



WORLD
FOOD
FORUM

GLOBAL
YOUTH
ACTION

YOUNG SCIENTISTS GROUP

Biodiversity and healthy diets: Challenges and opportunities for youth engagement



Biodiversity and healthy diets: Challenges and opportunities for youth engagement

World Food Forum

Rome, 2025

Required citation:

WFF. 2025. *Biodiversity and healthy diets: Challenges and opportunities for youth engagement*. Rome

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations (FAO) and the World Food Forum (WFF) concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The mention of specific companies or products of manufacturers, whether or not these have been patented, does not imply that these have been endorsed or recommended by FAO or the WFF in preference to others of a similar nature that are not mentioned.



Some rights reserved. This work is made available under the Creative Commons Attribution-Non Commercial-ShareAlike 3.0 IGO licence (CC BY-NC-SA 3.0 IGO; <https://creativecommons.org/licenses/by-nc-sa/3.0/igo/legalcode>).

Under the terms of this licence, this work may be copied, redistributed and adapted for non-commercial purposes, provided that the work is appropriately cited. In any use of this work, there should be no suggestion that FAO and the WFF endorse any specific organization, products or services. The use of the FAO or the WFF logo are not permitted. If the work is adapted, then it must be licensed under the same or equivalent Creative Commons license. If a translation of this work is created, it must include the following disclaimer along with the required citation: "This translation was not created by the Food and Agriculture Organization of the United Nations (FAO) or the World Food Forum (WFF). FAO and the WFF are not responsible for the content or accuracy of this translation. The original English edition shall be the authoritative edition.

Disputes arising under the licence that cannot be settled amicably will be resolved by mediation and arbitration as described in Article 8 of the licence except as otherwise provided herein. The applicable mediation rules will be the mediation rules of the World Intellectual Property Organization <http://www.wipo.int/amc/en/mediation/rules> and any arbitration will be in accordance with the Arbitration Rules of the United Nations Commission on International Trade Law (UNCITRAL).

Third-party materials. Users wishing to reuse material from this work that is attributed to a third party, such as tables, figures or images, are responsible for determining whether permission is needed for that reuse and for obtaining permission from the copyright holder. The risk of claims resulting from infringement of any third-party-owned component in the work rests solely with the user.

Sales, rights and licensing. WFF information products are available on the WFF website (www.world-food-forum.org). Queries regarding rights and licensing should be submitted to: coordinator@world-food-forum.org.

Cover images

©FAO/Luis Tato

About the World Food Forum

The World Food Forum (WFF) was launched in 2021 as an independent network of partners hosted by the Food and Agriculture Organization of the United Nations. It serves as the premier global platform to actively shape agrifood systems for a better food future, accelerating the achievement of the Sustainable Development Goals. Through youth action, science and innovation, and investment, the WFF forges new paths of action and multi-sector partnerships for agrifood impact at the local, regional and global levels to achieve a more sustainable, resilient, inclusive and hunger-free food future for all.

Within this framework, the WFF Global Youth Action Initiative was established to harness the passion and power of youth, and to incite positive action for agrifood systems through youth empowerment. It acts as a catalytic movement and driver of youth engagement in food governance and serves as a knowledge center and innovation lab, fostering and inspiring youth-led solutions. It thus actively contributes to the implementation of the UN Youth 2030 Strategy and enhances youth engagement in the follow-up to the 2021 UN Food Systems Summit.

About the Young Scientists Group and its report

The mission of the World Food Forum (WFF) Young Scientists Group (YSG) is to provide scientific evidence and technical knowledge to the various initiatives of the WFF, and to develop research on topics of concern to youth related to agrifood systems transformation. Established in 2022, the YSG has completed two cohorts. Its third cohort began activities in May 2025 as part of a two-year tenure (2025–2027).

The composition of the YSG reflects FAO's four betters: better production, better nutrition, a better environment and a better life, leaving no one behind. The diversity of YSG members' expertise mirrors the diversity of challenges and solutions associated with achieving agrifood systems transformations and the Sustainable Development Goals.

Contents

Acknowledgements	vi
Abbreviations	vii
Abstract	viii
1. Introduction	1
2. Importance of biodiversity in global agrifood systems	3
2.1. Theory of change	3
2.2. How biodiversity affects diets and nutrition	7
2.3. How biodiversity loss affects youth	9
3. Global case studies on youth and biodiversity initiatives	10
3.1. Global initiatives	11
3.2. Region-specific initiatives	12
3.2.1. Africa	12
3.2.2. Asia and the Pacific	15
3.2.3. Europe and Central Asia	17
3.2.4. Latin America and the Caribbean	19
3.2.5. Near East and North Africa	20
3.2.6. North America	21
4. Conclusions and recommendations	22
References	25

Acknowledgements

This report was produced by the better nutrition team of the 2025–2027 cohort of World Food Forum (WFF) Young Scientists Group (YSG), a global youth movement supported and hosted by the Food and Agriculture Organization of the United Nations (FAO). It was authored by Chiara Cresta, Dr Fawaz Bagoudou, Dr Laura B Kirwan, Mariana Moncada de la Fuente, Naina Qayyum and Dr Trish Muzenda.

