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Youth engagement in climate-induced loss and damage in agrifood systems

Lessons and locally grounded
evidence from 10 case studies

**World Food Forum Youth Initiative
Food and Agriculture Organization of the United Nations (FAO)
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A collection of case studies to inform policy, financing and youth-inclusive action on loss and damage in agrifood systems.

Table of Contents

Acknowledgements	3
Executive Summary	4
1. Introduction	5
2. Methodology	7
3. Cross-cutting findings	9
4. Policy Priorities	10
Case Study 1: Bangladesh	11
Case Study 2: Brazil	14
Case Study 3: France	17
Case Study 4: Ghana	20
Case Study 5: Indonesia	23
Case Study 6: Italy	26
Case Study 7: Mauritana	29
Case Study 8: Mexico	32
Case Study 9: Nigeria	35
Case Study 10: Tunisia	38
5. Conclusion	41
References	42

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The publication also recognizes the communities, farmers, young people, local organizations and other stakeholders whose experiences and actions underpin the cases presented. Their knowledge, leadership and continued efforts to strengthen resilience in the face of climate change provide valuable insights for policy, financing and locally led action.

Executive Summary

Climate-induced loss and damage is increasingly affecting agrifood systems through both extreme weather events and slow-onset processes, with impacts extending beyond agricultural production to livelihoods, food security, ecosystems, health and well-being, cultural heritage and social cohesion. While mitigation, adaptation and resilience-building remain essential, residual risks and impacts that cannot be fully avoided or addressed through adaptation require greater attention within climate and agrifood policy and financing.

In April 2026, the World Food Forum (WFF) Youth Initiative, hosted by the Food and Agriculture Organization of the United Nations (FAO), launched a Global Call for Case Studies on Youth Engagement in Climate-Induced Loss and Damage in Agrifood Systems. The call received 57 submissions, from which 10 case studies were selected through an assessment by the WFF Youth Policy Board (YPB), followed by technical review by FAO's Office of Climate Change, Biodiversity and Environment (OCB). The cases span Africa, Asia, Europe, Latin America and the Near East and North Africa, and reflect diverse agrifood systems and climate contexts.

The case studies provide evidence of how climate impacts translate into economic and non-economic losses and damages. They show that impacts are shaped not only by the severity of climate hazards, but also by access to land, water, finance, infrastructure, knowledge, markets and services. Women, youth, small-scale producers and other groups facing structural constraints can experience differentiated and compounded impacts.

At the same time, the cases highlight young people as actors in local responses and evidence generation. Youth are contributing through research, climate-resilient agriculture, agroecology, ecosystem restoration, early warning, peacebuilding, community gardens, entrepreneurship, emergency response and policy advocacy. Their contributions extend beyond participation to include knowledge generation, implementation, community leadership and engagement with decision-making processes.

Four priorities emerge from the case studies. First, economic and non-economic loss and damage need to be better recognized and documented. Second, finance and technical support need to reach youth-led initiatives and young farmers in forms that are accessible, flexible and appropriate to their scale. Third, young people should have meaningful roles across assessment, decision-making, implementation and monitoring. Fourth, locally led resilience, early action, recovery and livelihood approaches need stronger institutional support and connection to national and international policy and financing processes.

Taken together, the cases suggest that addressing loss and damage in agrifood systems requires both stronger systems and stronger local agency. Young people are not only among those experiencing the consequences of climate change; they are also generating evidence, organizing responses and contributing to pathways for more resilient, inclusive and sustainable agrifood systems.

1. Introduction

Loss and damage in agrifood systems

Climate-induced loss and damage refers to the adverse impacts of climate change that occur despite mitigation and adaptation efforts, including situations in which adaptation limits have been reached or residual risks remain. It is a relatively new area of study that cuts across the climate, disaster risk reduction, humanitarian and development agendas.

Agrifood systems are among the sectors most directly, deeply exposed and affected by climate change. Disasters have cost agriculture an estimated USD 3.26 trillion between 1991 and 2023 – of which 2.9 trillion can be attributed to climate-related hazards. These losses have also been rising throughout this time period, going from annual values around USD 64 billion in the 1990s to USD 144 billion from 2010 onwards (FAO, 2025). These estimates are likely to underestimate the full extent of impacts. Events that are too small or diffuse do not enter databases; indirect and ecosystem effects could multiply the adverse effects; the economic effect of small-onset processes is barely recorded; and non-economic losses fall outside of the current scope entirely. Therefore, crops, livestock, fisheries, forestry, food value chains, natural resources and rural livelihoods all sit at the forefront of impacts that can be direct and indirect, compounding and cascading, and recoverable or irreversible.

The two broad hazard types through which climate change affects agrifood systems are extreme weather events such as floods, droughts, cyclones, heatwaves and wildfires and slow-onset events such as sea-level and temperature rise, desertification, salinization, biodiversity loss and changing precipitation patterns (FAO, 2023; IPCC, 2022). The key difference between the two is that whilst extreme weather events are bounded episodes, with a beginning and an end, slow-onset events are gradual changes over time.

Economic and non-economic losses and damages

The adverse effects of climate change on agrifood systems materialize economic and non-economic losses and damages. The economic dimension tends to be categorized in two ways. Economic damages are the total or partial destruction of physical assets and infrastructure due to climate-related hazards. Examples include damage to farm machinery, irrigation systems, fishing vessels and processing facilities. On the other hand, economic losses refer to changes in economic flows associated with climate-related hazards. Some examples are reduced crop and livestock production, lower incomes, increased input and recovery costs and disruption to markets (GFDRR, European Union and UNDP, 2013).

Non-economic losses refer to impacts that are not commonly traded in markets, have no market price and are difficult to quantify in monetary terms, but can have substantial social, cultural, or environmental impact (UNFCCC, 2013). The United Nations Framework Convention on Climate Change (UNFCCC) groups non-economic losses based on where the loss falls: Individuals (life, health, human mobility); Society (territory, cultural heritage, indigenous knowledge, societal/cultural identity); and Environment (biodiversity, ecosystem services) (UNFCCC, 2024). This is, however, neither a definitive nor exhaustive taxonomy. Economic losses attract most of the focus thanks to the development of damage and loss methodologies such as the Post-Disaster Needs Assessment (PDNA) and FAO's Damage and Loss methodology. Non-economic losses, however, are under-assessed.

Economic and non-economic dimensions are closely connected. Economic shocks can trigger social, cultural or well-being impacts. For example, the loss of farm income may force households to sell productive assets, withdraw children from school or reduce care and support for dependent family members. These reactions reduce adaptive capacity and solidify intergenerational vulnerabilities. Conversely, non-economic losses can also undermine livelihoods and future economic opportunities; for example, how the loss of social cohesion undermines collective action for risk management, prevention and recovery (van Schie et al., 2024).

Therefore, the cases in this publication span a continuum of actions to address losses and damages in a variety of contexts: from efforts to avert and minimize future loss and damage through risk reduction and resilience-building, to actions that address losses and damages that have already occurred, whether recoverable or irreversible.

Why youth perspectives matters

Young people can experience significant and differentiated impacts from climate-induced loss and damage, particularly where livelihoods and employment depend on climate-sensitive agrifood systems. At the same time, young people contribute to community resilience through farming, entrepreneurship, research, knowledge sharing, innovation, advocacy and community action. Youth perspectives can also help surface impacts that are less visible in conventional economic assessments, including changes in cultural identity, traditional knowledge, social relationships and well-being. Recognizing young people as both affected populations and contributors to solutions is therefore important for inclusive climate action (FAO, 2024).

