for integrating diverse food practices, traditional knowledge, and agroecological approaches, reinforcing food sovereignty as a key element of resilience. In São Paulo, the development of the Sistema Municipal de Vigilância em Segurança Alimentar e Nutricional (VIGISAN) aligns with these principles, positioning food security monitoring as a continuous and participatory process. Rather than relying solely
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	Surveillance can inform policy, strengthen resilience, and promote equitable food access in urban contexts. Additionally, science for policy can play a role in enhancing decision-making by providing evidence-based insights that guide food security strategies. Research institutions, universities, and independent data initiatives contribute to monitoring food system vulnerabilities, assessing intervention impacts, and shaping adaptive policies. By fostering a stronger connection between scientific research and policymaking, localized food security efforts can become more responsive to emerging challenges and better integrated into broader governance frameworks. Additional trends could include the role of philanthropy in complementing social protection measures during crises and development, the long-term impacts of emergency interventions, and the adaptability of food programs to climate shocks and economic volatility. Examining supply chain resilience, particularly in sourcing from smallholder farmers, and the effectiveness of public-private

	partnerships in sustaining food security efforts could also enhance the analysis. Furthermore, non-state and non-UN actors are increasingly shaping food security landscapes. Civil society organizations, grassroots movements, and philanthropic foundations can play roles advocating for policy change, mobilizing resources, and implementing localized solutions. Private-sector initiatives, including corporate social responsibility (CSR) programs and ESG-driven investments, can influence food system resilience, particularly when aligned with community needs. Recognizing these actors as key contributors to food governance ensures a more comprehensive approach to building equitable and resilient food systems.
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	Evaluating resilience in food systems requires an approach that captures both structural vulnerabilities and adaptive capacities. The incorporation of intersectionality into surveillance and monitoring systems, as highlighted in the case of São Paulo, can provide a more nuanced understanding of how food insecurity disproportionately affects marginalized groups. Indicators such as localized food insecurity rates, disaggregated by race, gender, and socioeconomic status, can help track disparities and inform targeted interventions. Moreover, participatory methodologies like design thinking, particularly the "Double Diamond" model, can be effective in ensuring that resilience-building efforts are grounded in the lived experiences of affected communities. By engaging diverse stakeholders in defining problems and solutions, these frameworks allow for more responsive and equitable policy development. Equitably transformative resilience should be evaluated based on its ability to address systemic inequalities while enhancing adaptive capacities at multiple levels. This involves assessing whether food system interventions acknowledge and mitigate power asymmetries, support historically marginalized groups, and create inclusive decision-making spaces. Key methodologies include the use of community-driven data collection mechanisms, real-time monitoring tools, and participatory governance models that amplify the voices of those most affected by food insecurity.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	The covid-19 pandemic reflection on the National School Nutrition Program execution (PNAE) https://www.scielo.br/j/sssoc/a/CdMCmfVKH7Nr5Q3JMRMftrd/ Guidelines for the Implementation of the National School Feeding Program (PNAE) During the Emergency Situation Resulting from the Coronavirus (COVID-19) Pandemic https://www.cfn.org.br/wp-content/uploads/2020/04/CARTILHA_PNAE_COVID.pdf Sao Tome and Principe Annual Country Report 2022 - WFP https://executiveboard.wfp.org/document_download/WFP-147994 SISVAN (Sistema de Vigilância Alimentar e Nutricional) is a Brazilian system for monitoring and evaluating food and nutritional security at

	the national, state, and municipal levels. https://sisaps.saude.gov.br/sisvan/ COVID VIGISAN is a monitoring system developed to track food and nutritional security during the COVID-19 pandemic in Brazil. https://pesquisassan.net.br/2o-inquerito-nacional-sobre-inseguranca-alimentar-no-contexto-da-pandemia-da-covid-19-no-brasil/ The "Inquérito Insegurança Alimentar São Paulo" (Food Insecurity Survey São Paulo) is a research initiative conducted to assess the prevalence and severity of food insecurity in the city of São Paulo. It aims to gather data on the food security status of households, helping to guide public policies and interventions to address food insecurity and improve nutrition in the region. https://sites.google.com/view/situacaoalimentarsp/ Inshights on Philantrhopy and the Third Sector in Brazil on FNS https://ssir.com.br/edicao-especial-seguranca-alimentar/

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Surname and first name	Evanty Nukila
Are you contributing in a personal capacity or on behalf of an organization or team?	Personal capacity
Current position	Chairperson of Indigenous Peoples' Initiatives
Current institution/organization	Indigenous People's Initiatives (Inisiasi Masyarakat Adat- IMA)
Country	Indonesia
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	Example of Enbal local food from Southeast Maluku, Indonesia.Enbal is an alternate staple food as well as the local wisdom of the local community particularly in Kei Island, Southeast Maluku. Due of experience of extreme food crisis thus local people get used to eat enbal.The production of enbal is supported by the National Food Agency (Bapanas) which has provided assistance in the form of local food processing equipment for micro, small and medium enterprises in Southeast Maluku Regency, Maluku, to encourage diversification of food consumption in that area.
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	It is necessary the local government to do more to socialize and empower women in Southeast Maluku, that enbal consumption is at a time when rice prices are high and as a substitute for sagoo and the season is uncertain/climate change. The local government must continue to strive for the Kei community to re-plant enbal as a local food culture. Local wisdom, such as traditional agricultural practices for enbal, has an important role in strengthening village food security.

How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	Based on the Global Food Security Index from The Economist Intelligence Unit, Indonesia's food security is ranked 69th out of 113 countries, with low scores on indicators related to food affordability, quality, empower the local farmers and local communities and natural resource management and resilience. So the biggest problem with Indonesian food is unequal affordability. The community still relies on rice and the price of rice as a staple food which is still a strategic commodity, is twice as expensive as the international price of rice. The process of providing alternative food and food access needs to involve many parties, from farmers, livestock breeders, traders to the food industry, whose roles must strengthen each other and not be complicated by bureaucracy, and the National Food Agency must be more transparent and efficient in the food supply chain from production, processing, to distribution. Competition and openness involving the private sector encourage innovation in the food and agriculture sectors.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	https://badanpangan.go.id/wiki/badan-ketahanan-pangan
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	The Indonesian government is responding to transformative resilient food system and in line with the increasing Indonesia population. The need and market for food are very large and will continue to grow. However, the government recognizes that the development of the food sector requires innovative methods based on modern technology, which will be able to increase the efficiency of the production process and the quality of affordable food ingredients, and can improve environmental carrying capacity, as well as improve the welfare of farmers and their supporting sectors. The government is also increasing the central role of farmer corporations so that they can prioritize added value on farm and off farm, and support collaborative-inclusive business models that can boost the food sector as a new economic force that opens up jobs and becomes a source of welfare for the Indonesian people. Coordinating Minister for Economic Affairs Airlangga Hartarto added that in the National Economic Recovery Program (PEN), economic stimulus has been disbursed aimed at helping the business world, both micro, small and medium enterprises (MSMEs) and corporations. Including stimulus aimed at maintaining performance in the agriculture and fisheries sectors: (1) Labor-Intensive Agriculture Program; (2) Labor-Intensive Fisheries Program; (3) Productive Banpres for MSMEs in the Agricultural Sector; (4) Micro Interest Subsidies/People's Business Credit; and (5) Cooperative Financing Support with a Revolving Fund Scheme (https://www.ekon.go.id/publikasi/detail/647/pemerintah-dorong-peningkatan-sektor-pangan-dan-pertanian-untuk-kesejahteraan-

	masyarakat-indonesia). Based on the Law, the Government has a central role in the agricultural chain, from production to distribution, with a focus on enhancing the role of agriculture. Examples of government roles; The government provides subsidies for fertilizers, superior seeds, pesticides, and assistance with modern agricultural technology; providing counseling and training to farmers on cultivation techniques, etc.; strengthening agricultural infrastructure such as irrigation, roads, etc.; conducting agricultural land management, etc.; ensuring the availability of sufficient and stable food stocks; conducting market interventions; facilitating small farmers' access to credit and working capital, etc.
Please insert below any additional comment.	Indonesia has had a regulation on Food Security Law No. 18/2012, but the problem is that food issues need to be viewed cross-sectorally from upstream to downstream, strengthening food resilience and developing local foods such as enbal and sago for local communities and indigenous peoples because Indonesia is an archipelagic country that has a variety of ecosystem and socio-cultural characteristics. The most important thing is the correction of policies and governance of the food system which is currently controlled centrally and the standardization of all regions in Indonesia and need more collaboration with civil society organizations.

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Surname and first name	Pietrelli, Rebecca
Are you contributing in a personal capacity or on behalf of an organization or team?	Please insert below any additional comment. Please insert below any additional comment.
Current position	Economist, ESA-OER
Current institution/organization	FAO
Country	Italy
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	In addition to the SOFA reports—particularly SOFA 2021 "**Making agrifood systems more resilient to shocks and stresses**"—and the SOFI reports, which David highlighted as key references, I would like to suggest two additional resources for consideration for the upcoming report: • The ESA Working Paper "**Resilient food systems – A proposed analytical strategy for empirical applications**". Background paper for The State of Food and Agriculture 2021. FAO Agricultural Development Economics Working Paper 21-10 that explores "how food systems resilience can

	be measured at the country level". This reference could be particularly useful for the forthcoming section on resilience metrics, providing a robust framework for assessing resilience. • We appreciated the report's attention to the subjective components of resilience, including the mention of self-confidence in Chapter 3. We believe the report would benefit from a more pronounced **focus on youth**. A recent analysis in progress—conducted by ESA in collaboration with ESP—examines the relationship between age and different resilience dimensions, uncovering nuanced findings and showing a complex relationship between age and material and subjective resilience. Given that young people are pivotal drivers of agrifood system transformation, incorporating this dimension could strengthen the report's insights. Please note that this ongoing analysis will be featured in the **FAO Report on the Status of Rural Youth in Agrifood Systems (forthcoming, 2025).**

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Current institution/organization	WFP
Country	Italy
Please insert below any additional comment.	• WFP contributes to food systems transformation through an integrated package of assistance, tailored to the needs and capacities of each context. • In **humanitarian settings**, WFP implements interventions **that restore or preserve the functionality of crucial food system components**, to allow efficient flow of humanitarian aid, but also to preserve basic access where possible—saving lives in fragile settings, protecting development gains, and enabling the transition from humanitarian assistance (bouncing back) to recovery (bouncing forward). • The **links between conflict and hunger** have long been established and are mirrored by WFP's continued assistance in contexts where communities and food systems are trapped in a cycle of conflict and instability. *While the report references these linkages, it would benefit from a stronger conflict-sensitive lens to ensure interventions do not exacerbate existing tensions* and that power dynamics do not hinder marginalized communities from participating in value chains for key crops or accessing healthy diets regularly.

- We are pleased to see the WFP multi-country Integrated Resilience intervention in the Sahel (Burkina Faso, Chad, Mauritania, Mali, and Niger) highlighted as a key example of how integrated programming—building community agency and empowering vulnerable populations—is critical for local communities and national governments to better navigate future shocks and crises.
- WFP collaborates with national governments to **advance food system transformation** by aligning with national priorities. A key example is investing in **national school feeding programs** (both in emergencies and stable settings) and promoting local procurement. Institutional procurement not only enhances food security but also empowers marginalized producers, building resilience and long-term sustainability in food supply chains. Prioritizing local production and smallholder farmers for institutional procurement strengthen local food systems, and promote economic inclusion.
  - *A bigger focus on the potential of national school feeding programmes to trigger food system transformation, if locally sourced, can be further elaborated in the report.*
  - *The opportunity to harness institutional procurement for food system transformation could be further stressed throughout the report.*

- **In humanitarian responses, safeguarding local food production and market dynamics is essential to prevent unintended harm to fragile food systems, and to set the base for future food systems transformation once the situation stabilizes**. Strengthening food supply chains through investments in infrastructure, local and regional procurement, and targeted support for smallholder farmers enhances market resilience. Prioritizing smallholder procurement not only advances the localization agenda but also fosters inclusive economic growth and builds more sustainable food systems.
  - *In-kind food assistance - both through local purchase or CBT - is briefly mentioned in the report (Chapter 4.1, p.72) but would benefit from being more expanded on, because of the positive impact injections of cash in the local markets/economy can have, as well as in stabilizing crisis affected areas and promoting a quicker recovery to normality and functional markets.*

- As urban migration rises, particularly among youth leaving generational agricultural production, the future of global food security is at risk. Aging farming populations and a shrinking agricultural workforce threaten productivity, while climate change and conflicts further disrupt food systems. *Strengthening*

	the focus on youth would enrich the report, emphasizing the urgent need for policies, innovation, and investment to make farming a viable and attractive livelihood for the next generation. • **The private sector**—including food processors, retailers, and traders—plays a critical role in strengthening food systems. Beyond being donors, businesses are key partners in driving innovation, efficiency, and resilience in food production and distribution. Highlighting this shift in engagement would enrich the report, underscoring the need for strategic, long-term partnerships that leverage the private sector's expertise, resources, and innovation to build sustainable and resilient food systems.

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Surname and first name	Calo Adam
Are you contributing in a personal capacity or on behalf of an organization or team?	Personal capacity
Current position	Assistant Professor of Environmental Governance and Politics
Current institution/organization	Radboud Univeristy
Country	Netherlands (Kingdom of the)
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	Scotland's Land Reform Agenda, The agricultural land trust movement in the global North (Kapitaloceen, The Ecological Land coop, the Agrarian Commons)
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	The role of property relations (of land) on the capacity for resilience / power / agroecological transformation/ ETR)
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	See my comments below. But I would integrate the recent IBPES Transformative Change Assessment for sure, as it well aligns with the ETR theory of change.

Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	See below, but specifically Scotland's Land Reform Agenda that is groundned in Human Rights
Please insert below any additional comment.	By invoking the concept of transformation, does the report wish to engage with the recent IPBES transformative change assessment? If the biologists are also calling for transformation, the idea has momentum. It looks like he report uses (Scoones et al. 2020), but the TC Assessment is more recent and represents a unique interdisciplinary collaboration. On page 15, there is a chance to argue how the ILS not only causes damage, but supports incredible wealth for a very few actors. This could compliment the theme of equitable transformation. Page 26, another chance to describe the reasons driving concentration (notably profit seeking and private property relations). In chapter 2, there a multiple places to mention concentration of land ownership. For example property rights related to seeds and intellectual property are mentioned, but not land. In many contexts, land ownership itself is concentrated and its transfer is guarded by layers of legal and cultural enforcement. It can be argued that the power of the ILS is grounded int he land owning base of farmers who work the land industrially. In any event, If we are talking about transformation of norms, an policy frameworks for the ETR, land relations must be on the agenda: Calo, Adam, Sarah Ruth Sippel, Sylvia Kay, Coline Perrin, and Kirsteen Shields. "Transforming land for sustainable food: Emerging contests to property regimes in the Global North." Elementa: Science of the Anthropocene 12, no. 1 (2024). Calo, Adam, Kirsteen Shields, and Alastair Iles. "Using property law to expand agroecology: Scotland's land reforms based on human rights." The Journal of Peasant Studies 50, no. 5 (2023): 2075-2111. Margiana Petersen-Rockney's intervention on narrow and brittle resilience vs broad and deep resilience may be helpful for chapter 1 or 3. The paper argues that the ILS will try to achieve a form of resilience, but it will narrow and brittle, therefore suggesting that an agroecological resilience is broader and deeper: Petersen-Rockney, Margiana, Patrick Baur, Aidee Guzman, S. Franz Bender, Adam Calo, Federico Castillo, Kathryn De Master et al. "Narrow and brittle or broad and nimble? Comparing adaptive capacity in simplifying and diversifying farming systems." Frontiers in Sustainable

	Food Systems 5 (2021): 564900. Also in the same collection, I expand ont he relation between resilience and unequal land tenure regimes: Calo, A. (2020). “Who has the power to adapt?” Frameworks for resilient agriculture must contend with the power dynamics of land tenure. Frontiers in Sustainable Food Systems, 4, 555270. 3.3.3 or 3.3.4 could specifically mention land reparations or redistribution. Or human right to land. There is one mention of land reforms in the case of MST. I (with my land-first bias in mind) suggest that there should be a separate section based on land reforms in chapter 4, bringing examples across different policy contexts. I don't think there can be an agroecological transformation without innovation on land reform and policies like increased funding or farm to school etc, will graft onto existing property regimes, watering down their effect ... especially for justice. The report can take a more technocratic land reform framing if needed. But the main point is, the ILS has ownership of too much o the food system.

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Surname and first name	Gallagher Daisy
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Project Manager
Current institution/organization	Cultivate team, Trinity College, Dublin, Ireland
Country	Ireland
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	Bounce back: Irish Local Development Network, food services during COVID-19 (https://ildn.ie/dublin-south-city-partnership-address-food-shortages-2/) Bounce forward: Foodcloud started by bringing surplus food to those that need it and is now a major FLW actor (Foodiverse app). During COVID Foodcloud had more of an oversight of community need around food than any other organisation (including government) due to its connections with 300+ community groups. Equitably bounce forward: Food Sovereignty Approach & La Via Campesina (these kinds of approaches are especially interesting in an Irish context as we are wholly dependent on a global food supply chain. The Table Debates article (https://tabledebates.org/essay/support-your-

	locals-international-solidarity-resilient-and-sustainable-urban-food-system) includes points on being part of a global food system, and the importance of continued participation). Another example would be Belo Horizonte's food security programme which involved a strong community wellbeing aspect and targeted social welfare programmes. Operation Food Freedom (Utrecht) have a business model for collaboration, good governance and sustainability along the food value chain.
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	Overall chapter 3 dissects the different meanings of resilience and how they are applied in the food system. Concluding with a recommendation for utilising the "equitably transformative" approach and centre the conversation on human rights. Rights based approaches are notoriously hard to operationalise though and needs to also elevate responsibilities. This is also related to developments around ensuring a 'just transition' to food systems for sustainability and so the different dimensions of justice should be teased out further in the document for clarity, e.g. around distributional, procedural and recognition justice. There is very little mention of the private sector in the chapter, and the roles and responsibilities of those in positions of power within them and also differential power relations across multiple tiers of government (e.g, local, regional, national, supra-national). A multi-level governance lens would be helpful here, e.g. encompassing these tiers and the various spheres of governance (private, public and civil society). Applying the recommendations in reality requires political ownership and for the private sector to take responsibility for their place in our food system and their role in making it equitably transformative. While government structures and power dynamics with the private sector differ from country to country, making it difficult to position them in the resilience narrative – not mentioning their involvement feels like a gap in the conversation. You can label food system resilience as a fight for human rights, but you still need action beyond recognition. You need ownership and acknowledgement of remit; backing power (legislation with bite). Active and open engagement by private sector actors tends to be limited and focused on expanding profits. On matters of a just food system (for consumers, but also for producers and workers across the food system) we seem dependent on a tight-lipped private sector. If we are to have a conversation about resilience, that needs to be addressed. Chapter 4 gives more recognition to the multitude of food system operators (multi-level government agencies). However, there is still little onus put on the private sector. The focus is more on how governments can enable the different actors to participate and achieve FSN. However, not all food system actors are sitting at the same table of discussion, nor are contributions from different actors considered of equal weight, undermining the effectiveness of proposed actions. Common but differentiated responsibilities might be useful phrase to use here - e/g.

	everyone has a role, but some have a bigger/more influential role than others due to their position/job etc. The report speaks of how society and governments can work together, and as an aside – what actions the government can take to drive action in the private sector for FSN and ETR. Not fully addressing our dependency on private entities and the need for their cooperation and action in food system resilience. Large scale private sector food actors likely have risk and resilience strategy departments in house who monitor widespread impacts like food price indices. Relationships between e.g. farmers and the private sector are highly uneven in terms of power to shape relations Another consideration should be geographical differentiation and global inequality, particularly regarding climate impacts on the Global South and food insecurity in that context. Resilience strategies may vary significantly based on factors such as Global North vs. Global South, as well as urban, peri-urban, and rural contexts.
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	ETR pathways should also consider sustainability as to not negatively impact our environment and future generations. Sustainability and resilience to don't automatically go hand in hand, i.e. resilience strategies can focus on surplus and diversify, both resource intensive. A strong example of an action that can build both sustainability and resilience in our food system is the prevention of food loss and waste. Different metrics/indicators will be needed for the different points of the food system. To utilise a framework/methodology for the food system as a whole would surely be too general. However, it could be argued we are ultimately looking to the 1) health of the population, 2) their access to food and 3) their food skills and knowledge1. Showing both a resilient system and a resilient population (back to the question of who is responsible for ETR, big system actors or everyone?). Another area to be evaluated for resilience is the logistical infrastructure of our food system. For a food system part of global supply chains, disruption to supplies can be mitigated with alternative sources. However, if there are disruptions to particular points in the logistical network, these are less easy to mitigate. For example, access to fuel (British fuel shortage 2021); supermarkets lean and agile models (designed for regular deliveries and reduced food waste, not capable of meeting heightened demand during extreme weather); infrastructure impacted by extreme weather (Holyhead port 2024/25). Further than just the logistical networks, what about the affordability of food?
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	CULTIVATE is a HEU/UKRI funded project working on co-designing food sharing innovation for resilience. We are in year 3 of the project, developing the below tools to enable food sharing and food system resilience: CULTIVATE Food Sharing Map

