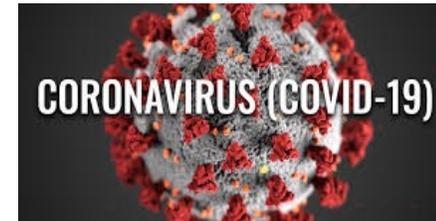


Food system stresses and shocks: ongoing concerns

Gradual or Sudden Changes in:

- Demography
- Economics
- Social & cultural norms
- Geopolitics
- Science & Technology
- Climate & Extreme weather
- Other environmental factors

Then...



What next ...?

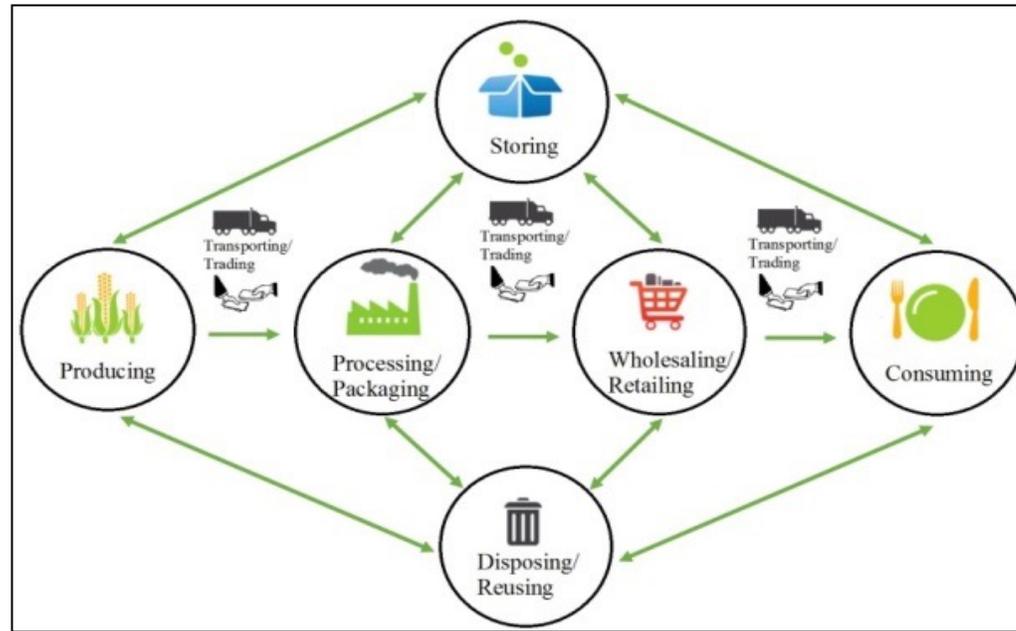
Clarifying resilience: *4 questions*

1. Of what?
2. To what?
3. From whose perspective?
4. Over what time period?

Adapted from: Helfgott, European Journal of Operational Research, 2017

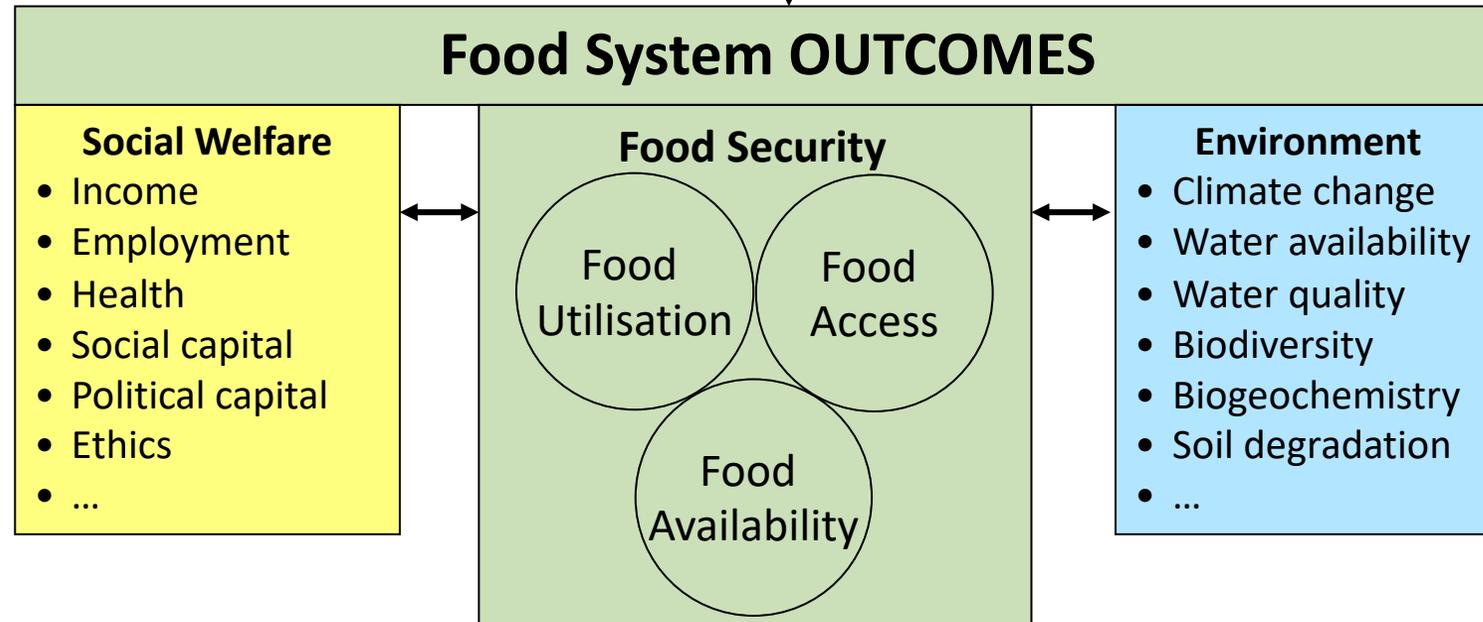
1. Of what?