Objectives of the initiative

The Global Call for Case Studies aimed to identify, document and showcase youth-led and youth-engaged initiatives addressing climate-induced loss and damage in agrifood systems. It sought to generate practical evidence, amplify youth perspectives, support knowledge exchange and inform policy and financing discussions. This call aimed to:

- Document youth engagement across diverse agrifood systems and contexts.
- Highlight locally grounded practices that reduce vulnerability and strengthen resilience.
- Identify challenges, opportunities and enabling conditions for youth engagement.
- Generate evidence to inform policy and climate finance discussions.
- Promote knowledge sharing and collaboration among youth, communities, policymakers, researchers and development partners.

2. Methodology

Global Call and submission process

The call was launched in April 2026 and accepted submissions during April–May 2026 through a standardized online template. It invited youth-led organizations, youth networks, researchers, practitioners, farmers, Indigenous youth, community leaders and other stakeholders. Contributors were asked to describe the climate and socio-economic context, loss and damage impacts, youth engagement, results, challenges, lessons learned, financing and recommendations.

Eligibility and assessment

A total of 57 submissions were received. Eligibility screening considered the submission deadline, use of the official template, the 1 500-word limit and submission in an accepted UN language. Eligible submissions were then assessed by the WFF Youth Policy Board (YPB) using a standardized 100-point framework covering relevance to the call (20 points), quality of analysis and evidence (20), youth engagement and inclusion (20), innovation and impact (15), replicability and policy relevance (15), and writing quality and completeness (10).

The YPB assessment was followed by a technical review by FAO's Office of Climate Change, Biodiversity and Environment (OCB). The final selection considered the assessment scores and the thematic and geographic contribution of cases to the collection. Ten cases were selected for inclusion.

Scope and considerations

A total of 57 submissions were received. Eligibility screening considered the submission deadline, use of the official template, the 1 500-word limit and submission in an accepted UN language. Eligible submissions were then assessed by the WFF Youth Policy Board (YPB) using a standardized 100-point framework covering relevance to the call (20 points), quality of analysis and evidence (20), youth engagement and inclusion (20), innovation and impact (15), replicability and policy relevance (15), and writing quality and completeness (10).

- **Diverse experiences and contexts:** The case studies reflect different geographic, social, economic and agrifood-system contexts. This diversity is a strength of the study, while also meaning that experiences and approaches should be understood within their specific local circumstances.
- **Illustrative evidence:** The 10 selected cases provide examples of youth engagement, locally led action and emerging responses to climate-induced loss and damage. They are not intended to represent all youth experiences or initiatives globally.
- **Different forms of evidence:** The cases draw on a range of qualitative and quantitative information provided by contributors. The depth and type of evidence therefore vary across cases, reflecting the different contexts and capacities of the organizations and individuals documenting their experiences.
- **A point-in-time contribution:** The cases capture experiences and initiatives at the time of submission in 2026. They provide a foundation for continued learning, documentation and future research as climate impacts and responses evolve.

3. Cross-cutting findings

3.1 Loss and damage is multidimensional

Across the cases, climate hazards affect production and incomes but also food security, health and well-being, cultural practices, traditional knowledge, ecosystems and social cohesion. This reinforces the need for assessments that capture both economic and non-economic dimensions. h, communities, policymakers, researchers and development partners.

3.2 Climate impacts interact with structural vulnerabilities

Access to land, finance, water, extension, infrastructure, climate information and markets shapes how households and communities experience and respond to climate shocks. Gender, age, livelihood dependence and other social and economic factors can compound vulnerability.

3.3 Climate change is placing traditional agrifood livelihoods under increasing pressure

Several cases describe declining productivity, rising production costs and reduced livelihood security. In some settings, young people face increased pressure to migrate or to move away from traditional agricultural livelihoods, with implications for agrifood systems and intergenerational knowledge.

3.4 Youth are actors in local response

Young people are not only affected by climate impacts. They are leading or supporting research, climate-resilient farming, agroecology, ecosystem restoration, early warning, monitoring, peacebuilding, community gardens, circular economy initiatives, training, advocacy and emergency response.

3.5 Locally led approaches matter

The cases show the value of solutions adapted to local ecological, social, and economic conditions. Examples include integrated crop-livestock systems in Ghana; climate-resilience champions in Uganda; youth-led monitoring and dialogue in Nigeria; agroecological Living Labs in Bangladesh; regenerative agroforestry in Brazil; and circular livestock-feed production in Tunisia.

3.6 Finance and institutional support remain critical

Many youth-led and grassroots initiatives operate with limited and short-term resources. Access to appropriate finance, equipment, technical support, markets and institutional recognition is a recurring constraint to sustaining and scaling locally led action.

4. Policy Priorities

4.1 Recognize and measure economic and non-economic loss and damage

National and local assessment systems should capture impacts on livelihoods and production alongside cultural heritage, traditional knowledge, ecosystems, social cohesion and well-being.

4.2 Make finance more accessible to locally led and youth-led action

Financing mechanisms should be proportionate to the scale and capacity of grassroots organizations and youth-led initiatives, with flexible, accessible and longer-term instruments where appropriate.

4.3 Institutionalize meaningful youth participation

Young people should have meaningful roles in decision-making, implementation, monitoring and knowledge generation across climate, agrifood and loss-and-damage processes, rather than being engaged only as beneficiaries or participants.

4.4 Strengthen gender-responsive approaches

Policies and programmes should address unequal access to land, water, finance, services and decision-making and recognize unpaid care and other differentiated burdens.

4.5 Invest in locally led resilience, early action and recovery

Support should reach community organizations, farmer groups, youth networks and local institutions. Climate information, early warning and early action can help reduce avoidable losses, while recovery should support longer-term resilience.

4.6 Support resilient livelihoods and value chains

Livelihood diversification and context-appropriate approaches such as agroecology, regenerative agriculture and circular economy models can reduce exposure to climate and market pressures while creating opportunities for young people.

4.7 Strengthen evidence and coordination

Local evidence should be better connected to national and global policy and financing processes. Governments, FAO, UN Agencies, research institutions, financial actors and community organizations can strengthen coordination, knowledge exchange and technical support.

Case Study 1: Bangladesh

Enhancing social resilience through agroecological intervention in climate vulnerable coastal regions.

Location	Satkhira District, coastal Bangladesh
Organization	SAJIDA Foundation
Agrifood systems	Agriculture and aquaculture
Climate pressures	Cyclones, sea-level rise, salinity intrusion, tidal flooding, dry-season water scarcity and heat stress

Context and loss and damage

Satkhira, in coastal Bangladesh near the Sundarbans, faces both slow-onset and extreme climate pressures. Rising salinity associated with sea-level rise and changing freshwater flows, together with recurrent cyclones, tidal flooding and prolonged dry-season water scarcity, is affecting agricultural production and access to freshwater. Bangladesh's national climate assessments similarly identify salinity intrusion, sea-level rise, floods and water scarcity as major risks to coastal agriculture and livelihoods (Ministry of Environment, Forest and Climate Change, 2022).

The case reports economic losses and damages, including declining soil fertility, crop failures, reduced agricultural productivity, livestock and fish losses, higher input costs, and disrupted markets. Salinity has made traditional crops such as paddy increasingly difficult to cultivate in some areas, while water scarcity limits irrigation and contaminated water affects agriculture and household consumption. Poor transport, perishability, and limited processing also contribute to value-chain losses.