	Food Sharing Dictionary Manual mapping protocol Sharing Solutions Sustainability Impact Assessment tool Food Sharing Calculator Menu of Good Governance Library of Citizen Engagement Food Sharing Community of Practise https://cultivate-project.eu/
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	Each of the CULTIVATE food sharing resilience partners could be listed here as examples of building resilience in our food systems. For example: The Rijnvliet Edible Neighbourhood is a great example of integrated resilient and sustainable access to food. Not only the inclusion of edible plants in their immediate surroundings but the work being done by Cascoland/WUR/Gemeente Utrecht on teaching the residents invaluable skills: plant identification, foraging, cooking, - using what is available to you. This is building in resilience to a neighbourhood both in skills and access. Milan Food Waste Hubs recover food surpluses from local supermarkets and canteens and redistribute them to people in need though neighbourhood networks. A hub established within the wholesale market of fruit and vegetables recovers food losses directly from producers and wholesalers to donate to local organizations. The municipality and other organizations sponsored the initiative exploiting unused spaces dedicated to stocking. They redistributed recovered food to local charities involved in the project while sponsors ensure the economic sustainability of the hubs. The Barcelona municipality, in collaboration with the Barcelona Metropolitan Strategic Plan (PEMB) work with Terra Pagesa. Terra Pagesa is led by the main farmers' trade union, the food sharing initiative facilitates sales for local food producers, strengthening the short food supply chain. Fundació Espigoladors works to reduce and prevent food waste and to promote the right to healthy and sustinable nutrition from an inclusive, cross-cutting, and empowering perspective. Espigoladors organise gleaning activities to collect fruits and vegetables that are discarded

	from the commercial circuit and work with social entities and free food distribution services to distribute the gleaned produce, Upfarming is an NGO based in Lisbon that builds healthy, sustainable, resilient cities through participatory urban farming. Using the combination of vertical farming, the therapeutic benefits of community gardens, composting, agroforestry to create new spaces. Nesehnuti is a social-environmental movement that supports communities, groups, and individuals by creating spaces where diverse newcomers and locals can meet, eat and establish personal connections through community-building activities. By preparing and enjoying food together, sharing experiences and values, NESEHNUTI helps build connections and understanding between people to create sustainable communities. Zusammen Leben is an open civil society space for encounters to break down prejudices, get to know and understand each other, learn about sustainability in a trusting environment and build a foundation for peaceful coexistence by eating and gardening together in a community café or garden respectively, “zuka-solicafé” and “zusammen gärtnern”. Award winning charity and social enterprise FoodCloud tackles food waste and food security by redistributing surplus food from the food industry to a network of charity and community partners via its tech platform, Foodiverse (in Ireland, the UK, Czech Republic and Slovakia), and also through its hubs around Ireland. Boroume is a food sharing initiative that aims to reduce food waste and combat malnutrition throughout Greece by saving food from donors and offering them, through charities, to people experiencing food insecurity. Their vision is to develop a social movement to reduce food waste, while increasing food support to people in need through voluntary supply. Brighton Hove Food Partnership delivers a range of food projects which have helped over 15,000 local people learn to cook, grown their own food, eat a healthier diet and waste less.

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Surname and first name	Pulasinghage Chatura
Are you contributing in a personal capacity or on behalf of an organization or team?	Personal capacity
Current position	Founder
Current institution/organization	Green Space Consultancies Pvt Ltd
Country	Sri Lanka
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	Sri Lanka provides a recent example of policy failure and its impact on the resilience spectrum of the food system. In April 2021, Sri Lanka decided to cancel the importation of chemical fertilizers and agrochemicals and requested farmers to adapt organic agriculture practices. However, by this time, almost 95 percent of the agricultural lands were under chemical-based farming. Sustainable food systems at local and regional scales were not capable of making the required scaling up to produce enough food for the country with organic inputs. The policy was reversed within eight months and country was faced with food insecurity.
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	The elements identified in the draft report are essential, and I agree with the ecological and socio-economic-political stresses mentioned. However, I believe special attention should be given to policy shocks, as the policy process in most developing countries is top-down, leaving little room for regional input. As a result, policies often fail to reflect regional capacities and realities when addressing changes in dominant food systems.The demand for organic products is increasing, and developing countries, with their rich cultivation heritage, possess much of the unused land that could be converted to organic farming. However, these countries face challenges in connecting with global food systems and dealing with international organizations like the World Bank, European Union, and the United Nations. As a result, their food systems are often explored by international buyers with the support of organizations such as BIOFACH. The question of how food systems in these countries can become more resilient and effectively connect to global markets is an important area to explore.How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective in capturing the ability of food systems to withstand and adapt to shocks and stresses and bounce forward? How can equitably transformative resilience be evaluated?
How should resilience and the process of building resilience in food systems be evaluated? Which	Building resilience in the food system needs to explicitly address the governance issues. I am interested in how food systems are governed so that resilience to stresses and shocks are improved. This involves power

indicators, frameworks, or methodologies do you consider most effective?	and politics, policy process, relationships among food system actors and agency.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	Ginigaddara, G. A. S., & Kodithuwakku, A. N. (2024). Building climate-resilient food systems in sri lanka through site-specific agricultural management. European Journal of Agronomy, 156, 127148. Kandegama, W. W. W., Rathnayake, R. M. P. J., Baig, M. B., & Behnassi, M. (2022). Impacts of climate change on horticultural crop production in Sri Lanka and the potential of climate-smart agriculture in enhancing food security and resilience. In Food Security and Climate-Smart Food Systems: Building Resilience for the Global South (pp. 67-97). Cham: Springer International Publishing.
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	After the policy failure in 2021, Sri Lanka is gradually implementing changes to transform its food system at the regional level, aiming to build resilience against future shocks. This recovery offers important lessons on strengthening food system resilience, not only in response to climate change but also to human-made disruptions like policy decisions. A key area for exploration is how policies can better account for regional agroecological variations and opportunities when designing transformative solutions.
Please insert below any additional comment.	Most studies on food system resilience and transformation focus on successful examples, but Sri Lanka stands out as a case where resilience was lost due to a policy shock, leading to food insecurity. This example highlights the consequences of policy decisions that undermine food security and emphasizes the need for careful planning and flexibility in food system strategies. Sri Lanka's experience offers valuable lessons on the importance of balancing agricultural policies, maintaining sustainable practices, and ensuring resilience against shocks to avoid similar crises in the future. Currently I am exploring this further as a PhD candidate at the Wilfrid Laurier University, Canada.

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Surname and first name	Fabbris Samanta
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Analyst of the healthy and sustainable food program
Current institution/organization	Idec (Consumer Defense Institute), Brazil
Country	Brazil
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	It would be important to bring agrarian reform as an element to understand and evaluate the transition and resilience of agrifood systems, since - as stated in the report - we live in an unequal reality of land distribution. This theme is central to the dynamics of food production, especially in the Global South and involves dynamics of conflicts, violence and violation of rights, concentrating land and power in the hands of large transnationals and putting local biodiversity and the health of people and the planet at risk. With these concerns being part of the Equitably Transformative Resilience, agrarian reform needs to be positioned more centrally during discussions. The focus on race is brought up throughout the text, but in specific topics. Understanding that agrifood systems are a transversal theme and that racialized people are one of those who most suffer the consequences of the inequalities of the hegemonic agrifood system, as well as climate change, the centrality of this focus is evident and can be expanded based on the concepts of environmental racism and socio-environmental justice. This variable needs to be included along with the gender and income variables throughout the report (e. g. pages 8, 14, 25, 29, 36). That is associated with the need to highlight the Global South reality, which is more exposed to the agrifood system problems due to the power structure and the ongoing colonisation practices. Also, it is important to notice the multiple wars around the globe that last many years and also resonate on racial issues about food access.
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	It is suggested to establish processes at a local, national and international levels, using as indicators: the level of food and nutritional insecurity of the population; income distribution; accessibility and affordability to healthy foods; the dietary profile, identifying the consumption of foods from local biodiversity versus ultra-processed food products; the advancement of regulation regarding the labeling of packaged foods; publicity and institutional environments.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	(a) The definition of food and nutritional security in Brazil covers aspects that go beyond the six dimensions mentioned in the report and could be useful for building the recommendations. It is established by local legislation as: “the realization of everyone's right to regular and permanent access to quality food, in sufficient quantity, without

	compromising access to other essential needs, based on health-promoting dietary practices that respect cultural diversity and that are environmentally, culturally, economically and socially sustainable." (Law no. 11.346, from 15 September 2006 - Organic Law on Food and Nutritional Security - LOSAN) (b) The perception of agroecology as science, practice and movement. This values the experiences of social movements in rural areas and the city, which expand the perspectives of agroecology, adding it to the forms of mobilization and struggle of civil society. In this way, in addition to thinking about alternatives for the forms of food production and the relationship between people and nature, are also given new meaning to it, adding social structures as a whole and their reflections on agrifood systems. So, in Latin America, several movements, organizations and associations state that "agroecology needs to be feminist and anti-racist" (c) The definition of socio-biodiversity, which goes beyond the understanding of biodiversity, differentiates itself by recognizing traditional populations and indigenous peoples, understanding that they conserve nature and relate to it in a sustainable way. Furthermore, it integrates species diversity with existing sociocultural diversity based on the vast empirical knowledge associated with agroecosystems. According to the Brazilian Ministry of the Environment (MMA): "it is a set of goods and services generated by the connection between biological diversity and sustainable activities. In other words, it adds the cultural and ancestral knowledge of the populations and benefits these communities with the preservation of natural resources." (d) Food deserts and food swamps: these concepts reflect an important reality about accessibility and affordability to healthy food. Locations with a lower density of healthy establishments are also where the lowest income groups are found (Caisan, 2018), characterizing food deserts - socioeconomically vulnerable areas with limited or no access to healthy foods (Honório et al., 2023). In this way, there is geographic inequality in the distribution of food establishments and the types of products that are sold (Idec, 2019). This reality exposes communities of the outskirts to ultra-processed food products and imposes on them the need to traverse long distances to access healthy foods. This scenario is characterized by food deserts and food swamps, the first being defined as "places where access to fresh or minimally processed foods is scarce or impossible", and the second as "places where the sale of high-calorie products with few nutrients predominates, as in the case of fast food chains and convenience stores" (Idec, 2019). (e) Greenwashing, which can be conceptualized as the practice of companies that use misleading socio-environmental messages to attract people concerned about the planet. It is a strategy that disguises socio-environmental destruction with empty promises of sustainability. This concept is important when debating transitions to healthier, more sustainable and resilient agrifood systems, as practices of co-opting this

	narrative by the food industry are common. (f) Agrifood monotony: The current agri-food system is marked by the excessive presence of foods of animal origin and ultra-processed foods based mainly on soy, corn, wheat and sugarcane, and is at the root of the reasons for the crisis in the global agri-food system, as it is not only associated with different forms of malnutrition but also with gigantic environmental impacts (CJC, 2024). REFERENCES IN QUESTION 13.
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	(a) The Dietary Guidelines for the Brazilian Population: an official document created by the Ministry of Health of Brazil, aimed at guiding the population on the selection of foods and healthy eating habits. It is based on scientific evidence about the benefits of a balanced diet and the importance of eating habits that prioritize minimally processed or unprocessed foods. Some of its recommendations are: Prioritising fresh and unprocessed foods; Avoiding ultraprocessed foods; Promoting shared and pleasurable eating; Promoting food and nutritional education as an important public policy; Valorizing Brazilian food culture. *Complet document available at: https://bvsms.saude.gov.br/bvs/publicacoes/guia_alimentar_populacao_brasileira_2ed.pdf (b) Marcha das Margaridas: a large mobilization event for women from rural areas, forests, and waters in Brazil, organized every four years by rural women. The march aims to fight for social, economic, political, and environmental rights, seeking gender equality, social justice, and the recognition of women's labor in rural areas. The name "Margaridas" is a tribute to Maria Margarida, a rural woman who was murdered in 1983 while fighting for land reform and the rights of rural workers. Since then, the name has been chosen as a symbol of the struggle of rural women. The main goals of the Marcha das Margaridas include: Land reform, Rights of rural women, Access to health and education, Sustainability and environmental preservation, Work and dignity. The march is a moment of visibility and empowerment for rural women, who organize in groups and collectives to present their demands and political agendas to the federal government and society. The Marcha das Margaridas is one of the largest women's movements in Brazil and has a significant impact on promoting rights and raising awareness of the issues faced by rural women. *More information at: https://www.marchadasmargaridas.org.br/ (c) The new Brazilian basic food basket: The new basic food basket of Brazil aims to adjust to changes in dietary patterns and economic conditions, promoting a more balanced and accessible diet for the population. It also plays a crucial role in valuing food culture and reducing the consumption of ultraprocessed foods. The constant monitoring and updating of this concept are essential to measure the quality of life of the population and guide public policies, especially regarding the minimum wage and social assistance.

	* More information: https://www.gov.br/planalto/pt-br/acompanhe-o-planalto/noticias/2024/03/publicado-decreto-que-regulamenta-nova-composicao-da-cesta-basica To achieve those changes it is essential to look at the civil societies proposals and think horizontally with them, it is not necessary to start thinking from scratch, but exactly the opposite, absorb the accumulation built by civil society organizations.
Please insert below any additional comment.	(a) The use of the term 'food and nutritional security' is not standardized throughout the text, often just 'food security' appearing; (b) The name of the Brazilian social movement 'MST' is incorrect (p. 89), it is not "landless movement" but "landless rural workers movement"; (c) The concept of food sovereignty could be brought up earlier in the text, in dialogue with food and nutritional security, which is still sectorized, making it difficult to systematically understand the connection between the two. References cited above (question 11): *ATWOLI, Lukoye; BAQUI, Abdullah H; BENFIELD; et al. Call for emergency action to limit global temperature increases, restore biodiversity, and protect health. The BMJ, v.374, n. 1734, p. 1-3, 2021. *BRASIL. Lei nº 11.346, de 15 de setembro de 2006 - Lei Orgânica de Segurança Alimentar e Nutricional. Diário Oficial da União, seção 1, p. 1, de 18 set. 2006. *CÂMARA INTERMINISTERIAL DE SEGURANÇA ALIMENTAR E NUTRICIONAL (CAISAN). Mapeamento dos Desertos Alimentares no Brasil - Estudo Técnico. Ministério do Desenvolvimento Social/MDS. Brasília-DF. Dezembro de 2018. *CÁTEDRA JOSUÉ DE CASTRO (USP); INSTITUTO COMIDA DO AMANHÃ; INSTITUTO DE DEFESA DO CONSUMIDOR (IDEC). Monotonia dos sistemas agroalimentares e as oportunidades que surgem da Aliança Global contra a Fome e a Pobreza e a Mobilização Global contra a Mudança do Clima. 2024. *GLIESSMAN. Stephen R. A brief history of agroecology in Spain and Latin America. Agroecology and Sustainable Food Systems, v.41, n. 3-4, p. 229-230, 2017. *HONÓRIO, Olivia. S; MENDES, Larissa; GRATÃO, Lúcia; DA SILVA, Thales; DUARTE, Camila; et al. Conceitos e métodos de desertos, pântanos e oásis alimentares: uma revisão narrativa. Archivos Latinoamericanos de Nutrición, supl. 1; Caracas Vol. 73, (Oct 2023). *Instituto Brasileiro de Defesa do Consumidor (Idec). Entre desertos e pântanos: quando a geografia urbana é um obstáculo para a alimentação saudável. São Paulo, 2019. *Ministério do Meio Ambiente (MMA). Plano Nacional para a Promoção dos Produtos da Sociobiodiversidade (PNBSB). Brasília, julho de 2009 (p.9). *WEZEL. A, BELLON. S, DORE. T, FRANCIS. C , VALLOD , DAVID. C. Agroecology as a science, a movement and a practice. A review.

	Agronomy for Sustainable Development. v.29. p. 503 - 515. 2009. *Articulação Nacional de Agroecologia (ANA). É preciso entender a agroecologia como uma ciência capaz de transformar a realidade. 19 de abril de 2021. Available at: https://agroecologia.org.br/2021/04/19/e-preciso-entender-a-agroecologia-como-uma-ciencia-capaz-de-transformar-a-realidade-destaca-presidenta-da-aba/#:~:text=A%20agroecologia%20como%20ci%C3%AAncia%2Dmovimento,tem%20racismo%20n%C3%A3o%20%C3%A9%20agroecologia%E2%80%9D.

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Surname and first name	Yuna Chiffoleau
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Research director at INRAE and co-leader of the RMT Alimentation locale
Current institution/organization	INRAE and National expert network on short food chains and local food systems - RMT Alimentation locale, France
Country	France
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	The Covid-19 crisis has prompted several studies in France to identify initiatives that enable food systems to resist, adapt or transform in the face of disruption. The examples identified were discussed at the European level and with a few other countries out of Europe. First, it is important to note that examples categorised as resistance (or bouncing back) in some countries could be considered transformative (bouncing forward) in other countries, as the case of food stocks establishment in regions, considered as bouncing back in Finland and transformative in France. In terms of bouncing forward, all initiatives enabling diversification within food systems (diversification of crops, of supply chains, etc.), the development of short food supply chains and local food systems, and the reduction of dependencies (for production factors) have proven beneficial. In this perspective, policies and R&I strategies to support the development of legumes (for food and feed) are to be emphasised as long as they do not reinforce the dominance of soya. The municipal safeguard plans, which incorporate the risk of food shortages, are also an example of bouncing forward. The strategies for preparing populations for crises, implemented in Sweden and Finland, are of interest to other countries in a bouncing forward perspective. Other examples for bouncing forward: reciprocity agreements between territories, payments for ecosystem services, etc. In terms of equitably bouncing forward, multi-stakeholder participatory

	breeding in Europe could mark a further step compared to the conservation of genetic resources as it enables the empowerment of stakeholders in matter of biodiversity/cultivated biodiversity, including citizens, while structuring partnerships supporting economic resilience. Also integrated local food policies have been highlighted during the Covid crisis. The most dynamic topic in France is currently that of 'social security for food', which would consist of giving each individual a fixed amount to buy quality food, in the same way that they can access health services, from the money collected through the contributions of workers. It is being trialled locally by groups that co-decide on the products that can enter the system on the principle of food democracy (around sixty initiatives in France, and a start in Belgium). Many stakeholders, including a growing number of policy makers, classify this initiative as the most promising for equitable transformative resilience.
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	The report already takes many trends and variables into account, perhaps too many, by putting different issues on the same level. It might have been more effective to distinguish between trends/shocks that are exogenous and those that are endogenous to the food system, and to highlight the transformative initiatives that are easiest to implement. In addition, the report may suggest that resilience initiatives will be the solution to many of societies' structural problems, which can be detrimental to the objective.
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	The literature on the resilience of agricultural and food systems is divided between approaches that emphasise resilience capacities at individual level (as an asset, mostly captured through structural determinants) and those that emphasise resilience building through multi-level collective processes (e.g., through policies and networks). The two approaches can usefully be combined. It would be useful to clarify even further the differences between resilience, sustainability, sovereignty and self-sufficiency. A participatory review of the resilience indicators of the Food system countdown would be of interest: https://www.foodcountdown.org/indicator-architecture#Resilience
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	Chiffoleau Y., Darrot C., Marechal G., 2020. Manger au temps du coronavirus. Apogée, 160 p. ISBN 978-2-84398-684-0. Chiffoleau, Y., Brit, AC., Monnier, M. et al., 2020. Coexistence of supply chains in a city's food supply: a factor for resilience?. Rev Agric Food Environ Stud 101, 391–414. https://doi.org/10.1007/s41130-020-00120-0. Nemes G., Chiffoleau Y., Zollet S., Collison M., et al., 2021. The impact of COVID-19 on alternative and local food systems and the potential for the sustainability transition: Insights from 13 countries, Sustainable Production and Consumption, 28, 591-599, https://doi.org/10.1016/j.spc.2021.06.022. Les Greniers d'abondance, 2020. Vers la résilience alimentaire. https://resiliencealimentaire.org/page-telechargement-guide/ les Greniers d'abondance, 2022. Qui veille au grain ?

	https://publications.resiliencealimentaire.org/qui-veille-au-grain/index.html Linou S., 2018. Résilience alimentaire et sécurité nationale, cf. www.thebookedition.com/fr/resilience-alimentaire-et-securite-nationale-p-367243.html Project Atlass, https://projet-atlass.org/, including a serious game on the resilience of food systems: https://projet-atlass.org/media/pages/volet-2/d564418298-1712926193/flyer-jeu-serieux-atlass-2-vf.pdf Fondation Carasso, 2023. Carnet "Apprentissages": Résilience alimentaire des territoires. https://www.fondationcarasso.org/alimentation-durable/carnet-apprentissages-resilience-alimentaire-des-territoires/ Martin T., Cohen S., 2024. De la démocratie dans nos assiettes. Construire une Sécurité sociale de l'alimentation. Editions Charles Leopold Mayer. The Food Systems Countdown Initiative: https://www.foodcountdown.org/indicator-architecture#Resilience
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	In addition to the examples and the illustrated guides/projects mentioned above, a new guide to good practices for food system resilience in the regions will be published in France on 26 March 2025. A multi-actor group identified around a hundred good practices, each of which is illustrated with two to four concrete existing examples. The good practices are categorised according to whether they contribute to resistance, adaptation or transformation of the food systems, taking in account different types of disruption. INRAE supported the process, co-led by AFNOR (standardisation body in France) and the CNRA (National council for food resilience, which is an association). More information to come.
Please insert below any additional comment.	There are two initiatives currently underway on this subject at the European level: - a working group to identify standardisation needs regarding the resilience of food systems, co-led by the standardisation organisations of France and Germany (AFNOR and DIN) (Y. Chiffoleau involved) - a study on the resilience of European food systems within the framework of SCAR Food Systems (Y. Chiffoleau is one of the experts involved) European food systems cannot be resilient without more knowledge of their stakeholders, flows and dependencies. European and national statistics capture very little that is related to regional and local food systems, which are developing. There is a need for more data on food systems. The report could propose an improvement of statistical services in Europe and internationally.

