



# Finance mechanisms supporting implementation of pesticide risk reduction approaches

CABI Regional Consultation Meeting, The Hague, 15 May 2025

Helena Rey, Programme Manager of FARM Global Child Project  
Green Growth Knowledge partnership, United Nations Environment Programme

# Agrifood systems: Key data related to the Triple Planetary Crisis



## CLIMATE ACTION

**31%** of total anthropogenic **GHG emissions** (FAO, 2021)

**Food loss and waste** generates **8-10%** of global GHG emissions (UNEP 2021)

In terms of single gases, agri-food systems generated **21% of carbon dioxide emissions**, **53% of methane emissions** and **78% of nitrous oxide emissions** globally in 2019. (FAO 2021)



## NATURE ACTION

Agriculture irrigation accounts for **70% of water use worldwide**. (OECD)

**50% of deforestation** is due to conversion of forest into **cropland**, **40%** comes from **livestock grazing**. (FAO 2021)

Restoration of **350 million hectares** of degraded land between now and 2030 could generate **USD 9 trillion in ecosystem services** and take an additional 13-26 gigatons of greenhouse gases out of the atmosphere. (UNEP, 2019)



## CHEMICALS AND POLLUTION ACTION

Global pesticides use in agriculture in 2019 represents **4.2 million tonnes**, equivalent to **0.6 kg/person**. (FAO 2021)

Each year, **200 million tonnes** of reactive nitrogen – **80 %** – is lost to the environment, leaching into soil, rivers and lakes and emitted to the air. (UNEP, 2019)

About **385 million cases of non-fatal unintentional pesticide poisonings** have been estimated to occur every year, with approximately 11,000 deaths. (UNEP 2021)

# Cost of doing nothing

## COST OF DOING NOTHING IS ENORMOUS

**US\$ 12Tn**



hidden social, economic and environmental costs/ yr due to the way food systems operate

**US\$ 130 - 850 Bn**



Collective losses of businesses in LMICs/ yr due to **malnutrition-related productivity reductions**

**US\$ ±9Tn**



**Global land degradation**  
(10 - 17% of the world economy)

**US\$ 4.3Tn**



Projected **obesity** cost by 2035

**143,000**



**Lives that could be saved in the EU** in 2030 by repurposing 100% of agricultural subsidies towards sustainable & healthy diets

## THE WAY FORWARD



**REINFORCING**  
INNOVATIVE COLLABORATIVE  
FUNDING MODEL



**REDEPLOYING**  
HEALTHY DIET SAVINGS



**REPURPOSING**  
PUBLIC & DEVELOPMENT  
EXPENDITURES

# Some critical drivers of change



## Regulatory pressure

Both KM-GBF and GFC have targets to eliminate HHPs from agriculture, forthcoming plastics treaty, and the Global Alliance on HHPs ! Mandatory CSRD ESRS in Europe.



## Consumer preference

Growing consumer pressure with concerns about food quality, diets, and health



## Growing pressure for disclosure

Frameworks and metrics on pollution that can be considered for corporate disclosures differ in the level of specificity. Stricter **supply chain due diligence laws** (especially in the EU) will require businesses to track **pollution indicators across value chains**.



## Physical risks, liabilities and costs

FAO estimate that USD 10 trillion of environmental, social and health costs are hidden in current food and farming systems.



## Access to finance

Sustainable finance taxonomies increasingly requiring screening of projects against biodiversity, circularity and pollution metrics



**The Financing Agrochemical Reduction and Management (FARM) programme works globally and across seven countries: Ecuador, India, Kenya, Lao PDR, Philippines, Uruguay and Viet Nam.**

**FARM's aim:** to reduce the use of harmful pesticides and plastics in agriculture.

**How we do it:** by shifting policies and funds toward safer agrochemical management – and a healthier future for the planet.



## FARM works to:

- promote low- and non-chemical alternatives,
- incentivize farmers to adopt sustainable practices,
- leverage finance from public resources and the financial sector,
- align policy, enforcement, and finance for sustainable management of pesticides and agricultural plastic.