Some impacts are difficult to reverse. The case identifies loss of arable land, soil degradation, freshwater depletion and vegetation loss as longer-term impacts, alongside reduced crop diversity. Out-migration, particularly among young men, is also identified as a social loss associated with shrinking livelihood opportunities and the erosion of traditional farming knowledge.

The case also documents non-economic losses, including reduced dietary diversity, psychological stress, weakened community cohesion and the loss of cultural connections to land and farming practices.

Case Study 1: Bangladesh

Who experiences loss and damage, and why?

Climate-related impacts are not experienced equally. Women face increased unpaid care and agricultural labour burdens and often have more limited access to resources and decision-making. Young people face shrinking livelihood opportunities, which can contribute to migration and disengagement from agriculture. Small-scale producers are particularly exposed because of limited assets and access to finance.

These experiences illustrate that loss and damage in coastal agrifood systems extends beyond production losses to include livelihoods, food and nutrition, knowledge systems, social relationships and connections to land and natural resources.

Youth engagement and action

The ENGAGE initiative, led by SAJIDA Foundation, uses a community-led Agroecological Living Lab approach. A year-long ethnographic study brought together researchers, communities, government institutions and other stakeholders to co-design responses. Smallholder collectives have since adopted salt-tolerant crops, polyculture and composting, while canal restoration, solar irrigation and groundwater-recharge pilots aim to strengthen water resilience. Local processing facilities and forward-market linkages are also being developed to reduce post-harvest losses and improve agricultural incomes.

Youth participate in research and co-design processes, receive training in nature-based solutions and biodiversity monitoring, and contribute to environmental data collection and local decision-making. Young farmers also participate in producer collectives, while youth-led enterprises support agro-processing, value addition and market linkages.

The initiative has reportedly restored 30 acres of degraded land previously used for commercial shrimp farming. The case also reports improvements in water management, ecosystem stewardship, soil health and biodiversity, alongside new processing and market opportunities that have enabled some community members to remain engaged in agriculture rather than migrating for seasonal work.

Finance and enabling conditions

The experience demonstrates that addressing climate-related losses and damages requires more than farm-level technologies. Key constraints include limited access to finance, infrastructure gaps, water-system and transport constraints, and resistance to changing gender roles.

Case Study 1: Bangladesh

Initial financing has been provided through philanthropic and private-sector sources, while further scaling is expected to require blended finance, including grants, concessional loans and risk-sharing mechanisms. Small-scale producers face barriers to formal finance because of perceived risk and limited collateral.

For loss and damage financing, the case points to the importance of flexible, long-term and locally accessible funding that can support ecosystem restoration, livelihood diversification, smallholder investment and locally led action. It also highlights the need for assessment and financing mechanisms that better recognize non-economic dimensions of loss and damage.

Lessons for policy and practice

- Slow-onset climate pressures can generate cumulative and potentially difficult-to-reverse losses. Salinity, soil degradation, freshwater depletion and loss of productive land can progressively undermine agrifood livelihoods;
- Loss and Damage extends beyond production and income. Impacts on traditional knowledge, dietary diversity, psychological well-being, social cohesion and connections to land should also be considered;
- Locally led approaches can connect adaptation, restoration and recovery. The Living Lab model brings communities, researchers, public institutions and other stakeholders together to develop and refine responses;
- Youth can contribute as co-creators, knowledge holders and entrepreneurs. Their involvement in research, environmental monitoring, farming, processing and market development provides multiple entry points for meaningful participation;
- Ecosystem restoration and livelihood diversification can complement efforts to reduce future losses, while also addressing some impacts that have already occurred;
- Finance needs to reflect the realities of smallholders and locally led initiatives, including limited collateral, perceived risk and longer investment periods;
- Loss and Damage planning should capture both economic and non-economic impacts. Community-based evidence can help make impacts such as knowledge loss, migration and weakened social cohesion more visible in planning and financing.

Case Study 2: Brazil

When the Land Gets Tired: Youth-Led Agroecological Adaptation in the Brazilian Amazon

Location	Cotijuba Island, Pará, Brazil
Contributor	Lua Braga Batista, Brazilian Center for Climate Justice
Agrifood systems	Agroecology and regenerative agroforestry
Climate pressures	Irregular rainfall, prolonged drought, excessive precipitation, soil degradation and erosion

Context and loss and damage

Cotijuba Island, in the municipality of Belém, faces increasing pressures on its agricultural and ecological systems. The case reports irregular rainfall, prolonged drought followed by excessive precipitation, alongside soil degradation intensified by the growing use of conventional agricultural inputs. Loss of green areas has also contributed to erosion near cliffs. A ravine collapse reportedly directly affected 50 families and indirectly affected four surrounding communities, with road closures disrupting access to work, schools, shops and other services.

These pressures have contributed to economic losses and damages affecting farming households, including reduced agricultural productivity and declining livelihood security. Traditional crops such as vegetables, herbs, bananas, cassava, jambu and açaí are important to local livelihoods and food supply. The case also links environmental degradation and climate pressures to disruptions in mobility and access to essential services.

Some impacts are difficult to reverse. The case identifies declining soil quality, loss of traditional crops, erosion, and damage to infrastructure and mobility as important dimensions of loss and damage. It also highlights the weakening of ancestral agroecological knowledge and young people's connection to the land, with implications for the continuation of family farming across generations.

Case Study 2: Brazil

Who experiences loss and damage, and why?

Impacts are differentiated across groups. Women face increased unpaid care responsibilities and associated emotional, physical and economic burdens when food security and livelihoods are disrupted. Young people face declining agricultural opportunities and limited access to adaptation policies, technologies and technical support, which can contribute to rural outmigration and weaken intergenerational knowledge transfer. Afro-Indigenous and traditional communities face additional pressures on ancestral knowledge systems and agroecological practices.

The case therefore illustrates that loss and damage can extend beyond agricultural production and income to include care burdens, cultural continuity, knowledge systems, mobility and community connections to land.

Youth engagement and action

The Semeadeiras Network, established in 2025, emerged from the 2024 Semeadeiras: Training with Black Women in Agroecology and Food Security programme led by CBJC and partners. The network promotes intergenerational learning among women farmers and members of the local circular economy and seeks to strengthen community-based responses on Cotijuba Island.

Its activities include establishing community gardens, building mutual-care networks among women, developing a seed bank for native Amazonian flora, propagating medicinal plants, strengthening women's leadership and advocating for public policies and access to rights. The network also builds on agroecological and regenerative agroforestry practices that combine soil care, species diversity, vegetation cover and locally rooted knowledge.

Youth leadership is reflected in the active involvement of young women farmers and community organizers who coordinate activities, mobilize community members, engage with public institutions and facilitate advocacy efforts.

The network currently includes approximately 20 women who participate in community-garden activities, mutual-care networks, native seed conservation, medicinal plant propagation and policy advocacy.

The initiative builds on a previous training programme that trained 27 women and produced a book, manifesto, social maps and documentary intended to preserve and communicate community knowledge.

These actions can help minimize future agricultural and livelihood losses through the application of climate-resilient practices while also addressing non-economic dimensions of loss and damage. This includes supporting the preservation of traditional knowledge, strengthening intergenerational connections and increasing recognition of women's care and knowledge work.