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Surname and first name	Export and International Affairs Bureau, International Strategy Division, Ministry of Agriculture, Forestry and Fisheries, Japan
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	The UN Team
Current institution/organization	Ministry of Agriculture, Forestry and Fisheries, Japan
Country	Japan
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	Japan appreciates that this draft report well incorporates four principles emphasized in Chapter 3, that align with Japan's policy direction such as securing food security at both national and individual level at any time, and promote sustainable agriculture that is in harmony with nature. To realize these ideas, Japan amended the Basic Law on Food, Agriculture and rural areas last year for the first time in 25 years, and now implementing them by revisioning five-year basic policy plan that is expected to be decided in coming weeks.
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	Japan is now considering a few KPIs for measuring the abovementioned ideas in implementing the five-years plan described in the answer above (to be published). However, Japan believes that most of the policy challenges are to be measured by existing international indicators and we should refrain from creating new ones. In this regard, Japan requests that existing sources and indicators such as SDGs indicators should be fully utilized in drafting a text under "Metrics of resilience" on pages 90-91.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	Japan suggests referencing the FAO's policy guidelines "GUIDELINES TO INCREASE THE RESILIENCE OF AGRICULTURAL SUPPLY CHAINS" (2023). It described the basic ideas of resilience, important points the policymakers should be in mind when designing their concrete policies. This is basically targeted to the countries they are most vulnerable but useful for any countries. In addition, we request adding a detailed description in the current draft on page 85, on legal transformation in Japan, which are lack in the current text. A suggested text would be "Japan's MIDORI Strategy for Sustainable Food Systems (MIDORI Strategy), which was launched in 2021, features reduction of environmental burden including effective use of local and/or unused materials, and innovation for sustainability and productivity. These approaches are expected to contribute to accomplish the triple win of economic, social and environmental sustainability." (Reference) FAO (2023) "Guidelines to increase the resilience of agricultural supply chains" https://doi.org/10.4060/cc5481en, accessed on March 10, 2025 Ministry of Agriculture, Forestry and Fisheries, Japan (2023) "Abstract of the MIDORI Strategy" https://www.maff.go.jp/e/policies/env/env_policy/05_MIDORI-pamphlet.pdf, accessed on March 3, 2025

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Surname and first name	Wirz Christian
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Knowledge Manager VSF-Suisse, focal point for VSF in the RAISE project
Current institution/organization	VSF-Suisse / RAISE Project, Switzerland
Country	Switzerland
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	>Bouncing back interventions have been traditionally emphasised by humanitarian donors. The emergency interventions throughout the drought spell in the Horn of Africa in the frame of the recent El Niño phenomenon have typically emphasised on livestock emergency interventions along with the LEGS Guidelines and Standards and would include restocking to allow livestock-based communities to rebuild their livelihoods. The ELFLS project is an example of such a project, funded by Swiss Solidarity. A series of donors have tended to refocus their attention on their core mandate of lifesaving, whereas other donors are more open-minded to funding the "gap" between the immediate early recovery and restoration of livelihoods. >Bouncing forward resilience has become more and more common in natural resource management, specifically in projects including a component of rangeland management. Found under different labels – participatory, holistic or sustainable rangeland management – projects like the BOLDER project (funded by DANIDA) are combining life-saving and early recovery after shocks – especially droughts – with structural interventions which will also addressing the governance of rangeland: Often, rangeland management projects aim at specifically empowering women and youth in contributing to resource-based decisions. However, the project duration of 2 – 3 years rarely allows addressing equity in a meaningful way. The BOLDER project of VSF-Suisse improves feed and food security in Somali Region of Ethiopia by converting locally available feed ingredients such as crop by-products and (invasive!) prosopis into affordable quality feed helps to minimize the loss of livestock, particularly core breed stock, during droughts. The production of dairy, fattening, and emergency supplementary feed using locally available sources improves body condition of livestock: This helps increasing milk production and enables households to sell milk in the market. The project's impact on bouncing forward resilience: Focusing on the economic recovery of displaced persons and host communities by providing support for income-generating activities and ensuring access to resources and opportunities anticipates distribution conflicts , makes communities more self-reliant, and improves the situation after a disaster, e.g. drought.

	- Equitably Transformative Resilience does take shape in specific programmes / projects, at least specific activities / elements. The RAISE project (co-funded by Swiss Development Cooperation SDC) focuses on human rights in food systems and is one that does specifically work on strengthening right holders and duty bearers in better knowing the rights of most affected communities (by the three major crises of Climate, Biodiversity and Desertification). Specifically, the right to land of pastoralists is one that needs to be known by both the pastoralists themselves and by the enforcers of law. (cf. the Universal Declaration on the Rights of Peasants and Other People living in rural areas UNDROP; but also national legislation such as specific pastoral legislations in countries like Burkina Faso and Niger). The project is guided by the consortium of Fastenaktion, VSF-Suisse and RWA and implemented with partner organizations in 7 countries of the Global South (Burkina Faso, Kenya, Mali, Niger, South Africa, India and Nepal) and combines a thorough focus on human rights education with a streamlining of agroecology (cf. chapter 2.2.5 of the HLPE report). RAISE is emphasizing on empowerment of rights-holders, informing duty-bearers on the situation of peasants' rights, and enabling participation and voices of most affected communities to be heard in national, regional and international fora to be self-represented and adhering to fundamental principles of a rights based approach. Interventions of RAISE aim to contribute to ETR by focusing on the right to food, right to land, right to seeds and breeds, and right to participation.
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	The identified factors are all relevant. Even if the following aspects are captured inherently in the report, emphasising them by adding specific sections might contribute to a better understanding of resilience-building: >Legal issues, specifically around the right to land: This is a bottleneck for unfolding resilience solutions in many cases (cf. question #3). >Fragility and the role of so-called 'Nexus thinking' for implementing projects that may contribute to resilient food systems in those parts of the world where conflict is day-to-day reality. >Civil Society's capacity to act: This factor may come out more prominently as one that has the potential to further strengthen resilience of food systems in times of political pressure and power disbalances at global food system level but also within countries. In VSF-Suisse and its partners' experience, across the factors identified by the report (environmental, socio-economic, political-institutional, technological, cultural-traditional) it is worth addressing the legal factors with a more crosscutting approach: from a perspective of pastoralists, namely the right to land. The right to land is one example which goes beyond the political-institutional question and is becoming more and more relevant, for instance in areas where resilience relies upon pastoral livestock production. In those areas, without considering the

	trade-offs between modern land legislation and traditional land use terms and agreements, resilience will not be fostered, and even less equitable transformative resilience. In other words: Without making pastoralists familiar with modern land law, they will not be able to conform with the new land codes / land governance and therefore adapt their livelihoods in a way to remain resilient in the 21st century (cf. Publications around the pastoralism in the 21st century, e.g. CELEP and UNOCHA). The RAISE project is focusing on the right to food and the right to land. Especially the access and use of productive land with water is the key resource for farming communities. Without the realization of the right to land as enshrined in UNDROP Art. 17, an equitable transformative resilience is not possible for pastoralist and farming communities. Putting human rights at the center of an equitable transformative resilience process, UNDROP contains key references to the right to food, food sovereignty, agroecological production, and resilience (UNDROP Art.16). In all considerations about resilience and specifically, ETR, what matters most is keeping in mind that resilient systems should be considered those that put people first: Making people 'resilient' (in the sense of 'shock- or stress-resistant') to unsustainable trends in food systems (and beyond) along a rationale of business-as-usual, promoting technical solutions without addressing underlying causes of shocks and stresses will not be considered as contributing to resilient food systems. Vice versa, transforming food systems to become more resilient entails addressing resilience also from a rights-based perspective such as enshrined in the UNDROP as well as in the different voluntary guidelines of FAO, most prominently, the right to food guidelines. Agroecology offers a pathway towards translating resilience to different realities of peasants, such as the afore-mentioned examples confirm.
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	VSF-Suisse and its partners assess the impact of their projects in terms of resilience on participants' and communities' livelihoods. Frameworks and indicators may be categorized into socio-economic, environmental, and political-institutional perspectives: 1) Socio-economic perspective: o Income diversification. o Reduced dependence on external inputs for food systems (e.g., feeds, drugs). o Increased capacity to produce food at the community level. o Indicators such as the Food Insecurity Experience Scale (FIES), Food Consumption Score, and (Women) Dietary Diversity are used to measure these aspects. 2) Environmental perspective: o Maintenance of ecosystem services and carrying capacities.

	o Assessment of management types (e.g., participatory or holistic rangeland management, agroecological practices). o Measurement of the area under sustainable management, considering parameters like stocking rates, rotational grazing schemes, and land use plans. 3) Political-institutional and governance perspective: o Institutional capacities to deliver resilience, assessed through capacity assessments of farmer groups/unions, local authorities, and self-assessments. o Conflict sensitivity, with projects identifying cases of land use conflicts being resolved through spatial and land use planning. The more complete the set of indicators is, the better will it be able to capture the nature of resilience, e.g. if projects manage to account for political-institutional indicators, they will be better capable of tracking 'bouncing forward' and 'equitably transformative resilience' by addressing the structural causes of "non-resilient" food systems.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	'Hands-on' sources of knowledge are most useful to operationalise the concept of resilience as an NGO. In this context, the sustainable livelihoods approach as brought forward by former DFID with the livelihood assets penta – and hexagramme, further developed along with the so-called PIOPS framework looking at the policy frameworks in specific contexts (cf. (Ludi et al. 2007: Human Rights and Livelihood Approaches for Poverty Reduction - poverty-wellbeing.net Briefing Notes) are speaking to project practitioners as well as to donors. This means that the three concepts of resilience set out in the consulted HLPE report are per se interesting, but will only come to life, if they are followed by concrete tools and guidance on 'how to DO resilience'. From the perspective of VSF and the earlier mentioned RAISE project, ETR can best be evaluated if all forms of knowledge including traditional and indigenous knowledge is included, also about so-called indigenous or local livestock breeds, as the two following cases from Kenya and Mali within the RAISE project show: - Kenya example: the RAISE partner Centre for Minority Rights Development (CEMIRIDE) is focusing its sensitising the Kenyan food system landscape on challenges pastoralists and indigenous people face when claiming their right to land: Securing communal lands is one way of making pastoralist livelihoods such as the Endorois more resilient in times of the climate crisis; - Mali example: VSF-Suisse and its partner CAB Déméso are engaging on local cattle breeds, so-called zebus. Local cattle endure harsh climate conditions and epidemic outbreaks, they make local food systems around milk and meat more stable: This allows farmers to produce and market milk even as epidemies strike the Sahel more frequently and intensely and impact livestock production.

Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	VSF-Suisse along with the Réseau Bilital Maroobé (RBM) and its partners is operating in mostly fragile environments that are more and more hit by the consequences of Climate change. The following example illustrate how we engage in conflict environments ("Ensemble Espérons / Community and institutional resilience") and of climate risks: The Community and Institutional Resilience project (funded by Austrian Development Agency ADA) intervenes in the triangle between Mali (Gao), Burkina Faso (Sahel) and Niger (Tillabéry) and aims at strengthening community resilience around livestock-based livelihoods and fostering institutional capacities of local authorities and management committees in pastoral settings: - On community resilience, a combination of livestock emergency support (applying the LEGS guidelines) around IDP camps and trainings in income-generating activities e.g. fattening of livestock helps IDPs and host communities diversify their livelihoods. The distributed goats are chosen as a means of improving the livelihoods of 500 households with more than 4'000 household members, often female-led households (small ruminants as a pro-woman subsector). - On institutional resilience, building pastoral infrastructure and rehabilitation of degraded rangelands goes hand in hand with the strengthening of pastoral infrastructure management committees in sustainably managing pastoral infrastructure and land. Women and youth are being included in the management committees. What about the impact on ETR? Testimonials confirm that especially the female-led households in IDP camps have been able to stabilise their livelihoods in a context where the return to their areas of origin is not possible for the time being. Makata Walet Jarou, PDI, goat recipient, Gao reception centre: 'I am a widow and 53 years old. I have been a livestock farmer since my youth. But the entire family fortune was destroyed due to the insecurity in my home town of N'Tillit. Thanks to the distribution of livestock to displaced people through the 'Ensemble, espérons' project, I was able to rebuild a nucleus of small ruminants (goats). The females have given birth to their young. The kids get milk every day. This enables them to maintain a good nutritional status. The surplus of processed milk is sold. The income from the sale of the milk and the male animals enables me to vaccinate my animals and buy feed. I am very happy because I can pay for some of the family's daily needs. I have been able to build a relationship of trust with my neighbours and the feed sellers. Previously, the host communities were suspicious of me because they thought I was complicit in acts of violence due to my ethnicity's involvement. My wish is to be included in groups of women milk processors. I thank VSF-Suisse, TASSAGHT and its partners 'who are the initiators of the project that has arrived at a difficult time in our existence'.

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Surname and first name	Bück Philipp
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Thematic Desk Officer Asia, Project Manager "Rights-based and Agroecological Initiatives for Sustainability and Equity" (RAISE)
Current institution/organization	DKA Austria
Country	Austria
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	In June 2024 (see https://assets.fsnforum.fao.org/public/contributions/2024/2406%20Building%20Resilient%20Food%20Systems%20eConsultation%20Scope%20CFS-HLPE.pdf an e-Consultation was conducted amongst rural, community facilitators and civil society leaders from partner communities of DKA Austria in Nepal and India (Assam, Telangana and Karnataka). Respondents were asked to share a story where their community successfully overcame a big problem in farming or food supply. These are examples along the resilience spectrum: Bouncing back: "During the Covid-19 lockdown, several farmers supplied vegetables to CSOs running relief programmes. This way they could get regular earnings and the quarantined villages got their essential nutrition. It was a beautiful circular economy. The practice of Jhum cultivation in the northeast India is also a fantastic example of zero external input farming." (male, 40-49 yrs, Assam) "The exchange of grains with neighbouring villages, giving one's own produce to others and bringing what others have, providing livestock, and purchasing other food items were all done during the COVID crisis and other difficult times." (male, 22-29 yrs, Nepal) Bouncing forward: "A young Karbi boy,16 years old has started growing varieties of organic pineapple in his 3 acres of land in hilly areas. After passing his matriculation he supported his family and his own education by selling pineapples. After 4 years he extended his plot and his pineapple cultivation. Now he also gives training to people on pineapple cultivation and provides the seeds and saplings to the local community." (female, 22-29 yrs, Assam). "The children of our community initiated the establishment of a nutrition garden at their school. This garden aims to provide vegetables for their midday meals. However, they couldn't afford to buy seeds for

	the garden. To overcome this they organized a seed collecting campaign within their community, collected a variety of local seeds from community farmers and planted them in their garden. This initiative helped them manage the cost of the required seeds effectively." (male, 22-29 yrs, Assam) Equitably bouncing forward: "My community is a tribal group that relied on hunting, foraging, nomadic pastoralism and subsistence farming. After the national park was established in 1976, we had limited land ownership - insufficient to feed our families. There was a famine and children were sent to wealthy households as bonded labour in hopes of at least being fed and surviving starvation. After the famine, people returned to their homeland and after decades of working as tenant farmers, some were able to acquire land of their own through the country's land reform policy or by claiming unoccupied land. The tribal community formed groups to exchange labour and make farming easier. The groups divided tasks and worked on each other's farms in turn, prioritizing based on the urgency of farm work. They exchanged seeds, stored them for future use, and bartered both within the community and with others. They designated specific times and seasons for foraging from the wild. For example, there is a designated season to collect grass for livestock, and anyone found doing it outside the prescribed season would be fined, with the grass being equally divided within the community. The community also divided areas for foraging, pasture lands, and irrigation streams to ensure the equitable distribution of natural resources. Today, the community has overcome famine and food scarcity through communal living, with some help from the market to buy food that isn't locally available. They can now sell their local produce at nearby markets." (female, 22-29 yrs, Nepal)
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	It is laudable that in the proposed concept of Equitable Transformative Resilience understands resilience embedded in human rights and the food system, rather than reducing resilience to a responsibility of the individual. Yet, for instance in terms of access to land and land rights, it would be important to analyse pathways how equitable land policy of member states can produce positive impact on resilience, especially in conjunction with rights-based and agroecological approaches. This could be done by an analysis of best practices of implementation of the Voluntary Guidelines on Tenure (CFS 2012, https://www.fao.org/tenure/voluntary-guidelines/en/) and could include updated recommendations to promote Equitable Transformative Resilience based on rights-based agroecology vis-à-vis current food system transformation challenges. In the consultation mentioned above

	(https://assets.fsnforum.fao.org/public/contributions/2024/2406%20Building%20Resilient%20Food%20Systems%20eConsultation%20Scope%20CFS-HLPE.pdf), organic farming practices serve as a key strategy to address environmental as well as economic challenges. There are, however, several issues mentioned by respondents: Yield losses are observed after conversion from conventional practices, which are particularly problematic when there is no price premium on organic produce in the local market. Some farmers resort to conventional pesticide applications during pest infestations following extreme climate events, undermining in turn the environmental resilience benefits of organic approaches. Policy support to organic practices is often seen as "piecemeal" and "nice to have" and insufficient to address key concerns, e.g. regarding support to locally adapted seed varieties or the expansion of kitchen gardens. Several respondents state that the lack of systematic support to organic agriculture is undermining the potential of organic farming to increase resilience and this is in turn discouraging farmers to convert to organic practices. It is important for the report to show the limitations of piecemeal non-transformative approaches and underscore the importance of transformative change.
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	Monitoring of the process of building resilient food systems should be based on transformative agroecology, which can be operationalised based on the 13 Principles of Agroecology (see HLPE14). There is emerging work on the measurement of transformative agroecology in programmes and projects, e.g. in the Agroecology Coalition (AEC Funding Assessment Framework https://agroecology-coalition.org/wp-content/uploads/2024/04/Tracking-tool-manual-EN-2024.pdf), the Community of Practice of the Transformative Partnership Platform on Agroecology (see Lamanna et al (2024) "Developing holistic assessments of food and agricultural systems: A meta-framework for metrics users", URL: https://www.cifor-icraf.org/knowledge/publication/9081/) or with the Tool for Agroecology Performance Evaluation (TAPE) of the FAO. When implementing monitoring systems to measure transformation of food systems, it is important to adhere to agroecological principles, especially regarding participation, co-creation and fairness, in order to ensure that indicators do not simply serve funding or research regimes that connect with local situations, but that they serve the interests of the people whose resilience is to be ensured. There is a tension between the need to quantify impacts in order to justify (public) funding programmes or in order to provide reliable research results and the need to identify simple and manageable indicators to meaningfully inform project decisions during implementation. It is important that the agency of local stakeholders is not undermined or disregarded in the implementation of monitoring regimes, but that these are instead owned and co-created in order to ensure ownership of local food system actors in the transition. In this sense, the implementation of agroecological principles do not simply

	need adequate evaluation on the ground and in communities, but also evaluation of the institutional transformation on the level of funding agencies, governments and other donors towards a mainstreaming of agroecological principles.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	• RAISE South Asia and Commutiny Youth Collective (2024), We the Changemakers: A Facilitator's Guide to Empowering Changemakers: Agroecology Modules for Adolescents and Youth, URL: https://www.fao.org/agroecology/database/detail/en/c/1682345/ • DKA Austria and RAISE South Asia (2024), Building Resilient Food Systems in South Asia: An e-consultation amongst rural youth and young farmers in India and Nepal, URL: https://assets.fsnforum.fao.org/public/contributions/2024/2406%20Building%20Resilient%20Food%20Systems%20eConsultation%20Scope%20CFS-HLPE.pdf • Agroecology Coalition (2024), Agroecology Funding Assessment Framework https://agroecology-coalition.org/wp-content/uploads/2024/04/Tracking-tool-manual-EN-2024.pdf • Lamanna et al (2024) "Developing holistic assessments of food and agricultural systems: A meta-framework for metrics users", URL: https://www.cifor-icraf.org/knowledge/publication/9081/ • CFS (2012), Voluntary Guidelines on Tenure, Url: https://www.fao.org/tenure/voluntary-guidelines/en/
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	In 2024 a guidebook was developed by Commutiny Youth Collective, RAISE South Asia and DKA Austria to empower youth in agroecology (see RAISE South Asia and Commutiny Youth Collective (2024), We the Changemakers: A Facilitator's Guide to Empowering Changemakers: Agroecology Modules for Adolescents and Youth, URL: https://www.fao.org/agroecology/database/detail/en/c/1682345/). The guidebook was developed in an action-reflection cycle with feedback from youth groups and facilitators from different parts in India and Nepal. It is a key resource to engage youth into equitable food system transformation and is based on participatory methods and agroecological principles. The guidebook is primarily tailored for use in rural areas and is designed to guide the process of identifying challenges within food systems and implementing strategies to address them. The intended audience for this guidebook includes facilitators who will utilise it to train changemakers. Specifically, this guidebook is suitable for individuals in the following roles: 1. Social workers seeking to initiate food system transformation within a village 2. School teachers specialising in environmental education 3. Facilitators of Eco Clubs aimed at promoting environmental awareness and action 4. Community leaders interested in spearheading food system transformation within their communities.