## ...and to deliver global environmental benefits:



Prevent over  
**51,000**  
tons of hazardous  
pesticides from  
being released



Prevent over  
**20,000** tons  
of plastic waste from  
being released



Improve the lives of **3.8 million people**



Avoid **35,000**  
tons of carbon  
dioxide emissions



Protect over  
**3 million**  
hectares of land from  
degradation

# How can the FARM project support changing the landscape?



## Collaboration

- Working agrifood value change stakeholders, banks and financial institutions (current footprint, commitments, key challenges, etc.).
- Building on the existing networks UNEP-FI, ABIM, CABI, UNRCs
- Support the value chain actors to set roadmaps and targets on pollution



## Outlook

- Scoping studies and research on
- the current pollution baselines and guidelines,
  - tools,
  - regulations and standards aligned to regional and national contexts,
  - sustainable finance taxonomies



## Awareness

- On hazardous impacts and material risks from agrochemical and agricultural plastics pollution to the banking sector,
- financial viability of alternative technologies, financing models, non-financial risk reduction approaches.



## Policy

- Work with public sector finance institutions and government to:
- restructure subsidies to reduce pollution,
  - develop green finance models,
  - boost sustainable public procurement and consumer information.







# Navigating Pollution: A Blueprint for the Banking Sector

## The report highlights:

- Economic and social costs of pollution
- Double materiality approach: environmental and social impacts of pollution and increased risks for financial institutions
- Application of the framework to five sectors, including agriculture



# Impact of lending and investment has environmental, social and economic costs:

- Combined they represent approx. **USD 20 trillion per annum** (or **20%** of the entire global economic system)
- Estimating the costs and risks is challenging:

## Direct economic costs

- Readily quantifiable

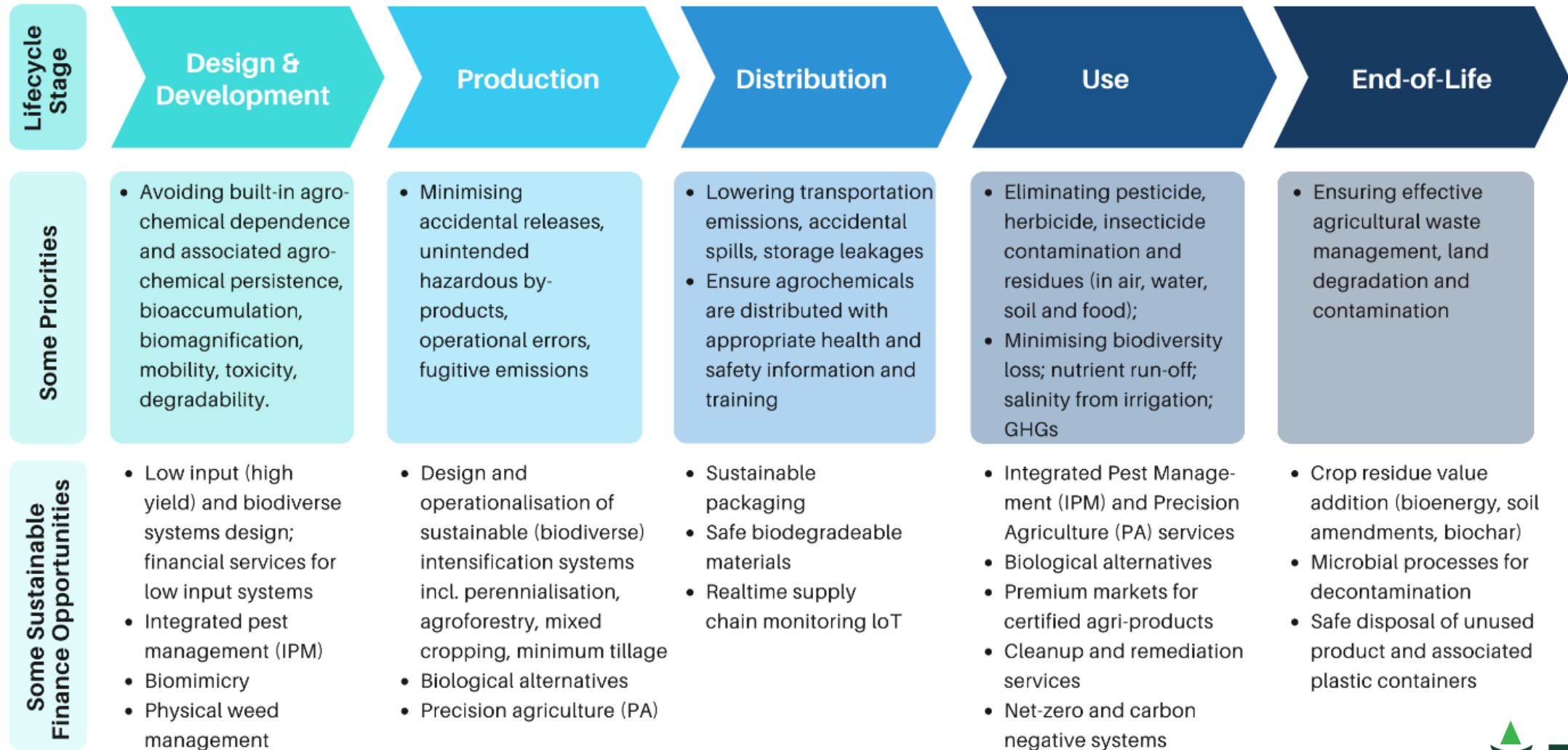
## Indirect economic costs

- Hard to quantify

1. Complexity of pollution
2. Measurement and data availability
3. Lack of markets and cost reflective prices
4. Complexity of economic systems

Media	Direct economic costs	Indirect economic costs/losses	Annual loss (USD)
<b>Air</b>	<ul style="list-style-type: none"> <li>▪ Medical expenses for pollution-related illnesses</li> <li>▪ Agricultural losses</li> <li>▪ Reduced property values</li> <li>▪ Control and cleanup measures</li> </ul>	<ul style="list-style-type: none"> <li>▪ Reduced labour productivity</li> <li>▪ Loss of tourism revenue</li> <li>▪ Yield decline from soil acidification</li> <li>▪ Damage to infrastructure</li> </ul>	8.1 trillion (World Bank 2022)
<b>Soil</b>	<ul style="list-style-type: none"> <li>▪ Reduced crop yields</li> <li>▪ Increased production costs</li> <li>▪ Loss of property value</li> <li>▪ Soil remediation costs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Health care costs</li> <li>▪ Loss of ecosystem services</li> <li>▪ Loss of biodiversity</li> <li>▪ Loss of amenity value</li> </ul>	6.3–10.6 trillion (ELD 2015)
<b>Fresh water</b>	<ul style="list-style-type: none"> <li>▪ Increased water treatment costs</li> <li>▪ Reduced agricultural productivity</li> <li>▪ Loss of fisheries revenue</li> <li>▪ Property value decline</li> </ul>	<ul style="list-style-type: none"> <li>▪ Health care costs</li> <li>▪ Industrial losses</li> <li>▪ Loss of ecosystem services</li> <li>▪ Loss of amenity value</li> </ul>	0.5 trillion (UNDP 2016)
<b>Oceans</b>	<ul style="list-style-type: none"> <li>▪ Fisheries decline</li> <li>▪ Coastal property damage</li> <li>▪ Cleanup costs</li> <li>▪ Loss of fisheries revenue</li> </ul>	<ul style="list-style-type: none"> <li>▪ Loss of ecosystem services</li> <li>▪ Increased costs for industries</li> <li>▪ Impact on food security</li> <li>▪ Amenity value decline</li> </ul>	3.7 trillion (plastics only) (WWF 2021)

# A life-cycle approach indicates upstream and downstream opportunities – Agricultural Value Chain



# Five key messages



Pollution from lending and investment by banks has **impact materiality** – environmental, social and economic impacts



Impact materiality of pollution creates risks to **financial materiality** that can affect a bank's health.