Case Study 2: Brazil

Finance and enabling conditions

The initiative faces significant constraints, including economic hardship, gender inequality, violence, limited public policy support, territorial pressure, the invisibility of ancestral knowledge, emotional exhaustion and gaps in climate policy. The case identifies the lack of institutional and financial support for locally led adaptation as a major constraint.

The Semeadeiras Network reports having approximately USD 5 000 to operate throughout the year, with additional resources needed to strengthen its activities and engage more young people. The initiative aims to expand the lessons and materials from the Semeadeiras programme to other islands and areas of Pará.

The experience points to the importance of direct, sustained and accessible financing for community-led initiatives, including support for agroforestry, community gardens, food security, local production and distribution, knowledge preservation and community organization. It also highlights the need to recognize young women not simply as beneficiaries or participants, but as producers of knowledge and leaders of locally grounded responses.

Lessons for policy and practice

- Climate pressures interacting with environmental degradation and land-use change can generate interconnected losses across agricultural productivity, livelihoods, infrastructure, mobility and food security;
- Loss and Damage can also involve less visible impacts, including erosion of ancestral knowledge, weakened intergenerational relationships, cultural identity, and increased unpaid care burdens;
- Youth, particularly young women from traditional and peripheral territories, can contribute as farmers, knowledge holders, community organizers and policy advocates when they have access to training, collective support and decision-making spaces;
- Community-based initiatives benefit from combining practical action with evidence generation, advocacy and engagement with public institutions;
- Finance should be direct, sustained and accessible to locally led initiatives, with funding approaches that recognize the scale and nature of community work rather than relying only on short-term project support;
- Climate and agricultural policies should better recognize young women and traditional communities as knowledge producers and co-creators of solutions, while addressing barriers to credit, technical assistance, sustainable technologies and meaningful participation in decision-making.

Case Study 3: France

Youth-led community support for wildfire-affected livestock farmers

Location	Aude, France
Contributor	Not provided in submission
Agrifood systems	Mixed crop and livestock systems
Climate pressures	Prolonged drought, heatwaves and recurrent wildfires

Context and loss and damage

In summer 2025, five major wildfires affected the Corbières area of Aude in southern France. The submission reports that the fires, exacerbated by heatwaves and prolonged drought, burned more than 20 000 hectares in total (Tissandié, 2025).

The fires caused extensive damage to agrifood systems and rural livelihoods, including the destruction of farm fences, livestock shelters, agricultural and processing buildings, homes, cultivated land and production inputs. Livestock were killed, while roads and access routes to agricultural land and natural resources were disrupted. Ash and degraded air quality also affected rural communities.

The fires caused significant economic losses and damages, including the destruction of productive assets, agricultural buildings, livestock shelters, homes and stocks of agricultural inputs. Some losses were immediate and difficult to reverse, particularly where processing facilities, livestock shelters and productive infrastructure were destroyed.

The case also highlights significant non-economic losses. Rural populations experienced psychological and social distress following the destruction of workplaces and homes, while vegetation and biodiversity were damaged. Small-scale producers, winegrowers, market gardeners and livestock farmers lost productive assets, animals and, in some cases, places that formed part of their identity and connection to the territory.

Case Study 3: France

Who experiences loss and damage, and why?

The impacts extended across communities and producers in the Corbières region. Small-scale producers and livestock farmers were particularly affected where fires destroyed productive assets, animals, cultivated land and access to resources. The loss of homes and workplaces also created social and psychological impacts that extended beyond direct economic losses.

The case illustrates how wildfire-related loss and damage can affect not only agricultural production and physical assets, but also livelihoods, biodiversity, social well-being and people's connections to their rural territories.

Youth engagement and action

Following the fires, Corbières Solidaires Grands Feux coordinated an emergency community response involving youth, partner organizations and nearly 300 volunteers. Immediate actions included delivering water and animal feed to livestock farmers, visiting affected farms to identify needs, mobilizing volunteers, collecting financial and material donations and establishing a support base at the Beauregard agricultural community hub. Animals were also temporarily accommodated at the site.

The coordination subsequently organized 69 participatory work sites across 31 locations over 16 weeks. Volunteers helped repair fences and livestock shelters, clear rubble and waste, remove trees threatening buildings, secure production areas and homes, and repair agricultural buildings. Testimony and support sessions were also organized to help affected farmers address the physical and psychological consequences of the fires.

Recovery efforts included establishing a mobile sawmill to rebuild farm structures and equipment, as well as planting cover crops to support soil regeneration, water-cycle recovery and microbial activity. These actions aimed to reduce post-fire erosion and soil degradation and lower conditions that could contribute to future wildfire risk.

Youth participated as volunteers and as members of partner organizations within the coordination, contributing to collective decision-making on priorities and actions. The initiative also brought together organizations including Tiers-lieu Paysan Beauregard, Solidarité Paysan, Confédération Paysanne, Chemin Cueillant and Biocivam.

Beyond immediate recovery, the initiative has advocated for more extensive livestock systems and diversified agricultural models as part of longer-term landscape management.

Case Study 3: France

The proposal links extensive livestock farming, pastoralism, market gardening and agroecological farming with improved management of open landscapes, reduced land abandonment and soil erosion, and greater local food resilience.

The case reports that homes, agricultural buildings and processing workshops were reconstructed, cultivated land was cleared and prepared for production, and olive trees were irrigated to support renewed production.

Finance and enabling conditions

The emergency response was implemented under significant time, human-resource and financial constraints. The fires occurred during extreme summer heat, while limited availability of volunteers and the need to organize assistance rapidly created additional operational challenges. The submission also reports that public assistance was limited relative to the scale of needs.

The initiative reports having raised more than EUR 40 000 through a citizen solidarity fundraising campaign but considers this insufficient relative to the scale of losses and the costs of longer-term recovery.

For longer-term resilience, the case identifies a need for financial and institutional support to establish and maintain extensive livestock systems, support farmers transitioning toward more locally adapted agricultural models and maintain a permanent solidarity network that can respond to future climate-related disasters.

The experience points to the value of flexible financing that can reach community-based organizations during emergencies while also supporting longer-term recovery, landscape restoration and locally adapted agrifood systems.

Lessons for policy and practice

- Wildfires can generate rapid loss and damage across agricultural production, productive assets, livestock, homes, biodiversity and rural livelihoods.
- Community-based solidarity networks can complement formal emergency systems by rapidly mobilizing people, resources and practical assistance.
- Recovery efforts should address both productive assets and well-being, including psychosocial support alongside the restoration of farms and infrastructure.
- Young people can contribute through volunteering, collective organization, evidence generation and participation in local recovery decisions.
- Post-disaster recovery can strengthen longer-term resilience through soil restoration, vegetation recovery and more diversified agricultural systems.
- Sustained finance and institutional support are needed for community response networks, locally adapted agriculture and landscape management.
- Climate and agricultural policies should better connect wildfire risk, land management, agrifood systems, rural livelihoods and local food resilience.

Case Study 4: Ghana

Bearing the Cost of Climate Loss and Damage: A Youth-Led Case from Kumbungu, Ghana

Location	Kumbungu, Ghana
Contributor	Theophilus Delali Dumenyo
Agrifood systems	Smallholder crop and livestock systems
Climate pressures	Irregular rainfall, longer dry spells, flooding, drying seasonal streams and soil degradation

Context and loss and damage

Many residents of Kumbungu depend on smallholder agriculture, making climate variability directly relevant to food production, household incomes and livelihoods. The area experiences irregular rainfall, longer dry spells, periodic flooding, drying seasonal streams and soil degradation. These pressures affect crop yields, pasture and fodder availability, and the reliability of rain-fed production. The Bontanga irrigation system also faces siltation and canal erosion, limiting dry-season production (Braimah, 2014; Sibale et al., 2024).