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Surname and first name	Steiner Bodo
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Professor, University of Helsinki
Current institution/organization	University of Helsinki, Dept. of Economics & Management, Finland (https://www.helsinki.fi/en/researchgroups/management-and-organizations-for-sustainable-food-systems)
Country	Finland
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	(a.) resilience in terms of adaptability [Carl Folke] is driven by capacity-building: when farmers are engaged in multi-stakeholder information sharing platforms during the process of designing certification schemes for produce they plan to subsequently to export (voluntary sustainability schemes, e.g. GlobalGAP or similar), the learnings to farmers of what future compliance costs may arise, and how these could be lowered (also through local community networks, i.e. by building social capital stock) are substantively helping with capacity-building; as a result, the transaction costs of subsequently adopting and implementing sustainability schemes (standards) seem to be significantly lower to farmers; the consequence of that is that this reduces the costs of market access, potentially increasing livelihoods and household/ nutritional resilience also: https://sustainable-agri-trade.eu/private-standards-and-sustainable-trade/ (b.) 'equitably bouncing forward' is perhaps also understood through the notion of adaptability (Carl Folke), and we find evidence for the (better) ability to adapt (i.) in terms of governance mechanisms and associated practices (e.g. types of contracts between farmers and other intermediaries, technologies that provide transparency on prices and best practices), (ii.) in terms of 'bouncing forward' more equitably because of really recognizing the importance of agency (esp. smallholder agency) in terms of integrating farmers more in decision-making and price-finding processes, and (iii.) in terms of social network (community) resilience, i.e. evidence for the role of social capital for buffering all sorts of risks, thereby improving the ability of the 'food system' (local and beyond) to 'bounce forward' more equitably: https://sustainable-agri-trade.eu/case-studies-overview/
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	(i.) geopolitical risks; (ii.) different dimensions of social capital (Putnam, Bourdieu) and their relevance at individual (farmer, household) level, and in the connection to the other key actors in the food value chains/ supply chains

How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	(a.) Measuring how changes in trust (and social capital) is causally related to risk reduction and transaction cost reduction capabilities (and actual reduction of those), and also how resilience building leads to more innovation (technology adoption, risk taking), thereby making food systems more adaptable at lower costs to agents; (b.) not only focus on food system resilience mostly in the context of developing economies, but also in the context of so-called developed economies, i.e. their connection to food security (in the context of geopolitical risks), and (c.) not mostly think of farming/ rural contexts, but also food system resilience in urban contexts - here an example from Finland: Johansson, J., Roitto, M., Steiner, B., & Alakukku, L. (2024). Co-creation of urban agriculture through participatory processes in residential building environment: Insights from Finland. Cleaner and Responsible Consumption, 13, 100197. https://www.sciencedirect.com/science/article/pii/S2666784324000305
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	Steiner, B. (2025). Sustainable agricultural trade through inclusive agency and robust governance – Lessons for policymaking. Innovation News Network, 12p.: https://www.innovationnewsnetwork.com/ebook/sustainable-agricultural-trade-through-inclusive-agency-and-robust-governance-lessons-for-policymaking/ https://sustainable-agri-trade.eu/outputs/ Johansson, J., Roitto, M., Steiner, B., & Alakukku, L. (2024). Co-creation of urban agriculture through participatory processes in residential building environment: Insights from Finland. Cleaner and Responsible Consumption, 13, 100197.
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	Multi-stakeholder initiatives (information / knowledge sharing platforms, roundtables, cooperatives with cost-sharing mechanisms across the value chain) that enable more inclusive agency (think of smallholder farmers, empowerment of female food entrepreneurs) and thereby more equitable and robust agency (robust also against corruption, abuse of market power).

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Surname and first name	Rodrigues Fernanda
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	General Coordinator of Food Sovereignty and Nutritional Security at Secretariat of Science and Technology for Social Development
Current institution/organization	Ministry of Science, Technology and Innovation, Brazil
Country	Brazil
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	One concrete example that illustrates the resilience spectrum is Amazonbai, a cooperative of açai extractivists, in the Bailique archipelago, a group of 8 islands at the mouth of the Amazon River, in the northern region of Brazil. The history of the cooperative's creation is noteworthy, as it begins with the implementation of Bailique's community protocol. For further information, please follow the link: https://www.amazonbai.com.br/downloaded_files_index/INTERELOS-CADERNO-AMAPA-14MAR23_PGDUPLA.pdf

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Surname and first name	Black Vanessa
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Advocacy & research coordinator
Current institution/organization	Biowatch South Africa
Country	South Africa
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	The revival of farmers' varieties of seeds for traditional and indigenous crops through strengthening farmer-led seed systems. Compared to hybrid 'modern' seeds, farmers' varieties are more locally adapted and resilient to variable weather and conditions; are more nutitious and linked to indigenous cultural practices. Farmer-led seed systems enable farmers to choose traits that are useful in the local context such as better storability, diversity of use etc. that are supportive of resilience. While this is an example of practices and systems that need support and strengthening, the report could also deepen analysis of the power relations and lobbies that are preventing these systems from flourishing. An important issue for recommendations going forward will be how to address conflicting policy and agreements that are counter-productive to resilience. For example, Farmers Rights' to save and exchange their seed, and derive income from their seed in local markets within traditional farmer-led seed systems is increasingly being prevented and criminalised by national and regional seed laws in Africa that prioritise the rights of commercial breeders.
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	• More focus on gender dimensions and women's agency. • The issue of debt together with historic structural adjustment that undermine countries' capacities to provide social support, health care and other necessary social services during crises. The most vulnerable are being squeezed by rising food prices, increased citizen taxation and 'austerity' budgets that are cutting back on social support and education, agricultural support etc needed to build resilience, with little investment in disaster-proofing infrastructure. Furthermore, climate finance which should be a form of reparations by developed countries is increasingly in the form of loans rather than aid, further increasing debt burdens. (See for example 'Landscape of Climate Finance in Africa 2024' https://www.climatepolicyinitiative.org/publication/landscape-of-climate-finance-in-africa-2024/). Development aid that furthers the agendas of multinational corporations through funding that locks food producers in to unsustainable systems of production is a related issue, where value and raw materials are extracted while creating greater dependency on imports of inputs and food products. • We appreciate the foregrounding of Agroecology in the report, and reference to all its dimensions. However, there could be more emphasis on the ways in which agroecology can address broader social, cultural

	and economic relations that build resilience. For example, in our research 'Stories of resilience built through agroecology' (2023) we found that approaches inherent in agroecology including the valuing of local and traditional knowledge, affirming culture, facilitating farmer agency and participation, farmer-to-farmer learning, developing reciprocity and solidarity contributed as much to the resilience of smallholder farmers and the wider community as the physical resilience of the production systems enabled through healthy soil, working with water flows, increasing diversity and beneficail interactions, and the use of locally adapted seed.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	• Biowatch South Africa (2023) Stories of resilience built through agroecology. Accessible: https://biowatch.org.za/download/stories-of-resilience/ • Greenberg, S., Pelser, D. and Ranqhai T. (2021) Farmer-led Seed Systems. Securing food sovereignty in the face of looming ecological and social crises. Biowatch Briefing. Biowatch South Africa: Durban. Accessed: https://biowatch.org.za/download/farmer-led-seed-systems/ • Benefits of agroecology in landscape resilience – the experience of Cyclone Idai in Zimbabwe: pages 36-44 in TSURO Trust (2020) Building Resilience to Natural Disasters in Populated African Mountain Ecosystems. Accessed: https://www.researchgate.net/profile/Desmond-Manatsa/publication/344310845_Building_resilience_to_Natural_Disasters_in_Populated_African_Mountain_Ecosystems_Case_of_Cyclone_Idai_in_Chimanimani_Zimbabwe/ • In relation to 2.2.5 on Homogenisation of food systems and 2.4.3 on Loss of food systems knowledge – Marshak describes how farmers not only lose genetic control over genetic resources but "modern seed technologies have contributed to ecological deskilling both on smallholder farms and within research and development", see Marshak, M. 2021. On farms and in laboratories: maize seed technologies and the unravelling of relational agroecological knowledge in South Africa. Faculty of Humanities. Accessed: http://hdl.handle.net/11427/35539. • In relation to 2.4.1. Racism and discrimination - Highly hazardous pesticides continue to be exported to countries in the south despite being banned in the country of origin. For example in South Africa Women on Farms has made a call for 67 hazardous pesticides banned in the EU to also be banned in South Africa where they continue to be used by commercial farms. Black women labourers engaged in seasonal work bear the brunt of the long term effects of systemic poisoning and with no support to deal with the consequences to health, livelihoods and food security. See Devereaux S., Levendal G., Yde E. (2017). The farmer doesn't recognise who makes him rich: Understanding the labour conditions of women farm workers in the Western Cape and the Northern Cape, South Africa. Accessed: https://groundup.org.za/media/uploads/documents/WFP%202017%20-%20Labour%20Rights%20report%20v7%2024-aug-2017.pdf

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Surname and first name	Halliday Jess
Are you contributing in a personal capacity or on behalf of an organization or team?	Personal capacity
Current position	Chief Executive
Current institution/organization	RUAF
Country	United Kingdom of Great Britain and Northern Ireland
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	Outcome-level indicators for resilience, using the process developed through the RUAF-FAO CRFS programme, can be helpful for monitoring progress towards desired outcomes -- as well as mobilising and engaging stakeholders around common objectives. The CRFS reference outcome-level indicators on resilience may be helpful -- see https://www.fao.org/fileadmin/user_upload/faoweb/ffc/docs/Tool_-_CRFS_Resilience_Indicator_Framework.pdf. Please note that these are not intended to be rigid indicators to be adopted wholesale, but can provide inspiration and be adapted by stakeholders according to their own priorities and desired outcomes.
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	I recommend reviewing the outputs of the FAO global study (with RUAF and Cirad) to assess how local food system actors have perceived recent shocks and stresses on their food systems; to identify collective actions and public policies in response, including the role of local governments and food system actors; and to offer insights into enhancing food system resilience in city regions across the world. See https://www.fao.org/in-action/food-for-cities-programme/resilience-study/en/ Also the recently published Tim Lang et al report for the UK National Preparedness Commission: Just in Case: narrowing the civil food resilience gap. https://nationalpreparednesscommission.uk/publications/just-in-case-7-steps-to-narrow-the-uk-civil-food-resilience-gap/
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	Data: ConnectON in Ontario, tool providing geo-mapped data and dashboards on agri-food sector, allowing observation of patterns and changes over time. See https://www.connecton.ca/ConnectOn/login.home Also in Nairobi, the Nairobi UA and Food System Database https://nfs.mazinst.org/ Early Warning Systems: Kenya's Famine Early Warning Systems Network (Fews Net) -- BUT went offline on 30th Jan due to USAid shutdown. https://theconversation.com/kenya-relies-on-usaid-famine-warning-system-what-happens-now-that-its-gone-249614#:~:text=The%20Famine%20Early%20Warning%20Systems,and%20in%20a%20coordinated%20manner. Also Nairobi Early Warning Early Action system on food security -- see https://cng-cdn.oxfam.org/kenya.oxfam.org/s3fs-public/file_attachments/UEWEA%20project%20profile%202017.pdf. Although data collection rounds are dependent on funds.

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Surname and first name	Simula Giulia
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Secretariat's Coordinator
Current institution/organization	CSIPM, Civil Society and Indigenous Peoples' Mechanism for relations with the CFS
Country	Italy
Do you have examples from across the food system that illustrate the resilience spectrum (detailed in chapter 3) in practice - from bouncing back, to bouncing forward?	•Peoples' communities' peasant agroecological practices are feeding the world, are resisting the strong shocks created by the industrial extractive volatile industrial food system. The framing of the report could be shifted in this direction without assuming that the dominant food system must define the elements of the resilience we need to build to maintain the current status quo. •Food sovereignty - counter systemic, communities that practice food sovereignty. •Practices of reciprocity and care: Communities around the world have long relied on mutual aid and cooperation for food security. These practices include producing food for household consumption and sharing surplus with neighbors, networks, community kitchens etc. Such approaches help food systems bounce back from external shocks at low costs while maintaining social cohesion and local food access. •Agroecological transformation must start from education. Farmer Field Schools (FFS) in East Africa, have trained smallholder farmers in sustainable soil management, agroforestry, and water conservation techniques. Smallholder farmers have gained independence from commercial seed markets, ensuring biodiversity and greater adaptability to climate variability. Campesino-a-Campesino (Farmer-to-Farmer) Agroecology Schools in Cuba teach low-input, sustainable farming techniques.The program enables farmers to transition from industrial agriculture to diversified, organic food production, making the food system more resilient to external shocks such as trade embargoes or economic crises. Urban agroecology educational initiatives give low-income communities increased access to fresh food, reduce reliance on food imports, and build local food sovereignty. Pradesh, Zero Budget Natural Farming (ZBNF) movement integrates agroecological education into school curricula and community workshops. Young farmers learn how to cultivate crops without synthetic inputs, reducing farming costs and enhancing long-term sustainability.

	• Use of traditional seeds, animal breeds and farmers rights. • Upholding Farmers Rights that allow seeds/animals exchanges: traditional seeds and Indigenous livestock breeds have evolved over generations to be more resilient to local climate conditions and diseases. While modern breeds may be more productive in controlled environments, they often introduce vulnerabilities such as susceptibility to diseases. In contrast, traditional breeds and seeds enhance adaptation and reduce dependency on external inputs, thus fostering long-term resilience. Policies should support and uphold Farmers' Rights to save & exchange traditional farm-saved seed, however many policies are being introduced that prohibit this and external seed purchase is constantly incentivised. • Preserving agroecological agricultural practices in the face of productivism. • Territorial and Integrated Stewardship of Biodiversity for Resilient Food Systems recognising the interconnectedness of ecosystems, communities, and food production systems. This approach promotes holistic land management that balances environmental conservation with sustainable livelihoods, ensuring long-term resilience against climate change, economic instability, and socio-political pressures. By fostering territorial and integrated stewardship, communities strengthen their capacity to withstand external shocks while ensuring sustainable, regenerative food systems that benefit both people and the environment. These include: diversified production systems: which enhance soil fertility, water retention, and pest control while reducing reliance on chemical inputs. Community-led resource management: empowering local communities and Indigenous Peoples to manage land, water, and biodiversity based on traditional knowledge and participatory governance models. Ecological connectivity. Sociocultural integration.
Are there any additional trends/variables/elements that should be analyzed in the report to understand and strengthen the resilience of food systems?	• Corporate and market concentration versus territorial markets: The increasing dominance of large agribusinesses and food retailers reduces diversity and local control, making food systems more vulnerable to external shocks. This trend leads to dependency on a few actors and disrupts local and regional food sovereignty. Additionally, large food systems actors put pressure on farmers to serve global value chains which cascades through national policies, subsidies and aid. • Dependence on external inputs: High reliance on imported seeds, fertilizers, pesticides, and machinery limits the ability of farmers to respond to crises independently. Analyzing trends in external input dependency can provide insights into vulnerabilities and potential areas for increasing autonomy. • Monoculture vs. agroecology and diversification: Monocultural farming systems are highly susceptible to pests, diseases, and climate variability. In contrast, diversified farming practices enhance ecological resilience,

	farmers' resilience, and food security. Examining shifts between these approaches is important. • Centralization vs. networked food systems: A food system structured around decentralized, networked models is more resilient and adaptable than one heavily centralized. Identifying where food systems are shifting along this spectrum can inform resilience-building policies. • Land concentration and access versus concentration and dispossession: Secure access to land and water is fundamental for resilience, particularly in rural, urban, and peri-urban contexts. Women farmers, in particular, require secure land tenure to sustain their livelihoods and contribute to food security. • The cost of resilience, and who pays for it: While some food systems demonstrate resilience, it is important to uncover the hidden costs, and externalities including labor exploitation and slavery, financial burdens, social inequities, environmental externalities. • Producers' autonomy: The degree to which small-scale producers can operate independently of external supply chains, financial systems, external inputs, subsidies, corporate structures plays a key role in resilience. • Collective exchange and cooperation: Cooperatives, movements, grassroots organisations provide mutual support and ensure resilience in times of shocks or risks. Collective organizations should be incentivised as it makes producers more resilient than isolated ones. Analyzing trends in collective organization can reveal key leverage points for strengthening food system resilience. • Income concentration and the concentation of value in commodity chains.
How should resilience and the process of building resilience in food systems be evaluated? Which indicators, frameworks, or methodologies do you consider most effective?	• Limitations of quantitative data: Traditional indicators, often fail to capture the full picture of resilience. Many resilience practices occur outside of formal markets and are not reflected in statistics or economic models. This includes risk calculations which do not account for uncertainties and unexpected consequences in the food system. • Recognizing non-capitalist economic contributions: The capitalist economy is extensively measured, while informal and subsistence economies—where much of food system resilience lies—are largely unaccounted for. Alternative evaluation methods should recognize these contributions. • Social and solidarity economy: Social and solidarity economy. While the reference to SSE in the FAO Elements of Agroecology is most welcome, it would also be important to refer to the UNGA Resolutions Resolution A/RES/77/281 and para 8 of CFS52 https://openknowledge.fao.org/items/74ce6f68-6ad9-4ceb-813f-216279a945b5. Social and Solidarity Economy emphasizes the community-led and collective benefits of SSE and enables an economic paradigm shift that supports food sovereignty and genuinely transformative resilience. • Shift from capacity building to learning from resilience experts (the

	rightsholders in the food system): rather than framing communities as passive recipients of resilience-building programs, there should be an emphasis on learning from their existing resilience strategies. This requires a shift from treating communities as objects of resilience efforts to recognizing them as active agents from whom valuable insights can be gained and solutions co-created. • Political and economic considerations: Resilience cannot be meaningfully assessed without acknowledging the structural forces that shape food systems. Economic and political shifts—such as trade policies, land tenure laws, and financial speculation—play a critical role in determining resilience outcomes. • Resilience is not be profit-led and does not generate big profit but generate stability: Practices that enhance resilience, such as agroecology, traditional farming, and cooperative food systems, should not be co-opted for profit-driven models. Low-input and community-based approaches tend to be more sustainable. • Lessons from agroecology and women-led initiatives: According to the 2019 FAO report, agroecological practices increase productive diversity, enhance dietary diversity, improve health outcomes, and strengthen climate change adaptation. Women-led agribusinesses, particularly those integrating traditional "baladi" practices, demonstrate how resilience is deeply tied to knowledge passed down through generations, farmer-to-farmer learning, and educational initiatives. • Food Social Security is a promising answer to the growing food insecurity in our societies, as well as to the question of providing a decent living for food producers. It is novel and an important aspect that can help build truly sustainable, resilient and tansformative food systems. The European experiments are widespread in France, and also exist in Switzerland and Belgium. have been an attempt to address several issues: the rapid rise in food insecurity and growth of food banks that distribute essentially industrial food; the health impacts of ultra-processed industrial foods, and the support for small-scale local food producers. A proposed law is under examination in France to scale up Food Social Security .
Are there other references, data, publications, or other kinds of knowledges, which should be included in the report?	• GUPAP Report: Resilience, Reciprocity and Recovery in Gaza: Drawing Lessons from Women-led Agribusinesses Amidst Conflict and Crisis • Benefits of agroecology in landscape resilience: pages 36-44 in TSURO Trust (2020)'Building Resilience to Natural Disasters in Populated African Mountain Ecosystems' accessible: https://www.researchgate.net/profile/Desmond-Manatsa/publication/344310845_Building_resilience_to_Natural_Disasters_in_Populated_African_Mountain_Ecosystems_Case_of_Cyclone_Idai_in_Chimanimani_Zimbabwe/ • Biowatch South Africa (2023) 'Stories of resilience built through agroecology'. Accessible: https://biowatch.org.za/download/stories-of-resilience/

	- Rooted in Agroecology includes many examples on resilience in practice
Please provide additional examples that support equitably transformative resilient food systems for food security and nutrition.	• Building agency and autonomy of food producers, Indigenous Peoples, self-organised communities' groups, in food systems: investing in self-organized processes, peer-to-peer exchanges, and community-based knowledge systems strengthens resilience. When communities retain decision-making power over their food systems, they are better positioned to adapt and innovate in response to challenges. • Valuing everyday practices and governance: resilience is embedded in the social and cultural organization of food systems. By recognizing resilience as an ongoing process—shaped by governance, social relations, and overarching structural changes—interventions can support more equitable and sustainable food futures. • Community supported agriculture: while we welcome the inclusion of Community Supported Agriculture as examples of resilience, we would like to point out several factors of importance: CSA purchased products may have higher costs compared to industrial food retailers, primarily because they are based on agroecological practices that require more labor and prioritize decent work for producers and agricultural workers. Unlike industrial agriculture, CSAs operate without hidden externalities, ensuring that environmental and social costs are not offloaded onto society. Additionally, many CSA initiatives worldwide have developed solidarity-based mechanisms to ensure accessibility for those in need. These include sliding-scale payments, work-share programs, and internal or external fundraising efforts, allowing broader participation in food systems rooted in fairness and sustainability.