The dynamic of regulatory push and technology pull/consumer preference shapes risk and the **opportunities for eco-innovation** and beyond compliance benefits



There are significant challenges accounting for financial costs and risks – **data and uncertainty**



**A life cycle approach** indicates biggest opportunities spanning upstream (design of systems) and downstream (circular economy principles)

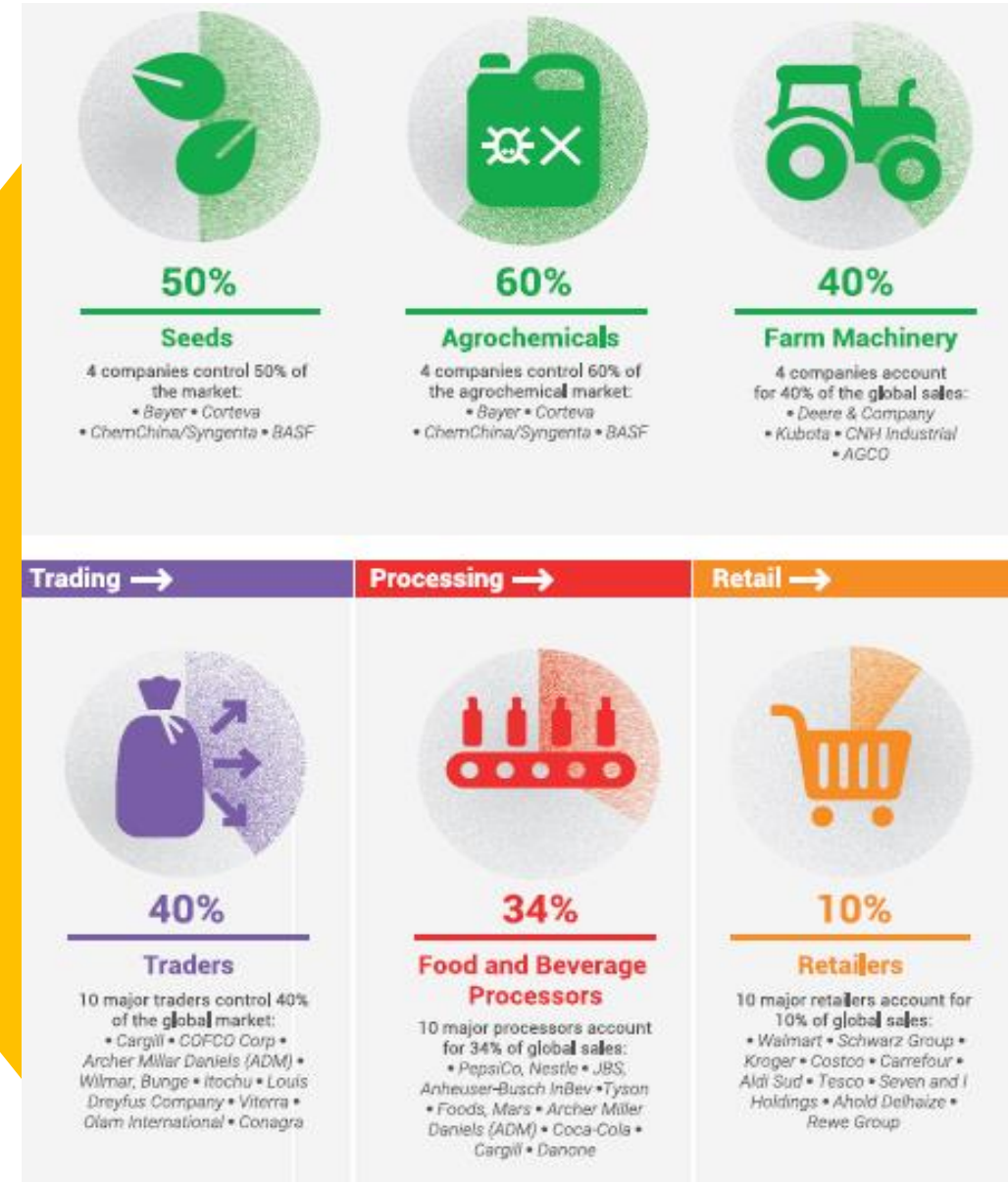


# Unlocking the sustainable transition for agribusiness








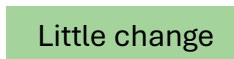
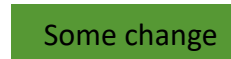
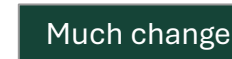
## How we can engage the entire value chain to finance agrochemicals reduction?