Food System
Functioning
(Activities)



OR

Food
System
Function
(Outcomes)

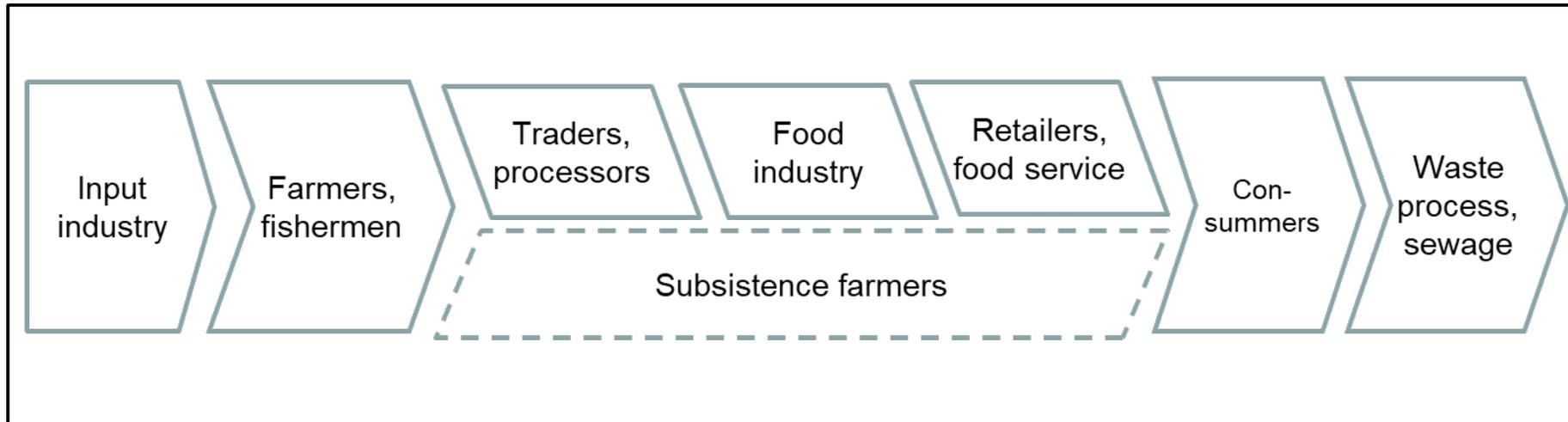


2. To what? Food system stresses and shocks

Stress <i>pressure or tension exerted on a system</i>	Shock <i>sudden surprising event affecting a system</i>
Demography	Trade wars
Social & cultural norms	Election and Referenda results
Natural resource degradation	Food scares
Climate change	Extreme weather
Urbanisation	Geophysical events
Automation	Pandemics
Science & technology	
Geopolitics	

3. From whose perspective?

Food system 'actors'



And/Or from others' perspectives?

Policy, private interests, 3rd Sector, society, ...