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Surname and first name	Marras Stefano
Are you contributing in a personal capacity or on behalf of an organization or team?	On behalf of a team/organization
Current position	Director, Global Partnerships – U.N. Affairs
Current institution/organization	Bayer AG, Crop Science Division
Country	United Kingdom of Great Britain and Northern Ireland
Please insert below any additional comment.	**Overall Review** The *HLPE-FSN Draft Report on Building Resilient Food Systems* shows several gaps. First of all, it has an overall gloomy vision of the current food system, almost exclusively focusing on what is "broken" and makes it vulnerable while neglecting what is already working and is making the current agrifood system resilience. It advocates for an

all-encompassing structural transformation favoring agroecological, small-scale, traditional, local, community-based approaches while downplaying and providing an overly negative portrayal of market-based, large-scale, private-led, and technological solutions. It also fails to acknowledge trade-offs and change feasibility. Additionally, the report treats food security challenges as uniform, overlooking regional differences. A more balanced approach that analyzes and integrates the pros and cons of diverse resilience pathways, public and private-sector contributions, traditional and modern technologies, small and large-scale approaches would enhance its credibility and impact.

CHAPTER 1 - Introduction

Paragraph 1.1 - HLPE-FSN Scoping

1. **Strong Focus on Structural Vulnerabilities Without Recognizing Resilience Successes**: The paragraph emphasizes the weaknesses of food systems but does not acknowledge successful resilience strategies that have mitigated food crises, such as regional trade agreements, technological innovations, and supply chain diversification.
2. **Overemphasis on the Need for Public-Sector Interventions Without Private-Sector Recognition**: While the text discusses the role of SMEs and cooperatives, it does not mention the contributions of large agribusinesses, financial institutions, and technological firms in strengthening food system resilience. Private investments in logistics, digital agriculture, and climate-smart solutions are key drivers of resilience but are underrepresented in the discussion.
3. **Limited Consideration of Market Mechanisms in Enhancing Resilience**: The paragraph focuses on policy-driven solutions without exploring how market-based approaches (e.g., crop insurance, futures markets, and food trade liberalization) contribute to stabilizing food systems. It does not acknowledge how competitive markets have historically enabled rapid adaptation to supply chain disruptions.
4. **Assumption That Structural Transformation Is the Only Viable Resilience Path**: The text presents resilience-building as requiring structural transformation, but it does not consider the role of incremental improvements, such as

improved infrastructure, financial access, and digital inclusion, which have helped food systems recover from shocks.

5. **Lack of Discussion on Regional Variability in Food System Resilience**: The challenges facing food systems in different regions (e.g., Africa, Latin America, Asia) vary significantly. While the paragraph highlights global food security risks, it does not explore how context-specific policies have successfully mitigated vulnerabilities in some regions.

Paragraph 1.2: Toward equitably transformative food systems resilience

1. **Unbalanced Framing of Current Food Systems**: The report depicts the current industrial food system primarily negatively, emphasizing its harmful environmental and social impacts. It strongly highlights the negative externalities (such as ultra-processed foods, environmental damage) without adequately acknowledging existing positive outcomes, such as substantial productivity gains, significant poverty reduction, and broader food availability resulting from current food systems.
2. **Exclusive Emphasis on Agroecological Approaches**: The overall framing already positions agroecological practices implicitly as the preferred solution, ignoring potential contributions from alternative innovative approaches such as sustainable intensification, which has also been recommended by international frameworks including the Committee on World Food Security (CFS).
3. **Implicit Bias Against Large-Scale Actors**: The paragraph implicitly supports small-to-medium scale solutions and localized food systems without sufficiently recognizing that large-scale entities and broader supply chains can also be structured to enhance resilience, sustainability, and equity, especially with appropriate governance and regulatory frameworks in place.

Paragraph 1.3: What is resilience

- **Ambiguity and Overgeneralization**: While the Paragraph highlights various global frameworks that utilize resilience

concepts (such as Agenda 2030, Paris Agreement, Sendai Framework), it provides limited critical reflection on the varied interpretations and applications of resilience in these contexts. It acknowledges briefly that resilience can mean different things in different contexts but does not adequately explore how varying interpretations might have differing implications for policy and action.

- **Insufficient Consideration of Economic Perspectives**: The text heavily emphasizes resilience in terms of ecological, social, and community-level interventions. However, economic resilience—such as market mechanisms, private sector investments, and innovation-led approaches—is minimally discussed. This omission could unintentionally bias the report toward predominantly non-market and public-sector-centric solutions, overlooking the complementary roles that market-based and private sector-led strategies might offer.
- **Absence of Discussion on Trade-offs and Costs**: There is limited acknowledgment or discussion of potential trade-offs or unintended consequences that certain resilience-building interventions might entail. A more nuanced treatment of resilience would critically consider the economic, social, and environmental trade-offs involved in various resilience strategies, particularly when balancing short-term efficiency with long-term sustainability.

Paragraph 1.3.1 - Resilience as a Mainstream Concept

1. **Framing Resilience as a Universal Concept Without Addressing its Variability**: The paragraph presents resilience as a globally relevant and universally applicable concept but does not acknowledge how different regions interpret and implement it. For instance, resilience strategies in low-income, agriculture-dependent economies differ from those in industrialized nations with robust social safety nets. A more nuanced discussion would recognize the diversity of resilience frameworks across economic and political contexts.
2. **Overemphasis on Policy Frameworks Without Mentioning Implementation Challenges**: The text discusses various international resilience strategies but does not address challenges in their implementation. Many countries,

especially in the Global South, struggle to operationalize resilience due to financial constraints, governance gaps, and political instability. A balanced discussion should acknowledge these barriers.

3. **Limited Recognition of Market-Based and Private-Sector Contributions**: The paragraph focuses on government-led resilience strategies but does not explore how private-sector investment, technological innovation, and financial instruments (e.g., insurance, carbon markets) contribute to resilience. Private-sector engagement plays a significant role in enhancing food security, disaster preparedness, and climate adaptation.

Paragraph 1.4: Key Concepts

- **Idealized View of Transformation**: The Paragraph strongly emphasizes the importance of addressing power inequalities and promoting equity, which is undoubtedly valuable. However, the discussion tends to present "transformative" approaches in an idealized manner, without adequately recognizing or discussing the complexities, trade-offs, and potential unintended consequences associated with major systemic changes. For instance, substantial transformations in food systems can have unpredictable social, economic, or environmental side effects, which should be transparently acknowledged and critically analyzed.
- **Limited Engagement with Private Sector Roles**: this paragraph largely overlooks the role and potential contributions of private sector entities, particularly corporations, to achieving resilience goals. It frames transformative resilience primarily through socio-ecological and human rights lenses, which while important, may undervalue complementary market-driven or technology-driven innovations that private entities frequently bring to resilience-building.
- **Lack of Nuanced Discussion of Innovation and Technology**:
  This Paragraph lacks a balanced discussion about the role that innovation and technology—often driven or scaled by the private sector—could play in equitably transformative resilience. The current framing implicitly favors localized, community-driven, and socio-ecological innovations without

recognizing how technology and innovation from diverse sources could also effectively support resilience.

- **Implicit Bias Toward Structural and Historical Inequities**: The definitions provided (particularly for vulnerability and differentiated vulnerability) emphasize historical and structural conditions as the primary drivers of vulnerability, implicitly attributing most responsibility to structural inequalities, global disparities, and historical injustices. Although accurate in many contexts, this framing risks underrepresenting other contributing factors such as local governance failures, policy implementation gaps, inadequate investments, corruption, or inefficiencies at different levels, which are equally critical.
- **Limited Representation of Individual and Community Agency**: While highlighting structural and historical causes, the definitions underplay the roles of individual and local-level agency, innovation, adaptability, and the internal capacities of communities or local governments to manage and mitigate their vulnerabilities. The current definitions implicitly reduce vulnerable groups to passive actors subject primarily to external structural influences.
- **Minimal Discussion on Market Mechanisms and Economic Dynamics**: The definitions largely overlook the role that economic mechanisms, market dynamics, and private sector activities play in shaping exposure, risk, and adaptive capacities. By not explicitly mentioning economic or market-based solutions, the document implicitly favors socio-political frameworks as primary levers of resilience, potentially marginalizing discussions of market-based resilience strategies that could also offer effective pathways for addressing shocks and stresses.

Paragraph 1.5: Towards equitably, transformative resilient (ETR) food systems: theory of change

- **Overly Negative Framing of the Industrial Food System**: The draft report unequivocally portrays the Industrial Food System as inherently unsustainable and harmful, without acknowledging the complexity or potential positive contributions it may have in certain contexts (e.g., efficiency in production, significant reductions in food prices,

improvements in food safety standards, and its role in addressing global-scale demand).

- **Limited Recognition of Complementary Approaches**: The text places a clear and exclusive preference for localized, decentralized, and socially transformative approaches (implicit in the ETR principles), explicitly rejecting linear, homogenous, and large-scale methods. However, it neglects an integrated perspective that recognizes how both transformative localized systems and scaled global approaches could coexist and potentially complement one another effectively.
- **Absence of Cost-Benefit or Trade-off:** The proposed transformation is framed in idealistic terms, stressing its socio-ecological virtues without sufficiently acknowledging potential challenges, economic feasibility concerns, scalability issues, or trade-offs involved. This absence of pragmatic balance weakens the overall effectiveness of the proposed theory of change.
- **Marginalization of Technological Innovation**: The narrative implicitly diminishes the role of technological innovation – e.g. biotechnology, digital agriculture – which might also significantly contribute to resilience and sustainability objectives.

Paragraph 1.5.1: Building equitably transformative resilient food systems: theory of change

- **Oversimplified Dichotomy**: The report presents an overly simplified dichotomy between current food systems ("linear, homogeneous, extractive") and idealized ETR food systems (diverse, just, sustainable). This framing does not fully acknowledge the complexity and variability within existing systems, where many positive and sustainable practices are already emerging, sometimes even within industrialized contexts.
- **Idealization without Pragmatic Consideration**: The document emphasizes important transformative ideals (e.g., human rights, ecological integrity, equity), yet without explicitly acknowledging the complexity of implementing such principles in diverse global contexts. It provides minimal consideration of potential barriers to adoption or risks involved in transitioning away from established food system

models, including possible economic or productivity trade-offs.

- **Underrepresentation of Technological and Innovation-driven Approaches**: Consistent with previous Paragraphs, technological innovations (e.g., biotechnology, precision agriculture, digital agriculture) and scalable private-sector initiatives, which can significantly contribute to resilience, remain notably absent. The focus remains primarily on social structures, ecological approaches, and grassroots initiatives, neglecting contributions from other innovation-driven pathways.
- **Lack of Recognition of Potential Positive Corporate Roles**: Again, this Paragraph implicitly positions corporate or market-driven contributions negatively. The explicit mention of local cooperatives and small-scale processors exclusively, without mentioning potential positive contributions from larger private-sector actors, implies a bias that undermines a more balanced view.

CHAPTER 2 - Overview of critical issues: shocks, stresses, and vulnerabilities

Paragraph 2.1: Shocks, stresses, vulnerabilities

- **Strong Emphasis on Structural Inequalities**: The Paragraph strongly highlights systemic inequities (social position, discrimination, power imbalances) as primary determinants of differential vulnerability. While these factors are critical, the discussion neglects other vital contributors such as governance efficiency, institutional capacity, and market functionality. It implicitly suggests that structural inequities predominantly drive vulnerabilities without sufficiently acknowledging that vulnerabilities can also result from local governance failures, ineffective institutions, or inefficient resource management at local or national levels.
- **Limited Recognition of Internal Dynamics and Local Governance**: By focusing almost exclusively on global, historical, and structural inequities, the Paragraph understates the critical role that internal governance, national policies, local institutional frameworks, and individual agency can play in either enhancing or weakening resilience.

- **Implicit Oversimplification of Power Dynamics**: The portrayal of power relations as uniformly negative overlooks the possibility of positive and productive forms of power distribution and partnerships. The report could benefit from recognizing how power dynamics, when managed transparently and inclusively, can positively influence adaptive capacity and innovation.
- **Underrepresentation of Positive Contributions from Larger Economic Actors**: Again, there is no acknowledgment of how larger economic actors (corporations, market-driven entities) can contribute positively, especially through innovation, scaling of resilient practices, resource mobilization during shocks, and investment in critical infrastructure.

Paragraph 2.2 Critical overview of broad structures within which food systems non-resilience arises

Paragraph 2.2.1: Planetary-scale ecological crises

- **One-sided Focus on Negative Impacts of Industrial Agriculture**: Paragraph 2.2.1 extensively portrays agriculture, particularly industrial agriculture, predominantly as a driver of environmental harm, emphasizing negative impacts such as biodiversity loss, water depletion, pollution, and climate change. However, the narrative does not sufficiently acknowledge the role of modern agriculture in significantly increasing global food production, thereby reducing hunger and poverty in many regions, as clearly evidenced by historical food security gains.
- **Lack of Discussion on Sustainable Intensification or Technological Innovations**: The text overlooks "sustainable intensification" and other innovative agricultural methods that may help reduce environmental footprints, improve resource-use efficiency, and minimize harmful impacts without sacrificing productivity. This omission creates a bias by presenting a seemingly inevitable negative relationship between agricultural intensification and environmental sustainability.
- **Absence of Pros and Cons:** The Paragraph lacks explicit recognition of potential trade-offs or balanced analysis regarding various agriculture systems (industrial vs. agroecological, large vs. small scale). The complexity involved in the interactions between agriculture practices and

ecological boundaries could be represented more comprehensively, rather than simplifying agriculture's role to primarily negative impacts.

- **Implicitly Excluding Positive Roles of Large-scale Actors**: The narrative does not explicitly acknowledge or discuss how large agricultural actors or corporations, when properly regulated, could positively contribute to addressing planetary-scale crises through innovations, research investments, and global scalability of sustainable practices.

Paragraph 2.2.2: Corporate concentration and power imbalances

- **Overly Negative Framing of Corporate Influence**: The paragraph presents corporate concentration as an inherently negative force, without acknowledging any potential benefits that large-scale agribusinesses and multinational corporations bring to food system resilience. While corporate power can indeed lead to unfair market conditions, the text ignores cases where large firms increase efficiency, improve supply chains, invest in innovation, and enhance food security by ensuring steady production and distribution of food. It does not consider how well-regulated corporate participation in food systems can contribute to resilience by scaling up climate-smart agricultural technologies, precision farming, and risk-management tools for farmers.
- **Lack of Discussion on Governance Mechanisms to Balance Corporate Power**: The paragraph criticizes corporate influence over policy and governance but does not recognize existing frameworks that regulate corporate behavior, such as competition laws, international trade agreements, and sustainability initiatives. It does not acknowledge cases where governments, cooperatives, and multi-stakeholder governance models have successfully balanced corporate interests with public good. The role of public-private partnerships (PPPs), ethical sourcing programs, and corporate sustainability commitments is absent, despite their impact on food system resilience.
- **Simplistic Dichotomy Between Large and Small Market Players**: The paragraph frames the relationship between large corporations and smallholder farmers as purely exploitative, without considering that cooperatives, contract farming, and inclusive business models have allowed smallholders to

access global markets, modern technologies, and financial services. It does not discuss policies that promote fair pricing, strengthen farmer cooperatives, and create inclusive value chains that address the power imbalance. The text also fails to acknowledge that large-scale agribusinesses often depend on smallholders as suppliers and that sustainable business practices can foster collaboration rather than exploitation.

- **Lack of Recognition of Trade-Offs and Economic Realities**: While the paragraph discusses how corporate concentration reduces farmers' bargaining power and increases vulnerability, it does not mention that market consolidation can also lead to economies of scale, lower transaction costs, and improved logistics, benefiting food security. It does not discuss the trade-offs between decentralization and efficiency, nor does it explore whether alternative food system models could maintain the same level of productivity and stability as industrialized supply chains.
- **Absence of Discussion on Technology and Innovation**: The paragraph states that corporate control over seeds and farm inputs undermines food security, but it does not consider how private-sector investment in biotechnology, mechanization, and digital agriculture has improved productivity, climate adaptation, and resource efficiency. It fails to acknowledge that corporations have been responsible for developing high-yield, climate-resilient crops and investing in precision agriculture, which benefits farmers. The role of digital finance, e-commerce platforms, and agricultural advisory services—which many corporations provide to smallholders—is missing.
- **Overgeneralization of Corporate Influence on Policy-Making**: The paragraph assumes that corporations exert unchecked influence over governance and public policy, without recognizing that many policy decisions are made through democratic processes, international agreements, and regulatory oversight. It does not mention civil society organizations, advocacy groups, and international bodies (e.g., FAO, WTO) that counterbalance corporate influence in food governance. The 2021 Food Systems Summit is cited as an example of corporate influence, but no counterexamples are provided to show how governments and civil society have influenced global food policies.

Paragraph 2.2.3: Indebtedness

- **Overly Negative Framing of Debt and International Financial Institutions (IFIs)**: The Paragraph strongly emphasizes debt as exclusively negative, portraying the role of international financial institutions (such as the World Bank and IMF) primarily as drivers of exploitation and contributors to cycles of poverty and vulnerability. This framing neglects instances where debt financing, if properly managed and effectively governed, has enabled countries to invest significantly in infrastructure, education, healthcare, agriculture, and other public services critical for long-term resilience.
- **Absence of Nuanced Analysis on Debt Management**: The discussion lacks nuance regarding the potential benefits of responsible borrowing and effective debt management. It does not acknowledge situations where carefully structured loans, debt relief initiatives, or well-managed debt financing contribute positively to resilience-building investments and improvements in governance.
- **Limited Representation of National Responsibility and Governance**: The text implicitly attributes indebtedness primarily to external actors (e.g., IFIs), without adequately recognizing domestic governance issues, economic mismanagement, or corruption within borrower countries, which also significantly contribute to debt problems. A balanced narrative would include acknowledgment of both external pressures and internal governance responsibilities.
- **Minimal Discussion of Alternative Solutions or Good Practices**: The Paragraph does not sufficiently consider alternative financing mechanisms, debt restructuring solutions, responsible borrowing frameworks, or examples of countries successfully leveraging debt financing to support resilience and sustainable development.

Paragraph 2.2.4: Accounting for externalities

- **Overly Negative Representation of Industrial Agriculture**: The paragraph strongly emphasizes the negative externalities and social inequities produced by industrial agriculture systems. While the critical points raised about biodiversity loss, health impacts, and social inequities are valid, the

report fails to acknowledge any positive outcomes associated with industrial agriculture, such as improvements in global food security, productivity gains, affordability, and efficiency.