The author's 2025 field survey of 380 farmers provides locally grounded evidence of economic losses and damages. Traditional cropping households recorded an average annual net loss of GHS 983.05, compared with a small positive mean annual net income of GHS 96.81 among integrated crop-livestock households. Technical efficiency was also higher among integrated-system farmers (0.471 compared with 0.399). These findings suggest that diversified production systems may help some households reduce exposure to climate- and market-related losses, although the case does not establish a direct causal relationship.

Losses extend beyond farm income. Repeated poor seasons were associated with declining soil fertility, erosion of vegetative cover and weakened household resilience. The case also documents non-economic losses, including stress, reduced confidence in farming, increased unpaid care and agricultural labour burdens, and reduced decision-making power among households with limited access to productive resources.

Case Study 4: Ghana

Who experiences loss and damage, and why?

Smallholder farmers experience losses of crops, income and livelihoods, particularly women farmers. The case highlights how climate-related losses are shaped by underlying inequalities. Only 26.1 percent of female farmers reported access to land, compared with 72.3 percent of male farmers. Women in integrated farming systems also carried a disproportionate share of livestock-related labour.

Limited access to land, credit, extension services and productive assets can restrict the ability of smallholders, particularly women and young people, to invest in measures that reduce future losses and damages.

The case illustrates that the same climate pressure can result in different levels and types of loss and damage depending on households' access to resources, productive assets and support systems.

Youth engagement and action

The case was developed through youth-led field research involving a survey of 380 farmers, qualitative interviews, focus group discussions, field observations and engagement with extension officers and farmer groups.

The research documented locally used responses including integrated crop-livestock production, manure composting, crop-residue recycling, diversified crop and livestock production, small livestock keeping and women-led Village Savings and Loans Associations.

These measures address different dimensions of climate risk. Diversification and integrated production can help avert or minimize future losses by reducing dependence on a single crop or production season, while savings mechanisms can help households manage income shortfalls during difficult periods.

The research generated localized evidence on how climate-related losses and damages affect different farming systems and social groups. Findings suggest that diversified crop-livestock systems may contribute to improved household resilience and lower exposure to climate-related risks.

The study also helped identify practical barriers to adoption, including limited access to livestock, infrastructure, technical knowledge and financial resources.

Case Study 4: Ghana

Finance and enabling conditions

The experience shows that access to appropriate practices is closely linked to access to finance, knowledge and productive resources. Key barriers include limited credit, crop-focused extension services, high initial investment costs, labour requirements and unequal access to land and livestock ownership.

Available finance was largely informal and small-scale, including household savings, local loans and Village Savings and Loans Associations. Formal credit remained constrained by collateral requirements and financing arrangements that did not align with smallholder farming cycles.

The case highlights the importance of accessible, flexible and locally appropriate financial mechanisms, alongside continued investment in adaptation and resilience measures that can reduce future losses and damages.

Lessons for policy and practice

- Loss and damage is shaped by both climate pressures and underlying vulnerability. Access to land, finance, extension services and productive assets influences households' ability to avoid or minimize losses.
- Diversification can reduce exposure to climate shocks but does not eliminate loss and damage.
- Economic and non-economic impacts should be considered together, including stress, increased care and labour burdens, declining confidence in farming and degradation of productive and ecological resources.
- Young people can contribute to both evidence generation and implementation. Youth-led research can help document locally experienced impacts and identify responses relevant to communities.
- Community-based financial mechanisms can provide an important buffer but should complement broader access to public and formal climate finance.
- Finance and extension services should reflect smallholder realities, including seasonal cash flows, collateral constraints, start-up costs and the integrated nature of crop-livestock livelihoods.
- Local evidence can strengthen loss-and-damage assessment and help capture impacts that may not be visible in aggregate datasets.

Case Study 5: Indonesia

Gendered Climate-Induced Loss and Damage in Agrifood System Among Rural Women Farmers

Location	East Nusa Tenggara (NTT), Indonesia
Contributor	Ika Setya Yuni Astuti
Agrifood systems	Small-scale rain-fed agriculture and household agrifood systems
Climate pressures	Prolonged drought, erratic rainfall, rising temperatures, seasonal uncertainty and water scarcity

Context and loss and damage

East Nusa Tenggara faces recurring drought, rainfall variability, rising temperatures, seasonal uncertainty and water scarcity, creating pressures across rain-fed agriculture and household food systems.

The case reports economic losses and damages including declining crop productivity, delayed planting seasons, reduced water access, unstable household incomes, rising food expenditure and livelihood insecurity. Water scarcity also increases production costs and limits farmers' ability to maintain agricultural activities.

Some impacts are longer term and difficult to reverse. The case identifies soil degradation, erosion of traditional agricultural knowledge and declining interest among rural youth in agricultural livelihoods.

The case also documents non-economic losses, including increased unpaid care responsibilities, psychosocial stress associated with food insecurity, reduced well-being and erosion of traditional food knowledge and community coping practices.

Who experiences loss and damage, and why?

Climate-related impacts are experienced differently across population groups. Rural women often carry primary responsibilities for household food security, water collection, caregiving and informal agricultural labour while having limited access to land, finance and decision-making processes.

Case Study 5: Indonesia

Young people face increasing livelihood insecurity and migration pressures, while small-scale producers often have limited capacity to absorb recurring climate shocks.

These experiences illustrate that loss and damage extends beyond crop and income losses to include unpaid care work, psychological well-being, food knowledge, community coping practices and the ability of younger generations to remain engaged in agriculture.

Youth engagement and action

The initiative uses community-based documentation, youth engagement and gender-responsive awareness efforts to document climate-induced loss and damage experienced by rural women farmers.

Activities include documenting women's experiences of drought and food insecurity, facilitating discussions on gender-responsive climate resilience and supporting knowledge exchange on local coping strategies, food security and community resilience. Youth play a central role in documentation, knowledge-sharing activities, advocacy discussions and awareness-raising.

The case reports increased awareness of the gendered dimensions of climate-induced loss and damage, greater discussion of inclusive climate resilience and youth participation, and increased recognition of the importance of integrating non-economic losses into policy and community-based responses.

Finance and enabling conditions

The initiative faces limited financial resources, restricted access to localized climate and agrifood data, inadequate institutional support for youth-led initiatives and limited visibility of non-economic loss and damage in policy discussions.

Financing for community-based and youth-led climate resilience initiatives remains limited and is often project based. Costs include community engagement, coordination, transportation, capacity development and knowledge-sharing activities.

The case highlights the importance of flexible and accessible financing for grassroots, youth-led and women-focused initiatives. Financing mechanisms should also better recognize non-economic losses and simplify access procedures for local organizations.