4. Over what time period?

- **Short-term *interruptions* (usually due to shocks) to e.g.:**
 - Fishing or agricultural activities (due to e.g. extreme weather)
 - Critical ingredient shortfall (due to e.g. disease outbreak)
 - Just in time groceries delivery (due to e.g. IT malfunction)
 - Consumer shopping patterns (due to e.g. food scares)
- **Longer-term *disruptions* (usually due to stresses) to e.g.:**
 - Natural resource degradation
 - Energy price
 - Low-carbon emission regulations
 - Change in dietary preferences

Strategies for enhancing resilience of food system outcomes

- 1. Robustness** Aim to resist disruption to ***existing*** FS outcomes
- 2. Recovery** Aim to return to ***existing*** FS outcomes after
disruption [bounce back]
- 3. Reorientation** Aim to accept ***alternative*** FS outcomes before or
after disruption [bounce forward]

Each involves **Reorganisation** of food system activities



Strategies for enhancing resilience of food system outcomes

Reorganising (adapting) food systems *activities*

Either:

Adapt food system activities to maintain or return to *status quo*
[Robustness & Recovery]

Or:

Adapt food system activities to transform food system outcomes
[Reorientation]

Both need *systemic innovations*

ENHANCING RESILIENCE 1

Reorganise the food system activities



Do the 'doing' words differently

ENHANCING RESILIENCE 2

Reorganise the food system 'environments'

Social: *education, media, household structure, social movements, health care systems, ...*

Policy: *agri-environment schemes, nutrition, labour, health and safety, ...*

Market: *preference, market structure, competition, trade, ...*

Sci & Tech: *farm inputs, food processing, food preparation, logistics and health technologies, ...*

Biophysical: *climate, soil, water, pollution, biodiversity, ...*

ENHANCING RESILIENCE 3

Reorganise our 'views' on food system outcomes

iap SCIENCE RESEARCH HEALTH
the interacademy partnership

Opportunities for future research and innovation on food and nutrition security and agriculture
The InterAcademy Partnership's global perspective



Synthesis by IAP based on four regional academy network studies

ISBN: 978-88-940784-5-9
This report can be found at www.interacademies.org



“Providing a healthy, affordable, and environmentally-friendly diet for all people will **require a radical transformation of the system.**”

This will depend on:

better farming methods,

wealthy nations consuming less meat and

countries valuing food which is nutritious rather than cheap.”

InterAcademy Partnership: 28 Nov 2018

Example Programme-level General Messages

There is no overall ‘solution’ as **strategies to enhance food system resilience need to be context specific**. Further, prescriptive approaches to a specific food system component may have negative consequences for other components.

Sustainability and resilience are not the same. A strategy aimed at ‘robustness’ or ‘recovery’ may not necessarily be sustainable, and a strategy aimed at enhancing sustainability may not be resilient. But the twin aims of **sustainability and resilience can be positively synergistic within a ‘reorientation’ strategy**.

Enhancing UK Food system resilience using combinations of the ‘3Rs’ will require a range of **interrelated actions in policy and practice**, based on evidence derived from interdisciplinary research and applied across spatial, temporal and jurisdictional scales.



Example Programme-level Messages for Specific Communities

Governmental policy formulation should **take a whole food systems approach** across government departments and agencies and spatial, temporal and jurisdictional levels. This should be based on latest food systems and foresight approaches.

Industry should **respond to the current negative relationship between food price and health and sustainability** to reorientate towards a more healthy, sustainable and resilient food system.

Finance and Investment sectors should **include financial stress testing of their portfolios to a wide range of exposures** including implications for investments from disruption in production and food supply chains.

NGOs should **play a more substantial, evidence-based role** in holding government and business to account. As many NGOs focus on a specific part of the food system, more collaboration is needed among them to take a whole systems view of resilience.

The **research establishment** (comprising researchers and funders) will have an **increasingly important role in helping to enhance the resilience of the UK food system.**



FINAL GFS-FSR CONFERENCE 2021

Friends House, London

7 DECEMBER 2021 SCIENCE DAY

- 60 participants
- Academic staff & funders
- UK and international
- Focus on
 - science
 - methodsinterdisciplinary research