- **Minimal Recognition of the Positive Potential of Technological Innovations**: The Paragraph does not acknowledge the potential for technological advancements (e.g., precision agriculture, biotechnology, digital tools) to mitigate externalities such as environmental impacts, resource use inefficiencies, or pollution, implicitly neglecting these potential solutions.
- **Unbalanced Depiction of Agricultural Subsidies**: Agricultural subsidies are portrayed exclusively negatively, specifically those from industrialized nations. While these subsidies can indeed distort global markets, the text overlooks scenarios where subsidies, if restructured effectively, could support environmental sustainability, ecosystem restoration, and social equity.

Paragraph 2.2.5: Homogenization of food systems

- **Overly Negative Portrayal of Agricultural Standardization**: The paragraph primarily frames agricultural standardization and homogenization in an exclusively negative light, neglecting to acknowledge any benefits, such as efficiency gains, productivity increases, improved global food availability, reduced production costs, and advancements in food safety.
- **Limited Acknowledgment of Technological and Scientific Advances**: It implicitly presents externally developed crop varieties and intellectual property rights as uniformly detrimental. There is no recognition that improved genetic varieties, whether developed externally or not, often contribute to increased yields, enhanced nutritional content, disease resistance, and climate adaptation, all essential elements in global food security strategies.
- **Insufficient Consideration of Integrated Approaches**: The text suggests a stark dichotomy between traditional, locally adapted agriculture and modern, industrialized agriculture, without considering integrated solutions where agroecological practices, biodiversity conservation, and innovative technologies coexist and complement each other.

- **Absence of Contextual and Economic Realities**: While emphasizing the vulnerability created by monocultures, the report does not adequately recognize the economic, climatic, or market-driven reasons why standardized production systems have emerged, nor does it provide context for why such systems persist in many agricultural regions.

Box: "The contribution of local knowledge to resilience in agroecological farming territories and systems":

- **Idealized Representation of Local Knowledge**: The paragraph strongly emphasizes the positive aspects of local and traditional knowledge, but it neglects to acknowledge limitations such as scalability, productivity challenges, and difficulties in fully addressing larger food security needs, especially in contexts of rapid population growth, urbanization, or severe climate shocks.
- **Underrepresentation of Complementary Technological Solutions**: The narrative exclusively celebrates local knowledge, implicitly suggesting that external scientific innovations or technological advances play minimal roles. There is no balanced discussion regarding how combining traditional practices with modern innovations (e.g., precision agriculture, climate-smart technology, improved seed varieties) could further enhance resilience, productivity, and sustainability.
- **Absence of Discussion on Economic and Market Dynamics**: The discussion is narrowly focused on ecological and social resilience, without adequately considering market dynamics, economic viability, and integration into broader food systems and value chains, potentially overlooking economic sustainability and the ability of traditional systems to provide adequate livelihoods at scale.
- **Limited Acknowledgment of Trade-offs**: The Paragraph does not explicitly acknowledge trade-offs associated with maintaining highly diversified, locally adapted agroecosystems, including possible lower yields, higher labor intensity, and reduced competitiveness in globalized markets.

Paragraph 2.2.6: Marginalization of Indigenous food systems

- **Limited Recognition of Potential Complementarity**: The narrative primarily portrays interactions with external systems (e.g., colonial or modern agricultural systems) as uniformly destructive to Indigenous food systems. While acknowledging the historical harms is critical, the Paragraph does not discuss how certain external practices, policies, or technologies—if respectfully integrated—might positively support Indigenous food systems' resilience.
- **Oversimplified Dichotomy**: There is an implicit oversimplification creating a stark dichotomy between Indigenous food systems (inherently resilient and sustainable) and external, modern, or "western" dietary systems (uniformly harmful and inappropriate). This binary presentation could undermine understanding of potential integrated or hybrid solutions where traditional knowledge and modern practices may coexist beneficially.
- **Lack of Nuanced Discussion of Challenges in Traditional Systems**: The paragraph idealizes Indigenous food systems without sufficiently recognizing potential internal vulnerabilities, such as limitations in scalability, challenges to productivity, or susceptibility to contemporary pressures like climate change, population growth, and economic integration.
- **Minimal Engagement with Economic Dimensions**: The paragraph does not sufficiently address economic viability and market integration aspects of Indigenous food systems, implicitly suggesting traditional methods alone are sufficient to achieve resilience and sustainability without considering necessary economic or market-oriented adaptations.

Paragraph 2.2.7: Land use change, urbanization and displacement

- **Exclusively Negative Framing of Urbanization and Land-use Change**: The paragraph exclusively portrays urbanization and land-use changes negatively, primarily as drivers of agricultural displacement, food insecurity, and community vulnerability. While acknowledging negative impacts is essential, the discussion neglects potential positive economic, social, and technological opportunities arising from urbanization, such as increased economic

opportunities, infrastructural development, and enhanced market access for agricultural producers.

- **Lack of Recognition of Urban-Rural Synergies**: The Paragraph overlooks how urbanization can positively influence food systems, such as through the creation of urban and peri-urban agriculture, improved market access, technology dissemination, and potentially enhanced infrastructure for rural food systems.
- **Limited Acknowledgment of Alternative Positive Land-use Strategies**: There is minimal discussion of positive land-use changes or urban planning strategies, such as sustainable urban growth strategies, integrated landscape management, or strategic zoning policies designed to balance urban expansion and agricultural preservation.
- **Absence of Nuanced Discussion of Economic Development**: The text neglects economic factors driving urban expansion and land conversion, missing opportunities to discuss economic growth, poverty reduction, employment creation, and infrastructure improvements associated with urban development and land-use change.

Paragraph 2.3: Ecological sources of stresses, shocks and differential vulnerabilities

- **Exclusively Negative Portrayal of Agricultural Practices**: Consistent with earlier Paragraphs, agriculture—particularly industrial agriculture—is predominantly portrayed as contributing negatively to ecological pressures like water scarcity, biodiversity loss, and soil degradation. There's limited acknowledgment of how technological innovations or sustainable intensification practices could mitigate or even reverse some of these pressures.
- **Limited Consideration of Technological and Innovation-driven Solutions**: The Paragraph notably lacks an explicit exploration of how modern technological innovations (e.g., precision irrigation, drought-resistant seeds, advanced soil management, digital agriculture) can significantly alleviate ecological pressures such as water scarcity, biodiversity loss, and soil degradation.
- **Insufficient Acknowledgment of Complexity in Environmental Impacts**: The Paragraph strongly emphasizes interconnected negative impacts but does not sufficiently

discuss positive examples where agriculture and ecological sustainability have been successfully reconciled through effective governance, technology adoption, and integrated management practices.

- **Minimal Representation of Positive Roles by Larger Agricultural Actors**: Similar to earlier Paragraphs, this part of the report avoids discussing the potential positive roles larger agricultural companies or global supply chains might play in addressing ecological challenges, particularly through significant investments in research, development, and dissemination of innovative and environmentally friendly technologies.
- **Underrepresentation of Economic Realities and Trade-offs**: The discussion primarily frames ecological issues as inherently negative outcomes of agriculture and human activities, without adequately considering the economic realities and difficult trade-offs that communities and countries face when balancing immediate livelihood needs, economic development, and ecological preservation.

Paragraph 2.3.1 Water and weather: scarcity and flooding

- **Strong Negative Framing Without Considering Mitigation Measures**: While the Paragraph effectively highlights critical challenges, it predominantly presents agricultural water use and irrigation practices as inherently harmful without sufficiently acknowledging existing or potential solutions, such as innovative irrigation technologies, precision agriculture, improved water management practices, or drought-tolerant crops.
- **Limited Recognition of Positive Roles of Technology and Innovation**: The Paragraph neglects to explore how technological advances in water conservation and management (e.g., drip irrigation, precision agriculture technologies, advanced water harvesting techniques, drought-resistant seed varieties) have successfully mitigated water scarcity and improved resilience in some regions.
- **Minimal Exploration of Governance and Policy Effectiveness**: Although correctly identifying social and economic dimensions of water issues, the narrative does not adequately recognize that effective governance, sustainable water policies, and integrated water-resource management

approaches have significantly improved resilience outcomes in certain contexts.

Paragraph 2.3.2 Biodiversity loss

1. **Overemphasis on Agricultural Intensification as the Primary Cause of Biodiversity Loss:** The paragraph frames agricultural intensification almost exclusively as a driver of biodiversity loss without considering counterarguments, such as the role of improved productivity in reducing land conversion pressures (e.g., through sustainable intensification). It does not acknowledge that conservation agriculture, biotechnology, and precision farming can mitigate biodiversity loss.
2. **Neglect of Trade-offs Between Land Use and Conservation:** The text suggests that increased land use inevitably leads to biodiversity loss but does not discuss strategies that balance food production with conservation. For example, high-yield farming can reduce the need for agricultural expansion, thus preserving natural ecosystems.
3. **Lack of Discussion on the Role of Non-Agricultural Drivers of Biodiversity Loss**: While the paragraph links biodiversity loss to agricultural practices, it does not adequately account for other major contributors, such as urban expansion, deforestation for non-agricultural purposes, invasive species, and climate change. This creates an unbalanced perspective, making it seem as though agriculture is the sole culprit.
4. **Absence of a Balanced Discussion on the Role of Technology**: The paragraph does not mention potential solutions like gene editing for climate-resilient and pest-resistant crops, which could enhance biodiversity conservation by reducing pesticide use and increasing genetic diversity.

Paragraph 2.3.3 Land and soil degradation

1. **Overemphasis on Agriculture as a Driver of Land Degradation**: The paragraph heavily focuses on agricultural expansion, especially deforestation, as a cause of land degradation. While this is a significant factor, it does not give equal attention to other major causes, such as urbanization, mining, and infrastructure development. The framing makes it

seem as though agriculture is the predominant driver without recognizing the multifaceted nature of land degradation.

2. **Absence of Discussion on Agricultural Practices that Prevent or Reverse Degradation**: The text does not acknowledge that modern agricultural techniques—such as conservation tillage, crop rotation, cover cropping, and agroforestry—can mitigate or even reverse land degradation. Instead, it presents agriculture mainly as a destructive force without discussing solutions already being implemented.
3. **Lack of Recognition of Trade-offs in Land Use and Agricultural Intensification**: The paragraph states that degraded soils require more inputs and push land conversion, but it does not consider the potential of high-yield agriculture to reduce overall land use. Sustainable intensification, land-sparing approaches, precision agriculture and improved seeds are not mentioned, even though they could help maintain productivity and reduce land conversion.
4. **Insufficient Coverage of Policy and Economic Factors Driving Land Degradation**: The paragraph does not consider that economic incentives, land tenure systems, and policy frameworks often shape land use decisions. For example, unclear land rights and market pressures can drive unsustainable practices, while well-designed policies can promote land restoration.

Paragraph 2.3.4 Soil Pollution

1. **Overemphasis on Negative Impacts Without Discussing Mitigation Strategies**: The paragraph focuses primarily on the detrimental effects of soil pollution but does not acknowledge the existence of pollution control measures, remediation technologies, or sustainable land management practices that mitigate soil contamination.
2. **Limited Discussion of Agricultural Contributions Relative to Other Sources**: While agriculture is mentioned as a source of pollution, it is listed behind industrial activities, mining, and waste treatment. However, the text does not clarify the relative contribution of each sector in different regions, which could lead to misleading generalizations. For example, in some regions, agriculture is the predominant

source of soil contamination, while in others, industrial waste or urban runoff is more significant.

3. **Lack of Nuance in the Role of Agricultural Inputs**: The paragraph lumps nitrogen and phosphorus with heavy metals and organic chemicals without distinguishing between their sources and impacts. It does not acknowledge that while excessive fertilizer use can lead to eutrophication, controlled application of nutrients is essential for crop productivity and food security. Precision agriculture and integrated nutrient management are not mentioned as solutions to mitigate pollution risks.
4. **Insufficient Consideration of Policy and Governance Responses**: The text highlights the health and environmental risks of soil pollution but does not discuss regulatory frameworks, international agreements, or best practices that address soil contamination. The role of policies, such as the EU Soil Strategy or national soil health initiatives, in reducing pollution is absent.

Paragraph 2.3.5 Global zoonotic diseases

1. **Overemphasis on Industrial Farming as a Primary Driver of Zoonotic Disease Risks**: The paragraph attributes a significant share of blame to industrial farming, suggesting that it creates "ideal conditions" for pathogen emergence. While there is evidence linking intensive livestock production to disease risks, the text does not acknowledge that non-industrial farming (e.g., backyard farming and live animal markets) has also been implicated in zoonotic outbreaks. This creates an unbalanced view by portraying industrial agriculture as uniquely responsible.
2. **Limited Discussion on Disease Control Measures and Technological Solutions**: The paragraph does not discuss biosecurity practices, vaccination strategies, genetic improvements (e.g., disease-resistant livestock), and monitoring systems that have significantly reduced zoonotic risks in many industrialized settings. Instead, it focuses on the risks without considering existing and emerging solutions.
3. **Simplistic Framing of Global Livestock Trade as a Risk Factor**: The text suggests that increasing livestock trade inherently spreads zoonotic diseases, without considering how stricter veterinary controls, improved surveillance, and

trade regulations have mitigated such risks in many regions. For example, organizations like the World Organisation for Animal Health (WOAH) have established protocols that reduce transmission risks.

4. **Lack of Discussion on Wildlife and Other Zoonotic Disease Sources**: The paragraph heavily emphasizes livestock as a source of zoonotic diseases while downplaying the role of wildlife reservoirs. Many zoonotic outbreaks (e.g., Ebola, SARS, COVID-19) originated from wildlife-human interactions rather than industrial livestock farming. The omission of this perspective creates an imbalance by shifting focus away from broader ecosystem health and land-use change.
5. **Socio-Economic Determinants of Disease Spread Are Not Fully Explored**: While the paragraph briefly mentions marginalized farmers being forced into disease-prone environments, it does not fully explore the role of poverty, land-use change, and deforestation in creating zoonotic disease hotspots. A more comprehensive discussion would include how economic development, governance, and investment in rural healthcare affect disease risks.

Paragraph 2.4 - Social-Economic-Political Sources of Stresses, Shocks, and Differential Vulnerabilities

1. **Underemphasis on Economic Development and Market-Based Solutions**: The paragraph focuses on structural inequalities and systemic suppression but does not mention how economic growth, private-sector engagement, and technological advancements have played a role in reducing food insecurity in various regions. Market-driven solutions, including agricultural innovation, financial inclusion, and infrastructure development, are largely absent from the discussion.
2. **Lack of Discussion on Institutional Capacity and Governance Variability**: The paragraph highlights inequitable decision-making and governance but does not consider cases where policy reforms and institutional improvements have successfully enhanced food security and resilience. It portrays governance structures mainly as sources of oppression rather than recognizing their potential for positive transformation.

3. **Imbalanced Framing of Decision-Making Power in Food Systems**: While the text critiques how food system decisions are shaped by power imbalances, it does not acknowledge multi-stakeholder governance models where farmers, civil society, and the private sector collaborate to drive food system transformation. The framing leans toward a dichotomy of power concentration versus marginalization, without exploring participatory models that have shown success.

Paragraph 2.4.1 - Racism and Discrimination

1. **Limited Discussion on Policies and Interventions Addressing Discrimination**: The text primarily discusses the negative impacts of racism but does not acknowledge policy efforts, legal frameworks, and successful initiatives aimed at reducing discrimination in food systems. For example, land tenure reforms, anti-discrimination labor laws, and fair-trade certification programs have made progress in certain regions. The absence of these discussions makes the issue appear intractable.
2. **Neglect of Market-Driven Improvements in Agricultural and Food Labor Conditions**: While the paragraph highlights exploitative conditions in agriculture and food processing, it does not acknowledge how global market pressures, ethical consumerism, and corporate responsibility initiatives have led to improvements in labor conditions. The role of certifications (e.g., Fair Trade, Rainforest Alliance) and industry-driven sustainability programs is absent from the discussion.
3. **Unbalanced Focus on Negative Case Studies Without a Broader Comparative Perspective**: The examples provided (e.g., Hispanic farmers denied loans, modern slavery in fisheries, COVID-19 outbreaks in meat processing plants) highlight serious issues but are presented without a broader comparative analysis. The paragraph does not discuss whether these patterns vary across regions, economic contexts, or governance structures.

Paragraph 2.4.2 - Gender

1. **Overemphasis on Gender-Based Disadvantages Without Mentioning Progress and Interventions**: While the

paragraph correctly highlights gender inequalities, it does not acknowledge policies, programs, or initiatives that have successfully improved women's rights in land tenure, agricultural finance, and food security. Examples include legal reforms in several African and Latin American countries that have increased women's land ownership and agricultural participation.

2. **Limited Discussion on the Role of Economic and Technological Solutions in Reducing Gender Inequality**: The text does not discuss how access to financial services, mobile technology, and agricultural innovations (e.g., improved seeds, mechanization) can empower women farmers. Digital financial tools and mobile banking, for instance, have allowed women to bypass traditional barriers to credit and market access.
3. **One-Sided View on Male Out-Migration Without Considering Economic Benefits**: The paragraph presents male out-migration as a burden on women but does not mention the potential economic benefits. In many cases, remittances sent home by migrant men improve household food security and allow for investment in farming and education. A more nuanced perspective would recognize both the challenges and benefits of migration.
4. **Lack of Context on Gendered Food Allocation Variability**: The paragraph states that men receive better food quality and quantity in many households, but this is not universally true across all cultural and economic contexts. Some matriarchal societies and social structures prioritize children and women in food distribution. The framing could be improved by specifying where such disparities are most pronounced.
5. **Insufficient Discussion on Women's Role in Decision-Making Beyond the Household**: While the text highlights women's limited household decision-making power, it does not discuss their increasing involvement in cooperative farming, agribusiness, and policy advocacy. Women's participation in farmers' cooperatives and local governance structures is growing in many regions, contributing to food system resilience.

Paragraph 2.4.3: Loss of Food Systems Knowledge

1. **Overemphasis on Traditional Knowledge Without Acknowledging Modern Advancements**: The paragraph extensively focuses on the decline of traditional food knowledge but does not acknowledge how modern education, technology, and digital tools contribute to food literacy. While traditional knowledge is invaluable, integrating modern food education (such as digital platforms, precision agriculture, and nutritional science) would provide a more balanced perspective.
2. **Monocultures and Urbanization as Sole Causes of Knowledge Loss**: The discussion of monocultures and urbanization as primary contributors to knowledge loss lacks a more nuanced view. While these factors have led to distancing from traditional food practices, they have also enabled food security improvements through increased production efficiency. The paragraph does not acknowledge how urbanization has also facilitated knowledge-sharing networks through online resources, food literacy programs, and urban farming initiatives.
3. **Colonialism as a Sole Driver of Indigenous Knowledge Erosion**: The paragraph strongly attributes Indigenous knowledge loss to colonial policies, which is a valid argument but lacks acknowledgment of other influencing factors. These could include globalization, migration, generational shifts in food preferences, and economic changes that have led Indigenous communities to adopt new practices voluntarily.

Paragraph 2.4.4: Economic Stresses, Shocks, and Inequitable Vulnerabilities

1. **Overemphasis on Economic Inequities Without Acknowledging Economic Growth and Technological Advances**: The paragraph focuses heavily on systemic inequities as barriers to food systems resilience but does not acknowledge how economic growth, technological innovation, and increased investment in agriculture have improved resilience in many regions. While inequality is a critical issue, a balanced discussion should recognize that economic development, foreign investment, and market integration have also contributed to increased productivity and food security in many parts of the world.

2. **Neglect of the Role of Private Sector and Market-Based Solutions**: The text frames market failures and economic power imbalances predominantly as negative forces without mentioning the role of private-sector innovations, financial inclusion programs, and impact investment in supporting smallholder farmers. A discussion on how businesses, cooperatives, and public-private partnerships contribute to resilience would provide a more comprehensive view.
3. **Lack of Nuanced Discussion on Policy Trade-offs**: While the paragraph critiques economic policies that exacerbate inequalities, it does not discuss the trade-offs involved in different economic strategies. For example, policies promoting economic liberalization and trade may increase short-term vulnerabilities but can also enhance long-term resilience by integrating farmers into global markets. A more balanced analysis should weigh both the risks and benefits of different economic approaches.