Case Study 5: Indonesia

Lessons for policy and practice

- Climate-induced loss and damage is experienced differently across communities and population groups.
- Women's unpaid care responsibilities, psychosocial stress and loss of traditional food knowledge are important dimensions of loss and damage that often remain invisible in conventional assessments.
- Youth-led documentation can help bring locally grounded experiences into climate and agrifood policy discussions.
- Gender-responsive approaches should be integrated into climate, agrifood and loss-and-damage planning.
- Community-based knowledge sharing can strengthen locally grounded responses while helping preserve traditional food knowledge and coping practices.
- Finance should be more accessible to grassroots, women-led and youth-led initiatives, with simplified procedures and recognition of both economic and non-economic dimensions of loss and damage.

Case Study 6: Italy

Advancing agroecology to strengthen climate resilience in Sicily

Location	Sicily, Italy
Contributors	Doriana Filomeno and Emma Guastone
Agrifood systems	Agriculture and livestock
Climate pressures	Drought, heatwaves and water scarcity

Context and loss and damage

Sicily's agrifood systems are increasingly exposed to drought, heatwaves and water scarcity. The submission reports impacts on agricultural productivity, particularly in fruit and vegetable production, alongside higher irrigation, energy and crop-protection costs.

These pressures contribute to economic losses and damages through lower farm incomes, reduced productivity and increased production costs. Low-income households may also face higher food prices and greater exposure to supply disruptions.

Persistent water scarcity and drought threaten soil health, biodiversity and freshwater resources. Small-scale farmers and livestock producers with limited access to irrigation, finance and technology are particularly exposed.

Who experiences loss and damage, and why?

Farmers and livestock producers are among the groups most affected by climate-related loss and damage in Sicily. Recurrent drought and water scarcity reduce agricultural productivity while increasing production costs.

Small-scale producers are particularly vulnerable because they often have limited access to irrigation infrastructure, technologies and financial resources. Rural communities may also experience declining livelihood opportunities and disruption to traditional farming systems, while consumers may face higher food prices.

Case Study 6: Italy

Youth engagement and action

The WFF Italy Chapter supports youth engagement in policy dialogue and knowledge exchange around agroecological transition.

The case focuses on implementation of Sicily's Regional Law 21/2021 and related measures promoting agroecology, biodiversity conservation and technological innovation.

The Sicilian Agroecology Coordination brings together farmers, researchers, technicians, regional authorities and civil society organizations to promote agroecological practices, preserve local and traditional species and strengthen locally adapted production systems.

Youth engagement includes participation in agroecology meetings and training activities, as well as collaboration with an agronomic high school to introduce agroecological practices through experimental farms.

The initiative has strengthened dialogue among stakeholders and expanded opportunities for youth engagement in agroecological training and policy discussions.

The approaches promoted through the initiative aim to improve resource efficiency, strengthen biodiversity conservation and support the longer-term resilience of agrifood systems exposed to climate pressures.

Finance and enabling conditions

Implementation of the regional law requires continued coordination among policymakers, technicians, agronomists, researchers and farmers.

Priority investments include irrigation systems, water-storage infrastructure and continued professional training in agroecology.

Administrative and bureaucratic requirements remain a challenge for organizing training activities and sustaining stakeholder engagement.

Case Study 6: Italy

Lessons for policy and practice

- Agroecological transition can contribute to averting and minimizing future loss and damage by improving resource efficiency, diversifying production and strengthening resilience.
- Effective implementation requires collaboration across public institutions, producers, researchers and civil society.
- Youth engagement can help build the next generation of agroecological farmers, technicians and agrifood-systems leaders.
- Regional policy frameworks can create enabling conditions for climate-resilient agrifood systems, but their effectiveness depends on implementation, financing and institutional coordination.
- Mediterranean knowledge exchange can support learning among regions facing similar climate and water-related challenges.

Case Study 7: Mauritania

Youth-led Urban Agriculture Initiative Addressing Climate-Induced Loss and Damage in Riyadh, Nouakchott south

Location	Riyadh, south of Nouakchott
Organization	Youth Association for Social Development (JDS)
Agrifood systems	Urban community agriculture; other systems not specified in submission
Climate pressures	Drought, heatwaves and water scarcity

Context and loss and damage

The Riyadh commune is experiencing increasing climate-related pressures, including rising temperatures, irregular rainfall, prolonged dry periods and water scarcity. These pressures interact with rapid urbanization, environmental degradation and growing pressure on natural resources.

Local food production is constrained by poor soil quality, limited irrigation infrastructure and restricted access to water. Dependence on imported food also exposes households to food-price increases and supply instability.

The case reports economic losses and damages including reduced agricultural productivity, increased household food expenditure, unemployment among youth and women and limited opportunities for income generation.

The case also identifies non-economic losses including declining food security, reduced community resilience, loss of local agricultural knowledge and increasing social vulnerability.

Who experiences loss and damage, and why?

Climate-related pressures are not experienced equally. Women and young people face particular socioeconomic constraints, including limited access to land, finance and livelihood opportunities. Low-income households are especially vulnerable because higher food expenditures and reduced access to affordable local food can compound existing economic pressures.

The case illustrates that loss and damage in urban agrifood systems extends beyond agricultural production to include food security, employment, household economic security, local knowledge and community resilience.

Case Study 7: Mauritania

Youth engagement and action

The Youth Association for Social Development (JDS) is implementing a community-based urban agriculture initiative that converts unused urban spaces into community gardens managed by youth and women.

Activities include identifying and preparing vacant land, establishing community gardens, training participants in climate-smart agriculture, composting and water-efficient irrigation, distributing seeds and tools, and organizing environmental awareness activities.

Youth play a central role in planning and implementation. Young members coordinate activities, organize training sessions, mobilize participants and contribute to decision-making through regular consultations.

The initiative has established three community gardens and trained approximately 50 beneficiaries, primarily women and unemployed youth. The submission reports improved access to fresh food, supplementary income opportunities and practical agricultural and entrepreneurial skills among participants.

The initiative also contributes to knowledge-sharing, environmental awareness and stronger community participation.

Finance and enabling conditions

The initiative faces several constraints, including limited funding, water scarcity, insufficient technical equipment and limited access to long-term financing.

Securing land for urban agriculture and accessing climate finance remain significant challenges. Administrative requirements, limited institutional support and technical barriers further constrain expansion.

The case highlights the importance of simplified and accessible financing for youth- and community-led initiatives, alongside technical assistance, secure access to land and water, appropriate equipment and longer-term institutional support.

Lessons for policy and practice

- Urban agriculture can provide locally grounded responses to climate and food-security pressures where access to land, water and conventional agricultural infrastructure is limited.
- Community gardens can help minimize food and livelihood pressures by improving access to fresh food, generating supplementary income and strengthening local skills.
- Young people and women can contribute meaningfully as organizers, producers, trainers and decision-makers when initiatives create space for leadership and participation.
- Low-cost approaches such as composting, water-efficient irrigation and community-based production can strengthen resilience when supported by technical assistance.
- Secure access to land, water, equipment and longer-term finance is essential for sustaining community-based urban agriculture.
- Finance mechanisms should be more accessible to grassroots organizations and youth-led initiatives through simplified procedures and targeted technical support.

Case Study 8: Mexico

Cultivating Resilience at Chinampa Maestra in Xochimilco, Mexico City

Location	Xochimilco Chinampas Zone, Mexico City, Mexico
Contributor	Jonathan Fletes
Agrifood systems	Chinampa agriculture and agroecology
Climate pressures	Extreme rainfall, heatwaves, atypical storms, water pollution, land subsidence and salinization

Context and loss and damage

The chinampa agricultural system in Xochimilco faces increasing pressures from extreme rainfall, heatwaves, atypical storms, water pollution, land subsidence and salinization, alongside the longer-term effects of urbanization and environmental degradation. These pressures affect agricultural production, soil and water quality, biodiversity and the continuity of traditional farming practices.