This report shines a spotlight on agribusinesses:

- the potential role they could play in fostering transformative change in the food system at scale and at pace
- the political and market structures, or “system lock-ins”, that are stifling this potential



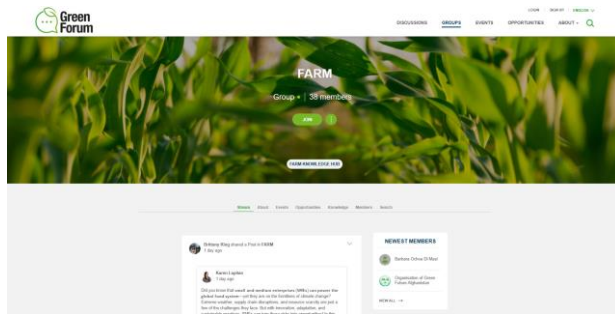
Compared to other sectors, **change comes from regulators, innovative finance or emerging companies that disrupt the market** (Innovators, Regional leaders & Technology Enablers). To reduce the use of agrochemicals and plastics, we must address the right levers for change

	 Food & agriculture	 Transportation	 Energy	
 REGULATORS	Changes through <b>subsidies, floor prices and standards</b> (e.g., organic product labels, pesticide regulations), and sector-wide road maps (ie EU farm to fork strategy, deforestation)	Change through <b>subsidies &amp; max. emissions constraints</b> (e.g., subsidies on electric cars, CO2 taxes)	Change through <b>subsidies &amp; bans</b> (e.g., Germany's nuclear power ban)	
 INVESTORS	After FSS interest has increased, both private sector investments as well as public-private investment & risk solutions. Attractiveness for financial sector remains low, but has the potential to become significant change agent	High <b>investment appetite</b> and high valuations for innovators (e.g., Tesla)	Change through <b>large investments</b> from investors and large national power companies	
 EXISTING COMPANIES	<b>Increasing interest in change</b> from multinationals (e.g., Nestlé) largely via demand signals. Increasing volatility starts to affect incumbents' businesses. Large incumbents feel pressure from innovators & changing regulation	<b>Large incumbents follow</b> the innovators	Change <b>centralized with multinationals</b> and governments on large energy generation	
 EMERGING COMPANIES	<b>Role of Innovators &amp; Regional leaders are growing</b> , accelerating the transition: alternative proteins, pest control, technological solutions etc are starting to be serious alternatives, leading market reconfiguration.	<b>Innovators/start-ups</b> (e.g., Tesla, NIO, Geely) demonstrate feasibility of tech. and create demand	Few smaller <b>tech players enable some decentralization</b>	
		 Little change	 Some change	 Much change



Be part of a community that champions safe and sustainable farming

Join the FARM community



Engage in a community space for interaction, collaboration, and learning to jointly reduce the use of harmful pesticides and agricultural plastics.

[FARM group at the Green Forum](#)

Get the latest updates



Access news, knowledge resources, and announcements on the field from the programme and beyond.

[GEF-FARM.org](#)

Be the first to know and subscribe to our newsletter



Join the FARM mailing list 

Stay up to date with FARM initiatives through newsletters and event invites.

[FARM Mailing List](#)





If you are committed to promoting **healthier and safer agriculture and food systems**, especially in the management of agrochemicals and plastics:



**Join our FARM Community of Practices:**

1. Scan the QR code above or visit the [Green Forum homepage](#).
2. Click “Sign up”.
3. Once a member, you can join the [FARM Group](#) by going to the group page and selecting “Join”.
4. **Start sharing your work, connect with like-minded partners, and contribute to peer-learning activities in the group.**



# THANKS!

Helena.rey@un.org

UNEP GGKP

**unep.org**



Supported by



Led by



In partnership with



Executed by