Paragraph 2.4.5: Market Failures and Volatility

1. **Lack of Discussion on Market Successes and Adaptations**: The paragraph focuses exclusively on market failures without acknowledging cases where markets have successfully improved efficiency, innovation, and resilience in food systems. While failures exist, many agricultural markets have enabled smallholder farmers to access better inputs, technology, and financial services, leading to increased productivity and resilience. Ignoring these benefits creates an imbalanced view.
2. **Overemphasis on Market Failures as a Cause of Food Insecurity**: The text strongly links market failures to food insecurity but does not explore how well-functioning markets can enhance food access. For example, efficient supply chains and trade networks often mitigate food shortages by allowing food to move from surplus to deficit regions. The discussion should include both positive and negative aspects of market dynamics.
3. **Limited Discussion on Policy and Regulatory Interventions**: The paragraph highlights market inefficiencies but does not sufficiently discuss the role of policy and regulatory interventions in addressing these issues. While market failures can lead to problems, targeted policies—

such as competition laws, subsidies, and price stabilization mechanisms—can help mitigate volatility and inefficiencies. Including these perspectives would make the discussion more comprehensive.

Paragraph 2.4.6: Income Disparities and Poverty

1. **Excessive Focus on Structural Inequalities Without Acknowledging Economic Mobility**: The paragraph presents income disparities and poverty as rigid systemic problems without acknowledging that economic mobility is possible through education, entrepreneurship, and policy interventions. While poverty remains a major challenge, many rural farmers have improved their financial standing through microfinance, digital tools, cooperative farming, and government support programs. Including these aspects would provide a more balanced perspective.
2. **Neglect of the Role of Market Integration and Value Chain Participation**: The text does not explore how integrating small-scale farmers into value chains, contract farming, and agricultural processing industries can enhance their income and resilience. Many farmers in low-income groups have benefited from inclusive business models and certification programs that increase their access to premium markets.
3. **Lack of Discussion on Adaptive Strategies and Social Safety Nets**: While the paragraph describes the vulnerabilities caused by poverty, it does not mention government and international initiatives that mitigate these effects. Policies such as cash transfer programs, subsidized agricultural inputs, and social protection schemes have played significant roles in reducing food insecurity among vulnerable populations. Including these strategies would highlight that solutions exist alongside the challenges.

Paragraph 2.4.7: Livelihood Threats

1. **Overemphasis on Vulnerabilities Without Highlighting Adaptive Strategies**: The paragraph extensively focuses on the negative aspects of livelihood threats but does not sufficiently highlight how individuals and communities adapt to these challenges. For example, smallholder farmers have increasingly adopted digital tools, climate-smart practices, and cooperative business models to navigate these

difficulties. A more balanced discussion should include examples of resilience-building strategies.

2. **Insufficient Recognition of Policy and Market-Based Solutions**: While the paragraph discusses the barriers created by financial instability, it does not acknowledge existing policies and market-based solutions designed to mitigate livelihood threats. Many governments and international organizations implement social safety nets, financial inclusion programs, and investment incentives to support rural livelihoods. Including these aspects would provide a more comprehensive view.
3. **Narrow Focus on Rural Livelihoods, Overlooking Urban and Diversified Income Sources**: The discussion mainly highlights smallholder farmers and rural communities, but in many countries, rural households increasingly rely on diversified income sources, including urban employment and remittances. Recognizing these shifts would offer a more accurate depiction of livelihood dynamics.

Paragraph 2.4.8: Global Trade and Power Imbalance in Food Systems

1. **Overemphasis on the Negative Aspects of Trade Without Recognizing Its Benefits**: The paragraph acknowledges that trade has improved food security by enabling access to diverse food supplies, but it predominantly presents global trade as a source of dependency and inequality. While trade imbalances exist, international markets also provide essential benefits such as price stabilization, risk diversification, and technology transfer. The discussion would be more balanced if it included cases where trade has successfully contributed to resilience, such as during food shortages or climate-induced crises.
2. **Uncritical View of Local and Territorial Markets as a Preferred Alternative**: The paragraph suggests that moving away from global trade toward local food systems would enhance resilience but does not acknowledge the challenges of such a transition. Many local food systems struggle with inefficiencies, seasonality, and limited economies of scale, which can lead to higher food prices and reduced availability of diverse diets. A more balanced discussion would recognize

both the strengths and weaknesses of local versus global food systems.

3. **Framing Corporate Influence as a Monolithic Negative Force Without Considering Policy Solutions**: The text criticizes multinational agribusinesses for controlling farm inputs and influencing market structures, but it does not explore policy measures that have been used to regulate these dynamics. For example, some countries have implemented competition laws, farmer cooperatives, and fair-trade agreements to counterbalance corporate power. A more constructive approach would include examples of policies that can mitigate trade-related vulnerabilities while still leveraging trade's benefits.

Paragraph 2.4.9: Political and Institutional Stresses, Shocks, and Inequitable Vulnerabilities

1. **Overemphasis on Political Failures Without Recognizing Effective Governance Strategies:** The paragraph presents political and institutional pressures mainly in a negative light, emphasizing failures, inaction, and inequities. While these are important issues, it does not highlight cases where governments have successfully implemented policies that enhance food system resilience, such as land tenure reforms, public-private partnerships, or disaster preparedness programs. A more balanced approach would include examples of effective governance that have mitigated food system shocks.
2. **Lack of Discussion on the Complexity of Urbanization and Policy Trade-offs:** The text suggests that urbanization policies lead to farmland loss and food system fragility but does not consider the benefits of urbanization, such as improved infrastructure, better market access, and economic diversification. While rapid urban expansion can create challenges, well-planned urban policies, such as zoning laws and urban agriculture initiatives, can help sustain food production. A nuanced discussion on policy trade-offs would enhance the analysis.
3. **Simplistic Framing of Food Weaponization and Conflict:** The paragraph highlights how food can be weaponized in conflicts, which is a crucial issue, but it does not acknowledge how international law, humanitarian aid, and

peacebuilding initiatives seek to prevent and mitigate food-related conflicts. While there are cases where food access is manipulated for political purposes, a more balanced discussion should include the role of global institutions like the World Food Programme (WFP) and international agreements aimed at preventing the use of food as a weapon.

Paragraph 2.4.10: Violence, War, Conflict, and Displacement

1. **Limited Discussion on Humanitarian and Policy Responses**: The text primarily focuses on the destructive aspects of war on food systems but does not adequately address international efforts to mitigate these effects. Organizations such as the World Food Programme (WFP), the UN Food and Agriculture Organization (FAO), and national governments play critical roles in maintaining food access during crises. A more balanced discussion should include examples of successful humanitarian interventions and policy mechanisms that help stabilize food supplies in conflict zones.

Paragraph 2.4.11: Organized Crime and Food Systems

1. **Overgeneralization of Corporate Involvement in Violence**: The paragraph suggests that corporations routinely employ mercenaries and paramilitary forces to control land and food resources. While there are documented cases of land conflicts involving corporations, the framing lacks nuance by implying that such practices are widespread. A more balanced discussion should differentiate between illegal corporate practices and legal agribusiness operations, recognizing cases where businesses contribute positively to food system stability.
2. **Neglect of Institutional and Policy Responses to Organized Crime in Food Systems**: The paragraph details the negative impacts of organized crime but does not explore how governments and international institutions counteract these threats. Law enforcement strategies, trade regulations, and anti-corruption initiatives have been implemented in several regions to reduce criminal influence in food systems. Including these efforts would present a more complete analysis.

3. **Limited Discussion on Market and Technological Solutions**: The text does not mention how digital traceability, blockchain technology, and certification schemes help mitigate the risks posed by organized crime in food supply chains. For instance, blockchain-based supply chain monitoring can improve transparency, making it harder for criminal groups to infiltrate food markets. A more balanced approach would include these solutions.

Paragraph 2.4.12: Disruption from New Technologies – Stresses, Shocks, Vulnerabilities, and Potential Opportunities

1. **Overemphasis on Risks Without Recognizing Positive Transformations**: While the paragraph acknowledges some benefits of agricultural technologies, it disproportionately focuses on the risks and challenges. Technologies such as AI-driven precision farming, biotechnologies, and automation have contributed to increased food security, efficiency, and climate adaptation. A more balanced discussion should include successful applications of these technologies in improving smallholder productivity, reducing post-harvest losses, and enhancing climate resilience.
2. **Framing Technology Adoption as a Threat to Food Sovereignty and Equity**: The paragraph presents concerns about data governance, ownership of intellectual property, and loss of decision-making power due to new technologies. While these issues are valid, the text does not consider how appropriate regulations, open-access technology models, and farmer-centered innovation strategies can ensure equitable access to technology. Including these perspectives would provide a more constructive discussion on how to balance technological progress with equity.
3. **Limited Discussion on Technological Solutions to Sustainability Challenges**: The text highlights the environmental risks of AI and automation, such as energy consumption and pollution from non-renewable resources. However, it does not mention how advances in sustainable technology—such as solar-powered irrigation, AI-driven water conservation, and bio-based inputs—are helping to mitigate these impacts. A more nuanced discussion should recognize that while some technologies have environmental costs, others actively contribute to sustainability.

CHAPTER 3 - From resilience to equitably transformative resilience

Paragraph 3.1: Resilience as 'Bouncing Back' and Its Limitations

1. **Implicit Devaluation of 'Bouncing Back' as a Useful Resilience Strategy**: The paragraph critiques the concept of resilience as merely bouncing back but does not sufficiently acknowledge its benefits. Many real-world resilience strategies do rely on recovery to pre-crisis conditions, especially in contexts where maintaining stability is essential (e.g., emergency response, disaster relief, and market stabilization). While transformative resilience is valuable, bouncing back remains a critical function in crisis management and should not be dismissed as inherently inadequate.
2. **Overemphasis on Structural Inequalities Without Recognizing Individual and Community Agency**: The text largely attributes resilience challenges to systemic inequities such as poverty and discrimination, which are undoubtedly important. However, it does not adequately recognize the role of agency, innovation, and adaptation at the individual and community levels. Many communities build resilience through informal networks, traditional knowledge, and self-organization rather than relying solely on systemic transformation.
3. **Limited Discussion of Trade-offs in Transformative Resilience Approaches**: While the paragraph advocates for "bouncing forward" as a more desirable approach, it does not sufficiently explore the risks and trade-offs of transformative resilience. Structural changes require time, resources, and political will, which may not always be feasible in emergency situations. Some policies aimed at transformation may also disrupt existing livelihoods, creating short-term instability before long-term benefits are realized.

Paragraph 3.1.1: Food Systems' Resilience as 'Bouncing Back'

1. **Implicit Devaluation of 'Bouncing Back' Without Acknowledging Its Benefits**: The paragraph critiques the idea of food system resilience as merely returning to the status quo, framing it as inadequate to address systemic issues. While transformative resilience is important, the

ability to "bounce back" is essential in many situations, such as recovering from natural disasters, financial crises, or supply chain disruptions. Emergency food aid, market stabilization policies, and rapid response mechanisms rely on short-term recovery strategies, which should not be dismissed as inherently flawed. A more balanced discussion would acknowledge that both "bouncing back" and "bouncing forward" approaches have their place in food system resilience.

2. **Overemphasis on Structural Inequities Without Recognizing Positive Resilience Strategies**: The text presents resilience capacity as heavily constrained by power imbalances and inequities but does not sufficiently highlight how individuals, communities, and organizations successfully build resilience within existing systems. Many farmers and food system actors adapt and recover effectively through cooperatives, financial innovations, and public-private partnerships, even in unequal economic environments. Including examples of how resilience is strengthened through these strategies would offer a more comprehensive perspective.
3. **Limited Consideration of Trade-offs in Transformative Resilience**: The paragraph argues that resilience must be about transformation rather than restoration but does not explore the challenges associated with systemic change. Large-scale shifts in food systems require political will, financial resources, and time, which may not always be feasible in crisis situations. The costs and risks of transformation, such as temporary job losses, food price fluctuations, and disruptions to existing markets, should be acknowledged to provide a more realistic assessment of resilience-building efforts.

Paragraph 3.2: Resilience as 'Bouncing Forward' for Food System Transformation

1. **Overemphasis on Transformation Without Addressing the Challenges of Implementation**: The paragraph strongly promotes the idea of "bouncing forward" but does not adequately discuss the practical difficulties of implementing large-scale food system transformations. Transitioning to new models often requires substantial financial investment, political will, and time, which can be difficult for resource-

constrained countries. There is limited discussion of how to navigate these challenges or what transitional strategies could be employed to make transformation more feasible.

2. **Minimal Acknowledgment of the Benefits of Stability and Continuity**: While transformation is a critical component of resilience, some degree of stability and continuity is also necessary. The text frames resilience as a dynamic, ever-changing process but does not recognize that maintaining certain aspects of existing food systems (e.g., established trade networks, proven agricultural techniques) can also be beneficial. A more balanced discussion would explore when stability is advantageous and when transformation is necessary.
3. **One-Sided Framing of Food Systems as 'Broken' and in Need of Complete Overhaul**: The paragraph references UN reports that describe food systems as fundamentally broken, necessitating radical transformation. While many food systems face significant challenges, there are also numerous examples of effective, resilient agricultural and trade models that have successfully adapted to climate change, economic fluctuations, and market disruptions. The text does not sufficiently acknowledge these positive cases or how existing strengths can be leveraged for transformation rather than advocating for an entirely new system.

Paragraph 3.2.1: 'Bouncing Forward' by Changing Food Systems Structures

1. **Overgeneralization of Current Food System Structures as Inherently Inequitable and Unsustainable**: The paragraph assumes that prevailing food system structures are fundamentally flawed and must be transformed, without acknowledging cases where existing frameworks have supported resilience. While some elements of global food systems are inequitable, many farmers, cooperatives, and businesses successfully operate within them. A more balanced discussion would recognize that while reforms are necessary, not all aspects of the system require radical change.
2. **Limited Consideration of the Challenges in Implementing Alternative Models**: The text promotes community-supported agriculture (CSA) as an example of a more resilient

structure but does not sufficiently address the scalability challenges of such models. CSA schemes are often niche markets that require strong consumer commitment, logistical coordination, and policy support. The paragraph would benefit from a discussion on how CSA models can be expanded or integrated with existing supply chains rather than being framed as a complete alternative.

3. **Insufficient Discussion of Trade-offs and Potential Unintended Consequences**: While advocating for structural changes, the text does not adequately explore the potential downsides of such transformations. For example, shifts in land tenure or trade arrangements can have unintended consequences, such as reduced investment incentives, increased food prices, or unintended disruptions to supply chains. A balanced approach would acknowledge these risks and propose mitigation strategies.

Paragraph 3.2.2: 'Bouncing Forward' by Harnessing Socio-Ecological Interdependencies in Food Systems

1. **Overemphasis on Trade-offs Without Recognizing Positive Synergies**: The paragraph highlights instances where interventions create trade-offs, such as high-yielding varieties improving short-term income but degrading ecosystems. However, it does not adequately discuss cases where technological innovations have achieved both economic and environmental benefits, such as climate-smart agriculture, precision farming, or regenerative agriculture. A more balanced discussion should explore examples of how agricultural advancements can enhance both food security and ecological resilience.

2. **Limited Consideration of the Role of Markets and Economic Incentives in Strengthening Socio-Ecological Resilience**: The text largely frames markets and export-oriented agriculture as sources of vulnerability but does not acknowledge how well-designed economic incentives can promote sustainability. For instance, carbon credit schemes, payments for ecosystem services, and sustainability-linked supply chains have successfully encouraged environmentally friendly practices while supporting farmer livelihoods. The discussion would benefit from recognizing these mechanisms as part of resilience-building strategies.

3. **Framing of Agroecological Transformation as the Primary Solution Without Examining Its Limitations**: The paragraph implicitly supports a shift toward agroecology and locally adapted food systems but does not sufficiently discuss the scalability and economic feasibility of these approaches. While agroecological methods can enhance resilience in some contexts, they may not always meet global food demand or be economically viable for all farmers. A more nuanced discussion should explore how agroecology can complement, rather than replace, other resilience-building strategies.

Paragraph 3.2.3: 'Bouncing Forward' Through Enabling Human Agency, Empowerment, and Rights

1. **Framing Structural Inequities as the Primary Limitation on Agency Without Acknowledging Grassroots Adaptation**: The paragraph highlights structural barriers—such as colonial legacies and economic inequalities—that limit agency in food systems. While these factors are significant, the text does not sufficiently acknowledge that many marginalized communities have developed their own adaptive strategies and resilience mechanisms despite these constraints.
2. **Overemphasis on State and Policy Interventions Without Considering Market-Based and Technological Solutions**: The paragraph largely focuses on policy solutions, such as social protection and regulatory frameworks, to enhance agency. However, it does not sufficiently explore how market-based initiatives and technology can empower individuals and communities. For instance, digital finance, mobile-based agricultural advisory services, and blockchain-based supply chain transparency have enabled small-scale producers to access markets, financial services, and information. A more comprehensive approach should include the role of market innovations alongside government-led interventions.

Paragraph 3.3: Equitably Transformative Resilience—A Qualified 'Bouncing Forward' for Food Systems

1. **Overemphasis on Structural Inequities Without Acknowledging Functional Aspects of Current Food Systems**: The paragraph presents food systems as fundamentally unjust and in need of transformation without

sufficiently recognizing existing policies, institutions, and mechanisms that support food security and resilience. While inequalities exist, many food systems have also fostered economic growth, technological innovation, and improved nutrition. A more balanced discussion should acknowledge both the limitations and the strengths of current food system structures.

2. **Limited Consideration of Trade-offs in Redistribution Policies**: The paragraph advocates for redistributing resources and power but does not address potential trade-offs. Policies aimed at redistribution, such as land reforms or supply chain restructuring, can lead to unintended consequences, including reduced investment incentives, increased transaction costs, or market inefficiencies. A more comprehensive discussion would weigh the benefits of redistribution against its potential economic and logistical challenges.
3. **Minimal Discussion of the Role of Innovation and Private Sector Engagement in Resilience-Building**: The text primarily focuses on governance, rights, and equity but does not sufficiently discuss how technological innovations, digital tools, and private sector initiatives contribute to resilience. Many companies and research institutions have developed climate-smart agriculture, supply chain transparency mechanisms, and risk mitigation tools that enhance food system resilience. A more balanced approach would integrate these perspectives alongside governance-based solutions.

Paragraph 3.3.1 - Socio-Ecologically Intertwined Equitable Resilience

1. **Overemphasis on Agroecology as the Primary Path to Equitable Resilience**: The paragraph strongly promotes agroecology as the best way to achieve socio-ecological equity, without discussing alternative models such as e.g. sustainable intensification or regenerative agriculture. While agroecology has significant benefits, other approaches also contribute to resilience without necessarily following agroecological principles.
2. **Imbalanced Framing of Industrial Agriculture**: Industrial agriculture is implicitly portrayed as incompatible with

resilience and socio-ecological justice, whereas agroecology is presented as a holistic solution. This framing does not acknowledge that industrial agriculture has also contributed to food security, efficiency, and technological advancements that reduce land and resource use. A more balanced perspective would recognize both the strengths and limitations of different agricultural models.

3. **Lack of Discussion on Trade-Offs in Agroecological Transition**: The text does not address the potential trade-offs of transitioning to agroecology, such as lower yields in some contexts, labor intensiveness, and scalability challenges. While agroecology can improve long-term sustainability, it may also require more land or resources in the short term, which is not discussed.
4. **Absence of Discussion on Policy and Market Mechanisms Supporting Different Resilience Strategies**: The paragraph emphasizes policy alignment with socio-ecological justice but does not explore different policy tools that can support multiple resilience strategies. For example, sustainable intensification, carbon farming, regenerative agriculture, and climate-smart agricultural policies could be mentioned alongside agroecology as viable approaches to resilience.
5. **Limited Acknowledgment of Technological and Private-Sector Contributions**: The role of technology and private-sector investment in enhancing food system resilience is largely absent. Digital tools, biotechnologies, and precision agriculture technologies contribute to resilience but are not discussed. The exclusive focus on agroecology overlooks these innovations.

Paragraph 3.3.2 - Centering Resilience on the Knowledge, Experience, and Resistance of the Marginalized

1. **Framing Resilience Primarily as Resistance and Struggle**: The paragraph strongly emphasizes resilience as resistance against oppression, rather than acknowledging that resilience can also emerge through collaboration, adaptation, and innovation. While resistance is an important factor, many communities build resilience by working within existing systems, leveraging technology, and participating in inclusive governance structures. The framing risks creating an overly adversarial perspective on resilience.

2. **Lack of Recognition for Successful Inclusive Policy Interventions**: The text critiques participatory approaches that do not redistribute power but does not acknowledge successful participatory governance models where marginalized groups have gained influence. For example, multi-stakeholder platforms in Latin America, Africa, and Asia have empowered smallholder farmers through policy dialogues, community-led conservation efforts, and co-designed agricultural programs.
3. **Overgeneralization of Marginalized Groups as a Homogeneous Block**: The paragraph assumes that all marginalized communities share a common perspective on resilience. However, different communities have diverse needs, strategies, and aspirations. Some prioritize land rights, others focus on market integration, while others engage in agroecological transitions or seek technological innovations to enhance productivity. A more nuanced discussion would recognize this diversity.
4. **Limited Discussion on the Role of External Support and Innovation in Building Resilience**: The text largely presents resilience as emerging from within marginalized communities, overlooking the role of external support in capacity-building. Initiatives such as climate adaptation funds, digital tools for smallholders, and microfinance programs have helped marginalized groups strengthen their resilience. A more balanced discussion would recognize these contributions alongside grassroots resistance.
5. **Critique of Mainstream Resilience Without Offering Clear Policy Alternatives**: The paragraph critiques how resilience is framed in global discourse but does not offer specific policy recommendations beyond centering marginalized voices. While recognizing and valuing local knowledge is crucial, resilience-building also requires practical policy actions, institutional reforms, and investment in infrastructure, education, and technology to enhance marginalized communities' agency.