The case reports economic losses and damages including crop losses, soil degradation and water pollution, which reduce the productivity and viability of chinampa agriculture. Environmental degradation also affects the ecological conditions that support local food production and biodiversity.

Some impacts extend beyond immediate production losses. The case identifies non-economic losses including the erosion of ancestral agricultural knowledge, declining interest among young people in farming, migration and a weakening of local agricultural identity.

Who experiences loss and damage, and why?

Climate and environmental pressures affect farming communities through both material and non-economic impacts. Small-scale chinampa producers face pressure on productive land, water resources and agricultural productivity, while younger generations face fewer incentives to remain engaged in traditional farming.

The loss of ancestral knowledge and declining youth participation can weaken the intergenerational transmission of agricultural practices and local cultural identity. These experiences illustrate that loss and damage in urban and peri-urban agrifood systems extend beyond crop and income losses to include biodiversity, traditional knowledge, cultural identity and community connections to agricultural landscapes.

Case Study 8: Mexico

Youth engagement and action

Chinampa Maestra operates as an agroecological demonstration plot, farming school and cultural centre, creating opportunities for practical learning, knowledge exchange and community engagement.

Training activities cover biofilters, soil restoration, composting, vermiculture, native seeds, resilient polycultures and low-technology water management approaches. The initiative combines agricultural training with cultural workshops and collective community activities, helping connect ecological restoration with the preservation of local agricultural knowledge and identity.

Youth engagement provides an important intergenerational dimension. Training and collective activities create opportunities for young people to learn traditional and agroecological practices, participate in community action and strengthen their connection to local food systems.

The initiative has helped create spaces for intergenerational learning and knowledge exchange while strengthening awareness of agroecological practices and local environmental stewardship.

By combining practical agroecological training, cultural activities and community participation, the initiative seeks to address both environmental and non-economic dimensions of loss and damage affecting the chinampa system.

Finance and enabling conditions

The continued operation of community training, demonstration and cultural activities requires sustained institutional and financial support. Key enabling conditions include coordination between agricultural, social, women's and youth institutions, as well as recognition of communities as implementation partners.

The case points to the importance of participatory financing that can support grassroots initiatives over longer periods rather than relying only on short-term project funding. Continued investment in training, community infrastructure, monitoring and knowledge-sharing can help sustain local capacity to respond to climate and environmental pressures.

Stronger coordination between relevant institutions can also help connect grassroots initiatives with public programmes, technical assistance and financing opportunities.

Lessons for policy and practice

- Climate and environmental pressures in urban and peri-urban agrifood systems can generate both production losses and longer-term cultural and ecological impacts.
- Protecting agricultural knowledge and strengthening intergenerational learning can help address non-economic dimensions of loss and damage while supporting the continuity of traditional food systems.
- Young people can play an important role in strengthening knowledge transfer and maintaining connections to local agrifood systems.
- Grassroots initiatives benefit from sustained institutional support, cross-sectoral coordination and participatory financing that recognizes communities as implementation partners.
- Loss-and-damage planning should consider environmental degradation, biodiversity, traditional knowledge and cultural identity alongside measurable agricultural and economic impacts.

Case Study 9: Nigeria

Youth-Led Peacebuilding as a Response to Climate-Induced Loss and Damage in Gulani, Yobe State, Nigeria

Location	Gulani, Yobe State, Nigeria
Organization	Climate Awareness Advocacy and Resilience Initiative (CAARI)
Agrifood systems	Rain-fed subsistence farming and extensive pastoralism
Climate pressures	Rainfall variability, wetland drying, desert encroachment and water scarcity interacting with conflict dynamics

Context and loss and damage

Gulani lies in the Sahel-Savanna transition zone, where livelihoods depend heavily on rain-fed crop production and pastoralism. CAARI's youth field monitors reported a 22 percent reduction in rainfall days compared with the 20-year average, alongside a delayed onset of rains in 2024. Drying grazing areas and ponds and reported desert encroachment have increased pressure on land and water resources, interacting with existing conflict and resource competition.

The resulting impacts affected multiple parts of the agrifood system. The case estimates that 1 200 hectares of millet and sorghum were destroyed or burned, representing approximately 3 600 tonnes of potential grain production. More than 450 livestock were reportedly killed, while the Gulani Monday Market remained closed for six weeks, disrupting agricultural and livestock trade and contributing to a reported 40 percent increase in local grain prices.

The case also documents significant non-economic losses. More than 140 households were reportedly displaced from their farmsteads. The case further identifies weakened social cohesion, reduced willingness to share water resources and the erosion of traditional knowledge associated with displacement and conflict.

Who experiences loss and damage, and why?

The case shows how loss and damage is shaped by the interaction of climate pressures, conflict and competition over natural resources.

Farmers and pastoralists experience crop losses, livestock mortality and disruptions to agricultural production and trade. Livestock may be lost because of conflict-related injuries, restricted movement and water scarcity. Market closures further undermine livelihoods by limiting opportunities to sell agricultural products.

Case Study 9: Nigeria

The case also identifies several forms of non-economic loss, including loss of life, erosion of intergenerational knowledge, weakened social cohesion and loss of place associated with displacement. The deaths of elderly farmers may result in the loss of knowledge related to drought-resistant local seed varieties and traditional farming practices.

Youth engagement and action

CAARI mobilizes groups of young farmers and pastoralists to jointly harvest abandoned farms and establish youth-led monitoring systems for conflict risks and crop conditions.

Using GPS-enabled smartphones, young people map crop-maturity zones to identify areas where livestock should be diverted during critical pre-harvest periods. They also monitor conflict hotspots and identify locations where pastoral routes intersect with farmland without clearly defined corridors.

The initiative creates dialogue platforms that bring together young farmers and pastoralists to discuss shared challenges, build trust and strengthen relationships across communities.

Young people also participate in reclaiming abandoned farmland through "peace guarantee" patrols that enable displaced farmers to recover part of their harvest while setting aside fodder for livestock.

The initiative has helped reduce tensions between farmers and pastoralists while facilitating dialogue around shared resource challenges. According to the case, youth-led monitoring and peacebuilding activities have supported efforts to reduce economic losses, strengthen local cooperation and improve conditions for recovery and rehabilitation.

Finance and enabling conditions

The initiative faces significant financial and institutional constraints that limit its ability to scale and sustain youth-led peacebuilding and climate-resilience efforts. Limited access to direct funding, shortages of digital tools, inadequate technical capacity and restricted institutional support constrain community-based responses to climate-induced loss and damage. Administrative barriers and limited transparency within existing climate and resilience financing programmes also reduce access to funding for local organizations and youth-led initiatives.

Case Study 9: Nigeria

Financing currently relies largely on local donations and small-scale community contributions. Key costs include dialogue sessions, conflict mediation activities, geospatial monitoring, transportation, volunteer training and digital tools such as smartphones, tablets and data services. Limited financial resources constrain the ability to maintain monitoring systems, strengthen local capacities and expand activities to additional conflict-affected communities.