8 DECEMBER STAKEHOLDER DAY

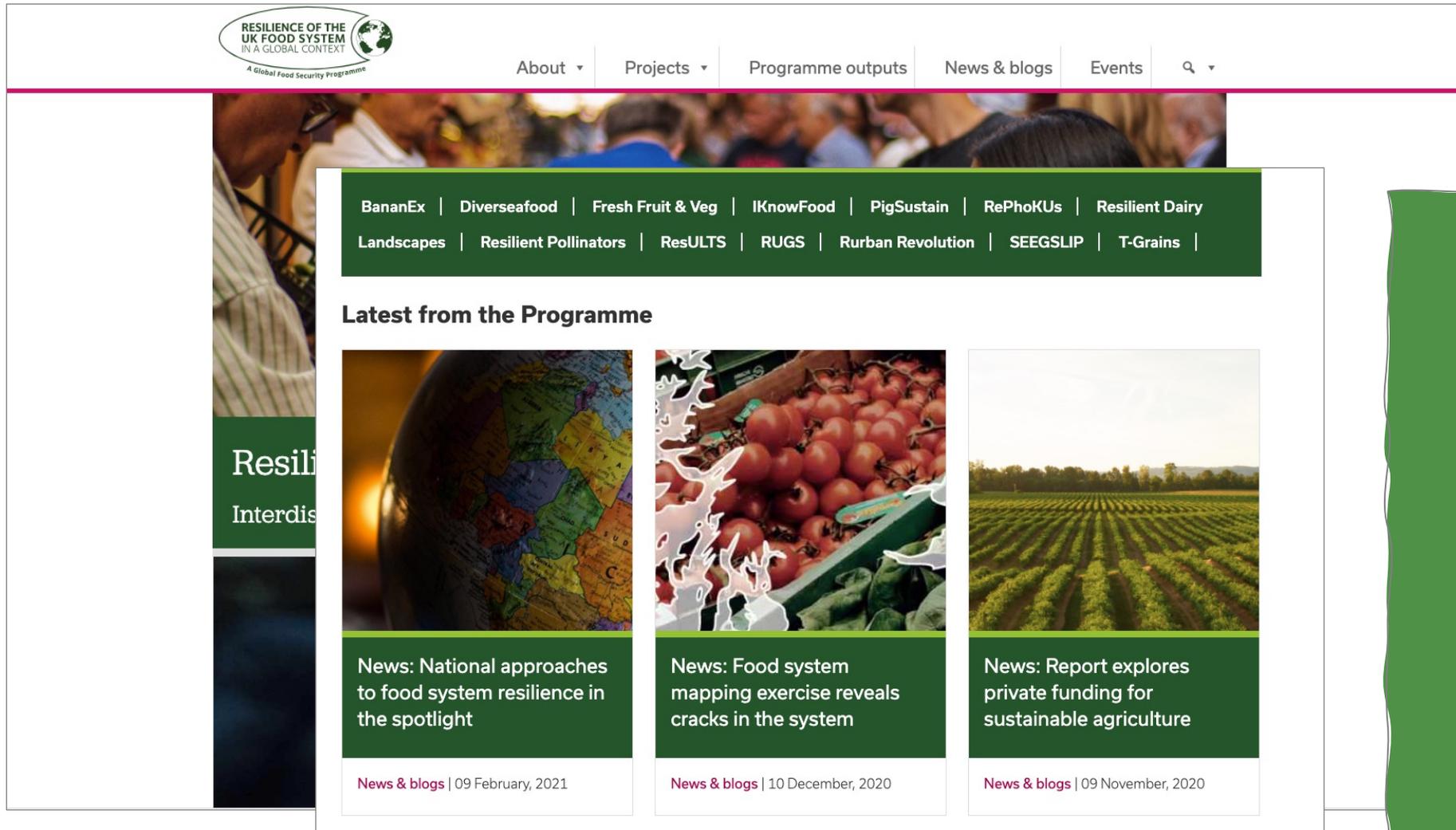
- 120 participants
- High-profile opening and closing plenaries
- Voices from different sectors
- Themes to be agreed
- 'Resilience stories' exhibition

9 DECEMBER 2021 OECD-CRP DAY

- 40 participants
- Supported by OECD-CRP
- Leading scientists from 13 other OECD countries
- Reflections on different national perspectives and policy approaches
- GFS-GFS resilience concepts critiqued



Programme website and monthly newsletter www.foodsystemresilienceuk.org



The screenshot shows the homepage of the Resilience of the UK Food System website. At the top left is the logo: "RESILIENCE OF THE UK FOOD SYSTEM IN A GLOBAL CONTEXT" with a globe icon and "A Global Food Security Programme" below it. To the right of the logo is a navigation menu with links: "About", "Projects", "Programme outputs", "News & blogs", and "Events", followed by a search icon. Below the navigation is a dark green horizontal bar containing a list of project names: "BananEx | Diverseafood | Fresh Fruit & Veg | IKnowFood | PigSustain | RePhoKUs | Resilient Dairy | Landscapes | Resilient Pollinators | ResULTS | RUGS | Rurban Revolution | SEEGSLIP | T-Grains". Below this bar is the heading "Latest from the Programme". There are three news cards, each with a featured image and a title. The first card features a globe and the title "News: National approaches to food system resilience in the spotlight", dated "09 February, 2021". The second card features a splash of milk over tomatoes and the title "News: Food system mapping exercise reveals cracks in the system", dated "10 December, 2020". The third card features a field of crops and the title "News: Report explores private funding for sustainable agriculture", dated "09 November, 2020".