Paragraph 3.3.3 - Redistribution of Resources and Power to Tackle the Root Causes of Non-Resilience

1. **One-Sided Focus on Redistribution Without Discussing Economic Growth and Investment Approaches**: The

paragraph promotes redistribution of land, water, and markets as the primary solution to non-resilience but does not consider alternative approaches such as market-based mechanisms, investment in agricultural innovation, or public-private partnerships that can enhance food system resilience without requiring large-scale redistributions.

2. **Overemphasis on Historical Injustices Without a Forward-Looking Approach**: While acknowledging historical inequalities is essential, the text heavily focuses on past injustices without adequately discussing forward-looking strategies for improving food system resilience. Many contemporary resilience-building efforts involve improving infrastructure, investing in climate adaptation, and fostering economic opportunities rather than focusing solely on redress.
3. **Neglect of Trade-Offs in Redistributive Policies**: The paragraph does not consider potential trade-offs or unintended consequences of redistributive policies. For example, land redistribution programs have sometimes led to declines in agricultural productivity when not accompanied by investments in training, infrastructure, and market access. The framing assumes redistribution is inherently beneficial without considering potential inefficiencies.
4. **Lack of Discussion on Private Sector and Technological Contributions**: The role of the private sector, including agribusiness, supply chain innovations, and technology adoption is largely absent. These factors have been instrumental in enhancing food security and resilience in various contexts. A more balanced approach would integrate these perspectives alongside calls for redistribution.

Paragraph 3.3.4 - Putting Human Rights at the Center of ETR and FSN

1. **Overemphasis on Rights Without Addressing Responsibilities and Trade-offs**: Rights frameworks often involve trade-offs—such as balancing the right to food with the need for environmental sustainability or economic viability—which are not discussed.
2. **Imbalanced Critique of Corporate Power Without Mentioning Positive Contributions**: The text criticizes corporate concentration in food systems but does not

acknowledge positive contributions from agribusinesses, such as investments in infrastructure, research, and supply chain efficiencies that enhance food security. A more balanced discussion would recognize both the risks and benefits of private-sector engagement in food systems.

3. **Overgeneralization of the Rights of Nature Without Addressing Legal Complexities**: The text presents the "rights of nature" as a solution without discussing the legal and practical challenges of implementing such frameworks. While some countries (e.g., Ecuador, New Zealand) have experimented with legal rights for ecosystems, these models remain controversial and difficult to enforce in many contexts. The paragraph could benefit from a more balanced exploration of how these rights are operationalized in different legal systems.

CHAPTER 4 - Strategies and Actions: A Roadmap to Equitable, Transformative Resilient Food Systems

1. **Strong Bias Toward Transformational Change Without Acknowledging Incremental Improvements**: The chapter primarily frames food system resilience as requiring radical transformation, overlooking cases where incremental improvements—such as technological adoption, market-based solutions, or efficiency gains—have led to substantial progress. It does not consider that resilience can also emerge from gradual, adaptive adjustments rather than only through structural overhauls.
2. **Limited Recognition of Trade-Offs in Equitable Transformation**: While advocating for ETR, the chapter does not explore the potential trade-offs. For instance, policies that prioritize small-scale farmers over industrial-scale production may enhance equity but could also reduce overall food output, affecting food security. Similarly, redistributive policies may have unintended economic consequences if not well-designed.
3. **Underrepresentation of Private Sector and Technological Innovations**: The chapter heavily focuses on governance and social movements but does not adequately discuss how private-sector engagement and technological innovations (e.g., precision agriculture, genetic advancements, AI-driven supply chain management) contribute to resilience. Many

successful food system adaptations have been driven by private investment and technological progress, which should be acknowledged.

4. **Assumption That Complexity Requires a Move Away from Market-Driven Approaches**: The emphasis on complexity and context-sensitive strategies implicitly suggests that prescriptive, market-based interventions are inadequate. However, structured policy mechanisms—such as targeted subsidies, carbon markets, and trade agreements—have proven effective in stabilizing food systems. The rejection of such tools in favor of complexity-based models could limit practical solutions.

Paragraph 4.1 - The Role of Humanitarian Aid Amidst Shocks and Stresses

1. **Criticism of Humanitarian Aid Without Acknowledging Its Life-Saving Role**: The paragraph criticizes reliance on food aid as a systemic failure but does not sufficiently acknowledge its critical role in saving lives during emergencies. While long-term resilience is necessary, immediate food assistance remains vital for millions in crisis situations.
2. **Overgeneralization of the Negative Effects of Food Aid**: The text states that humanitarian food aid can exacerbate vulnerabilities and create dependencies without balancing this with examples of well-designed aid programs that support local economies and build resilience. It does not mention successful models of food aid, such as cash transfers, local procurement, or nutrition-sensitive aid that reduces market distortions.
3. **Underrepresentation of the Role of Market-Based and Private-Sector Solutions**: The paragraph does not explore how private-sector engagement and market-driven interventions, such as social safety nets, microfinance, and insurance schemes, can complement humanitarian aid. Innovative solutions like anticipatory cash transfers or food vouchers could be discussed as alternatives to in-kind aid.
4. **Lack of Nuanced Discussion on Food Aid Effectiveness in Different Contexts**: The paragraph does not differentiate between different types of crises (e.g., conflict-driven versus climate-induced crises) and how food aid effectiveness

varies depending on governance capacity, infrastructure, and local markets. Some crises may require direct food distribution, while others benefit from market-based interventions.

5. **Imbalanced Critique of Donor Motives Without Recognizing Positive Examples**: The text suggests that food aid is often used as a tool for political influence or dumping surplus commodities, but it does not provide a balanced view by acknowledging donor commitments to ethical food assistance (e.g., the *Grand Bargain* initiative promoting localized aid). While tied aid can be problematic, not all donor-driven food assistance operates this way.

Paragraph 4.2 - Food Systems and Equitably Transformative Resilience

1. **Assumption That ETR Is the Only Viable Path for Resilient Food Systems**: The paragraph frames ETR as the primary framework for food system resilience, without discussing alternative resilience-building models such as sustainable intensification, regenerative agriculture, or technology-driven approaches. A more balanced discussion would acknowledge multiple strategies for achieving resilience.
2. **Overemphasis on Structural Transformation Without Acknowledging Incremental Change**: The text advocates for systemic and structural transformation but does not consider cases where gradual improvements—such as technological innovation, market reforms, or investment in infrastructure—have effectively enhanced resilience without requiring radical shifts.
3. **Limited Discussion on Market-Based and Private-Sector Contributions**: The paragraph largely focuses on governance, community initiatives, and policy-driven change but does not adequately address the role of private-sector investment, trade policies, or technological advancements (e.g., digital agriculture, precision farming) in promoting resilience.
4. **Lack of Recognition for Regional Variations in Food System Challenges**: The text presents food system challenges and solutions in a general manner without recognizing that different regions face distinct constraints and opportunities. The food security challenges in sub-Saharan Africa, for instance, differ significantly from those in

Latin America or Southeast Asia. A more nuanced discussion would account for regional differences.

5. **Imbalanced Representation of Supply Chains and Large-Scale Agricultural Systems**: While the paragraph discusses supply chains, it primarily highlights local and regional networks while downplaying the role of global trade in ensuring food availability, particularly in regions with food production deficits. A more balanced discussion would recognize the benefits of both local and global supply chains in food system resilience.

Paragraph 4.2.1 - ETR and Food Production

1. **Overemphasis on Market Dependence as a Vulnerability Without Recognizing Its Benefits**: The paragraph critiques reliance on markets for food security but does not acknowledge that well-functioning markets can enhance food availability, stabilize prices, and improve access to diverse diets. While market volatility can pose risks, structured trade policies and financial instruments (e.g., futures markets, price stabilization mechanisms) help mitigate such risks.
2. **One-Sided Framing of Food Sovereignty as More Resilient Than Market-Driven Approaches**: The text presents food sovereignty-based systems as inherently more resilient than market-dependent systems, without considering that local food production alone may not always be sufficient to meet demand, especially in regions with climatic variability, soil degradation, or limited arable land. A more balanced discussion would consider how hybrid approaches—combining local production with well-regulated market access—could enhance food security.
3. **Limited Discussion on Agricultural Technology and Innovation**: The paragraph does not mention the role of agricultural innovations (e.g., improved seeds, digital farming tools, mechanization) in strengthening food production resilience. While it highlights indigenous crops, it does not discuss how integrating traditional and modern practices can maximize productivity while ensuring sustainability.
4. **Absence of Private-Sector Contributions in Food Production Resilience**: The paragraph focuses on policy and infrastructure improvements but does not acknowledge how

private-sector investments—such as contract farming, agribusiness partnerships, and financial services—have supported food production in many regions. A balanced view would include examples of successful public-private collaborations that have improved food security.

Paragraph 4.2.2 - Production Support Systems

1. **Overemphasis on Agroecology Without Discussing Other Resilience-Enhancing Approaches**: The paragraph presents agroecology as the central solution for production system resilience but does not acknowledge other approaches such as regenerative agriculture, climate-smart agriculture, and sustainable intensification. While agroecology has benefits, other models also contribute to ecological sustainability and economic viability.
2. **Insufficient Consideration of Trade-Offs in Agroecological Transitions**: The text does not discuss potential challenges in transitioning to agroecological production, such as labor intensity, yield variability, and scalability issues. While agroecology enhances resilience, the transition process can involve trade-offs, including reduced short-term productivity or higher production costs for farmers.
3. **Limited Discussion on Private Sector Contributions to Production Support Systems**: The paragraph highlights public procurement policies as a means of supporting smallholder farmers but does not explore how private-sector investments, contract farming, and digital agriculture tools can also enhance production resilience. Private-sector engagement plays a crucial role in financing, technological innovation, and scaling up sustainable practices.
4. **Lack of Regional Variability in Policy Implementation**: The examples from Brazil and Kenya suggest that public food procurement universally benefits small farmers, but the effectiveness of such programs varies by region due to factors such as infrastructure, governance, and market conditions. A more balanced discussion would acknowledge the challenges in implementing such policies in different contexts.
5. **Neglect of Technological Innovations That Support Resilience**: The text does not mention innovations such as precision agriculture, biotechnology, and digital extension

services, which have been instrumental in increasing agricultural resilience. A more inclusive discussion would integrate these alongside agroecological approaches.

Paragraph 4.2.3 - Supply Chains

1. **Overemphasis on Localization Without Discussing Global Trade Benefits**: The paragraph strongly advocates for local and regional food systems as more resilient but does not acknowledge the benefits of global food trade, such as ensuring food availability in regions with production deficits, stabilizing food prices, and diversifying diets. While localization has advantages, a balanced discussion would recognize the complementary role of international trade.
2. **Portrayal of Corporate Control as an Inherent Weakness Without Recognizing Efficiency Gains**: The text criticizes corporate concentration in supply chains without mentioning the efficiencies that large-scale distribution networks provide. While corporate dominance can lead to market distortions, it also enables cost-effective transportation, reduces post-harvest losses, and ensures year-round food availability in many regions.
3. **Simplified Argument That Removing Middlemen Always Benefits Farmers and Consumers**: The paragraph suggests that eliminating middlemen will enhance supply chain equity, but middlemen often play essential roles in aggregation, logistics, and market access, particularly in fragmented agricultural markets. A more nuanced discussion would differentiate between exploitative intermediaries and those providing valuable services.
4. **Limited Acknowledgment of Private-Sector Investments in Supply Chain Resilience**: The paragraph does not mention how private-sector innovations, such as blockchain for supply chain transparency, AI-driven logistics, and digital marketplaces, have enhanced food system resilience. Many companies are actively investing in reducing waste and improving food distribution efficiency.
5. **Lack of Discussion on the Trade-Offs of Regional Market Systems**: While highlighting the benefits of regional markets, the text does not address potential challenges, such as price volatility, infrastructure costs, and scalability issues. Some localized food networks struggle to meet urban demand

efficiently, and reliance on regional markets alone can lead to seasonal shortages.

Paragraph 4.2.4 - Food Environments

1. **Overemphasis on Regulatory Approaches Without Market-Based Solutions**: The paragraph strongly supports government interventions, such as food labeling regulations and taxes on unhealthy foods, but does not mention market-driven solutions that have successfully improved food environments. For example, industry-led initiatives to reformulate products, expand access to healthier food options, and use digital tools for nutrition education could be acknowledged.
2. **Limited Recognition of Consumer Choice and Behavior in Food Environments**: The text focuses on structural barriers to food access but does not sufficiently address how consumer behavior, education, and cultural factors influence food choices. While affordability and access are key, individuals also make dietary decisions based on personal preferences, traditions, and social norms.
3. **Imbalanced Discussion of Processed and Ultra-Processed Foods**: The paragraph frames ultra-processed foods as inherently harmful without acknowledging cases where processed foods contribute to food security. For example, fortified foods, frozen vegetables, and minimally processed options (e.g., canned fish, dairy products) enhance access to affordable, nutrient-dense diets, particularly in areas with limited fresh food availability.
4. **Neglect of Private-Sector and Technological Innovations in Food Access**: The text does not discuss how private-sector innovations, such as online grocery platforms, mobile nutrition apps, or direct-to-consumer farm models, have improved food access. Many food technology solutions are enhancing affordability and convenience, yet these contributions are overlooked.
5. **Lack of Regional Context for Food Affordability and Access Challenges**: The paragraph generalizes the challenges of food environments without differentiating between urban and rural areas, high-income and low-income regions, or varying policy effectiveness across different governance structures. A more balanced discussion would

consider how different contexts shape food security strategies.

Community Supported Agriculture (CSA), Germany

1. **Overemphasis on CSA's Transformative Potential Without Addressing Its Economic Constraints**: The paragraph presents CSA as a promising alternative model but does not fully discuss its economic sustainability challenges. Many CSAs rely on volunteer labor, government subsidies, or philanthropic support to remain viable. A more balanced discussion would acknowledge these financial limitations alongside the model's benefits.
2. **Limited Discussion on CSA's Scalability and Mainstream Integration**: While the paragraph highlights CSA's community-driven benefits, it does not explore how the model could scale beyond niche markets. CSA remains a small segment of the food system, and its ability to replace or significantly complement conventional supply chains is unclear. Including discussion on hybrid models—such as CSA integrating with supermarkets or digital platforms—could provide a more comprehensive view.
3. **Framing CSA as a More Equitable Alternative Without Comparing Other Direct-to-Consumer Models**: The paragraph implicitly contrasts CSA with industrialized food systems but does not discuss other models that also promote local food systems, such as farmers' markets, cooperatives, or subscription-based farm boxes. Some of these models may offer similar benefits without requiring upfront consumer investment, which could improve accessibility.
4. **Neglect of CSA's Potential Exclusion of Low-Income Consumers**: While the text mentions that CSA members are predominantly from upper-middle-class backgrounds, it does not explore policy mechanisms that could make CSA more accessible. For example, subsidy programs, tiered pricing, or integration with food assistance initiatives could help low-income households participate.
5. **Lack of Private Sector and Policy Discussion**: The paragraph focuses on CSA as a grassroots movement but does not examine how policies or private sector engagement could support its expansion. Some governments have

incentivized CSA through procurement programs or subsidies, while businesses have explored CSA-like models within corporate food sustainability programs. These perspectives could add depth to the discussion.

Paragraph 4.2.5 - Other Considerations

1. **Limited Discussion on Economic and Market-Based Approaches to Resilience**: The paragraph emphasizes community-driven and grassroots approaches to resilience without discussing how market mechanisms, investment in infrastructure, and economic policies can also enhance access to food. Economic development has played a significant role in improving these conditions in many regions, yet this is not acknowledged.
2. **Focus on Structural Inequalities Without Addressing Policy Successes**: While the text correctly highlights systemic barriers to resilience, it does not acknowledge policy successes in areas such as healthcare access, improved labor protections, and housing initiatives that have reduced food insecurity. The paragraph could provide a more balanced discussion by including examples of effective governance strategies.
3. **Assumption That Community-Led Approaches Are Universally Effective**: The examples of solidarity kitchens and eco-villages present community-led models as inherently successful but do not discuss the challenges, scalability, or long-term sustainability of such initiatives. While these approaches can be impactful, they often depend on external funding and volunteer efforts, which may not be sustainable in the long term.
4. **Lack of Private-Sector Engagement in Solutions**: The paragraph does not explore how businesses and private enterprises contribute to improving access to essential services, such as investments in affordable housing, water management technologies, and healthcare services. Public-private partnerships have played a significant role in addressing food security and resilience, yet they are not considered.
5. **Overgeneralization of Labor Challenges Without Nuanced Discussion on Regulations**: The text mentions labor concerns for migrant workers and smallholder farmers but

does not differentiate between countries and sectors with strong labor protections and those with weak enforcement. A more balanced perspective would acknowledge both challenges and progress in labor rights across different contexts.

Paragraph 4.2.6 - Policy and Institutions

1. **Overemphasis on Government-Led Approaches Without Acknowledging Market-Based Policy Mechanisms**: The paragraph highlights government interventions but does not discuss market-based solutions such as agricultural finance, trade policies, and public-private partnerships that have played a role in enhancing food security. Countries with strong regulatory frameworks also leverage market-driven mechanisms (e.g., carbon credits, investment incentives) to strengthen resilience.
2. **Limited Recognition of Challenges in Policy Implementation**: The text presents Bangladesh's food security policy as a model but does not critically examine the challenges of implementing such policies. Many developing countries struggle with governance inefficiencies, corruption, or lack of financial resources, which can limit the effectiveness of well-intended policies. A more balanced discussion would consider these constraints.
3. **Underrepresentation of Institutional and Governance Variability**: The paragraph assumes that all governments can play a proactive role in resilience-building, without considering how institutional capacity varies across countries. In fragile states or those with weak governance, reliance on state-led interventions alone may not be effective. Alternative approaches such as decentralized governance, cooperatives, or hybrid models could be explored.
4. **Imbalanced Discussion of Agroecology as a Policy Priority**: The text emphasizes policies that support agroecological transitions but does not acknowledge policies that promote other approaches like sustainable intensification, climate-smart agriculture, or regenerative agriculture. While agroecology has merits, different regions may require diverse strategies tailored to their socio-economic and environmental conditions.

5. **Lack of Private-Sector and Civil Society Contributions in Policy Formation**: The paragraph focuses on state-led policies without discussing the role of private enterprises, industry associations, or grassroots civil society movements in shaping food security policies. Successful food system policies often emerge from multi-stakeholder dialogues rather than purely government-driven approaches.

Paragraph 4.2.7 - Integrating ETR Principles Across Areas of the Food System

1. **Strong Preference for Community-Led and Agroecological Models Without Acknowledging Other Approaches**: The paragraph presents community-driven and agroecology-based initiatives as the primary means to achieve ETR, overlooking other viable approaches such as sustainable intensification, public-private partnerships, and technological innovations that also contribute to resilient food systems.
2. **Limited Discussion on the Role of Market-Based Solutions in ETR**: The text does not sufficiently address how market-driven mechanisms, such as fair trade, digital marketplaces, and supply chain transparency initiatives, can integrate ETR principles. While local food systems and community ownership are important, markets play a key role in ensuring food security and economic stability.
3. **Potential Overgeneralization of Public Policy as a Key Enabler of ETR Without Considering Trade-Offs**: While the text calls for stronger policy frameworks to support ETR, it does not critically assess the challenges of policy implementation, including budget constraints, bureaucratic inefficiencies, and potential trade-offs between local food sovereignty and global food trade. A more balanced discussion would consider both opportunities and limitations.
4. **Lack of Discussion on the Role of Technological and Financial Innovations**: The paragraph does not explore how digital tools and innovative financing (e.g., microloans, insurance schemes) could help scale ETR principles across food systems. Technology and finance are critical enablers of resilience but are largely absent from the discussion.

	5. **Insufficient Analysis of Regional Differences in Implementing ETR**: The paragraph presents Haida Gwaii and MST as examples of ETR implementation but does not account for the regional variability in food system challenges. The feasibility of such models in diverse contexts (e.g., low-income vs. high-income countries, rural vs. urban settings) is not addressed.

The HLPE-FSN thank all the contributors for reading, commenting and providing inputs on the V0 draft of the report "Building resilient food systems".