Lessons for policy and practice

- Climate-induced loss and damage can exacerbate competition over land, water and other natural resources, increasing the risk of conflict and displacement.
- Youth-led peacebuilding can contribute to preventing and reducing loss and damage by facilitating dialogue, strengthening social cohesion and supporting locally led recovery.
- Community-based monitoring and locally generated data can help identify emerging climate and conflict risks, support early action and provide evidence of losses that are often overlooked.
- Non-economic losses, including weakened social cohesion, loss of traditional knowledge, displacement and erosion of community relationships, can have lasting impacts on agrifood systems and resilience.
- Dialogue and cooperation between farmers and pastoralists can help reduce tensions, protect livelihoods and support mutually beneficial solutions.
- Financing mechanisms should better recognize peacebuilding, conflict prevention and early-warning systems as important components of addressing climate-induced loss and damage while ensuring that resources are accessible to grassroots and youth-led organizations.

Case Study 10: Tunisia

Youth-led innovation for climate resilience in oasis agrifood systems

Location	Kébili region (Nefzaoua oasis), southern Tunisia
Contributor	Mohamed Hamrouni, founder of Hamsat Al-Waha
Agrifood systems	Date-palm cultivation and livestock production
Climate pressures	Extreme heat, prolonged drought, desertification, water scarcity and soil degradation

Context and loss and damage

The Kébili oasis in southern Tunisia is exposed to extreme heat, prolonged drought, increasing aridity, water scarcity and soil degradation. Slow-onset pressures, including groundwater depletion, salinization and declining soil fertility, further constrain the productivity and resilience of the oasis agrifood system.

These pressures affect date-palm cultivation, livestock production and local value chains. Heat and water scarcity constrain date production, while livestock producers face high feed costs and dependence on imported inputs. Soil degradation and the underuse of agricultural by-products also result in lost economic value, while rising costs and limited market opportunities place additional pressure on rural livelihoods, particularly for young people.

The case identifies economic losses and damages including rising production costs, declining agricultural profitability, reduced productivity and limited market opportunities.

Some impacts are more difficult to reverse. The case also identifies non-economic losses including ecosystem degradation, water depletion, erosion of traditional oasis knowledge, pressure on cultural heritage and migration that may weaken community continuity and social cohesion.

Case Study 10: Tunisia

Who experiences loss and damage, and why?

Rural youth, small-scale producers and livestock-dependent households are particularly exposed to declining income opportunities and rising production costs.

Women involved in agriculture and household food security may also be affected by increasing resource scarcity. More broadly, environmental degradation and limited livelihood opportunities can contribute to migration pressures and weaken community resilience. These experiences illustrate that loss and damage in oasis agrifood systems extend beyond production losses to include impacts on natural resources, livelihoods, cultural practices and the continuity of rural communities.

Youth engagement and action

Mohamed Hamrouni developed Hamsat Al-Waha as a circular-economy enterprise that transforms date-palm residues and other agricultural by-products from the Kébili oasis into locally produced animal feed.

The initiative began as a small-scale self-supply solution and evolved into a local enterprise serving neighbouring farmers. The enterprise collects and processes agricultural residues to produce feed adapted to local livestock systems. By valorizing date-palm by-products, it reduces agricultural waste and dependence on imported feed while creating added value within the local agrifood system. The model is also being adapted for different livestock sectors, including sheep, cattle and poultry production.

Youth leadership is central to the initiative. The enterprise was established and is managed by a young entrepreneur who identified a local production challenge and developed a market-based response supported through technical coaching and capacity-development opportunities.

The initiative contributes to reducing livestock production costs, creating additional value from previously underused agricultural residues and strengthening local value chains.

The case reports that the enterprise has expanded from a self-supply activity to production of approximately five tonnes of animal feed per month, with plans to reach 30 tonnes within three years. According to the contributor, the initiative has received two awards and was selected for FAO's Agri-Accelerator programme in both 2023 and 2025.

Case Study 10: Tunisia

The approach also supports the continuity of oasis-based livelihoods and encourages youth engagement in local agrifood systems. The enterprise has reportedly expanded from a small self-supply activity to production of around 5 tonnes of animal feed per month, with an ambition to reach 30 tonnes within three years. The contributor reports that the initiative has received two awards and was selected for the Agri-Accelerator programme in both 2023 and 2025.

Finance and enabling conditions

The initiative continues to face constraints related to extreme heat, water scarcity and limited natural resources, as well as challenges associated with investment, market access and business expansion.

FAO's Agri-Accelerator programme provided individualized technical coaching, access to value-chain information, guidance on responsible agricultural investment, financial support for equipment and improved visibility.

The broader Agri-Accelerator programme has supported 57 youth-led agricultural MSMEs across three cohorts. Programme-level results (88 percent of supported enterprises remained active and 64 percent implemented planned expansions, while 40 percent mobilized additional financing) indicate that many supported enterprises remained operational, expanded activities and mobilized additional financing. These results relate to the overall programme portfolio rather than Hamsat Al-Waha specifically.

For future growth, the case highlights the importance of tailored financial products, investment-readiness support, continued technical coaching and improved market access for youth-led agribusinesses.

Lessons for policy and practice

- Youth entrepreneurship can provide practical responses to climate pressures when young people have access to technical coaching, finance, market opportunities and investment-readiness support.
- Oasis resilience depends not only on individual enterprises but also on the sustainable management of water, soils and other natural resources.
- Locally produced inputs can reduce dependence on external markets while creating additional value and livelihood opportunities within climate-vulnerable rural economies.

5. Conclusion

The case studies in this collection illustrate how climate-induced loss and damage is experienced across diverse agrifood systems and contexts. From wildfire-affected livestock farms and conflict-affected farming and pastoral communities to drought-stressed agricultural systems, coastal livelihoods, oasis economies and traditional food systems, the impacts extend far beyond immediate production losses. They include declining livelihoods, damage to productive assets, food insecurity, ecosystem degradation, displacement, erosion of knowledge and cultural practices, psychosocial impacts and weakened social cohesion.

The cases also reinforce that climate hazards do not affect all people equally. Existing inequalities in access to land, water, finance, infrastructure, services, information and decision-making shape the extent to which households and communities can anticipate, absorb and recover from climate impacts. Gender, age, livelihood dependence and other social and economic factors can influence both the scale and nature of loss and damage experienced.

At the same time, the collection highlights the agency of young people. Across the cases, youth contribute as farmers, entrepreneurs, researchers, organizers, knowledge holders, peacebuilders, volunteers and advocates. Their contributions are particularly valuable when connected to local knowledge, community priorities and decision-making processes. The evidence presented suggests that meaningful youth engagement extends beyond consultation or participation. Young people are generating evidence, shaping local priorities, implementing responses, contributing to monitoring efforts and engaging in policy processes.

The cases further demonstrate the importance of connecting locally led action with the systems and resources needed to sustain it. Community initiatives often face persistent constraints in accessing finance, technical assistance, infrastructure, markets and institutional support. Addressing loss and damage therefore requires policy and financing approaches that support both immediate response and longer-term recovery and resilience, while recognizing the economic and non-economic dimensions of climate impacts.

This collection contributes to that effort by bringing locally grounded youth perspectives into wider discussions on climate-induced loss and damage in agrifood systems. It is not intended as a comprehensive assessment of youth experiences globally, but rather as a practical evidence base for continued learning, dialogue and action. Strengthening collaboration among young people, communities, governments, FAO and other partners can help ensure that youth perspectives inform not only discussions on climate impacts, but also the policies, investments and institutional arrangements needed to support more resilient, inclusive and sustainable agrifood systems.

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