RESILIENCE OF THE UK FOOD SYSTEM
IN A GLOBAL CONTEXT
A Global Food Security Programme

About ▾ Projects ▾ Programme outputs News & blogs Events 🔍 ▾

BananEx | Diverseafood | Fresh Fruit & Veg | IKnowFood | PigSustain | RePhoKUs | Resilient Dairy
Landscapes | Resilient Pollinators | ResULTS | RUGS | Rurban Revolution | SEEGSLIP | T-Grains |

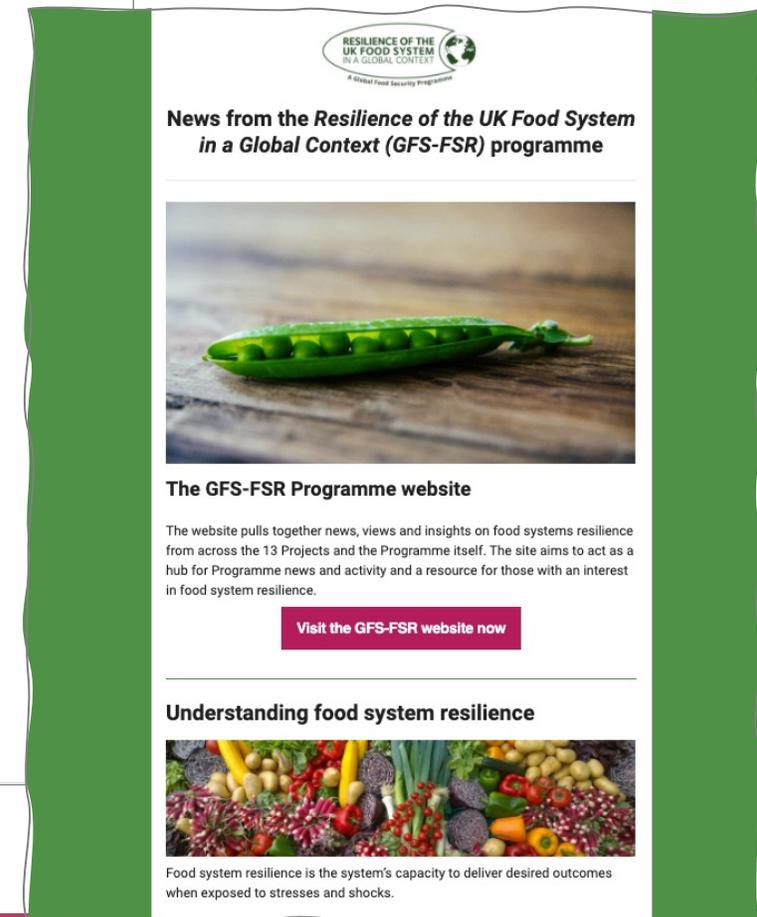
Latest from the Programme

News: National approaches to food system resilience in the spotlight
News & blogs | 09 February, 2021

News: Food system mapping exercise reveals cracks in the system
News & blogs | 10 December, 2020

News: Report explores private funding for sustainable agriculture
News & blogs | 09 November, 2020

Food system resilience news, and insights + Programme and Project outputs



The graphic features the Resilience of the UK Food System logo at the top. Below it is the heading "News from the Resilience of the UK Food System in a Global Context (GFS-FSR) programme". A central image shows a green pea pod on a wooden surface. Below the image is the heading "The GFS-FSR Programme website" and a paragraph explaining that the website aggregates news and insights from 13 projects and the programme itself, serving as a hub for news and activity. A red button with white text says "Visit the GFS-FSR website now". At the bottom, the heading "Understanding food system resilience" is followed by an image of various fresh vegetables and a definition: "Food system resilience is the system's capacity to deliver desired outcomes when exposed to stresses and shocks."

RESILIENCE OF THE UK FOOD SYSTEM
IN A GLOBAL CONTEXT
A Global Food Security Programme

News from the Resilience of the UK Food System in a Global Context (GFS-FSR) programme



The GFS-FSR Programme website

The website pulls together news, views and insights on food systems resilience from across the 13 Projects and the Programme itself. The site aims to act as a hub for Programme news and activity and a resource for those with an interest in food system resilience.

[Visit the GFS-FSR website now](#)

Understanding food system resilience



Food system resilience is the system's capacity to deliver desired outcomes when exposed to stresses and shocks.