The article was edited by Catherine Foulkrod, while Massimiliano Martino handled the design and layout. The YSG also wishes to express its heartfelt appreciation and thanks for their guidance and support to Letícia Tanchella Niehues, coordinator of the 2025–2027 cohort, and Katsiaryna Lukashevich. In addition, the article would not have been possible without the valuable contributions and peer review provided by FAO experts Patrizia Fracassi, Hugo Bourhis and Erica Galanti. Finally, sincere appreciation goes to Valeria Clara Morales Ancajima, Alexandros Tataridas, Elif Güney Menderes and Raanita Krishnamoorthy, members of the WFF Youth Policy Board, for their valuable feedback and input.

Abbreviations

AFSA	Alliance for Food Sovereignty in Africa
CBD	Convention on Biological Diversity
FAO	Food and Agriculture Organization of the United Nations
FSIN	Food Security Information Network
GAYO	Green Africa Youth Organization
GBM	Green Belt Movement
GCSAYN	Climate Smart Agriculture Youth Network Global
GNARFC	Global Network Against Food Crises
GYBN	The Global Youth Biodiversity Network
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
NBSAPS	National Biodiversity Strategies and Action Plans
NUS	neglected and underutilized species
SCOPE	Schools and Colleges Permaculture
SDG	Sustainable Development Goal
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNFSS	United Nations Food Systems Summit
UNFSS+4	United Nations Food Systems Summit Stocktake
UPFs	ultra-processed foods
WFF	World Food Forum
WFP	World Food Programme
WHO	World Health Organization
YSG	World Food Forum Young Scientists Group

Abstract

Today, the world faces a convergence of crises, including climate change, conflicts, economic shocks and biodiversity loss. These cross-cutting challenges undermine the capacity of agrifood systems to ensure access to healthy diets in a sustainable manner, exacerbating global food insecurity and all forms of malnutrition. Vulnerable and marginalized populations, such as women, children and youth, are particularly affected in a context of increasing population growth and deepening inequalities.

Biodiversity loss – driven by a combination of direct and indirect factors, such as uncontrolled land and water use, pollution, overharvesting and the spread of invasive species, as well as as demographic shifts, urbanization, trade and changing consumer preferences among others – exacerbates food and nutrition insecurity challenges by undermining the affordability, availability and accessibility of healthy diets for all.

The interconnection between biodiversity and diets is gaining recognition across the health, agriculture and environmental sectors. With the largest youth generation in history, and with many young people directly engaged in agrifood systems, youth represent a powerful lever of change to strengthen the linkages between biodiversity and diets and to build more resilient and equitable agrifood systems that improve nutrition for all.

This report explores the linkages between biodiversity and diets, with a particular focus on the role that youth can play in shaping more resilient, inclusive and sustainable agrifood systems. It is intended to support young leaders and change-makers who seek to contribute to the transformation of global food systems while mitigating biodiversity loss to promote healthy diets. The report draws on a desk review of academic sources, reports and grey literature, as well as global case studies of successful youth-led initiatives that enhance biodiversity and healthy diets, highlighting practical entry points for youth engagement and action.

1. Introduction

Biodiversity, the variety of life on Earth in all its forms, and healthy diets are inextricably linked. Biodiversity supports the availability of a wide variety of nutrient-rich foods year-round (FAO, 2020; Hunter, ed., 2020), enabling the achievement of healthy diets that are adequate, balanced, moderate and diverse (WHO and FAO, 2024), and thereby contributing to better nutrition and health outcomes. Simultaneously, our dietary choices and food production practices can either help conserve biodiversity or contribute to its loss (FAO, 2019).

Definitions of key concepts addressed in this report

Healthy diets

Healthy diets promote health, growth and development, support active lifestyles, prevent nutrient deficiencies and excesses, communicable and noncommunicable diseases, foodborne diseases and promote wellbeing. Healthy diets need to meet four core principles, universal in their application, based on human biology and underpinned by evidence:

Healthy diets need to be **adequate** in nutrients to prevent deficiencies and promote health, **balanced** in energy intake and its sources to support healthy weight and prevent non-communicable diseases, **diverse** in nutritious foods to support nutrient adequacy and promote health, and **moderate** in consumption of foods and dietary compounds linked to detrimental health effects. In addition, diets can only be healthy if foods and beverages are safe. (WHO and FAO, 2024)

Biodiversity

Biodiversity, or biological diversity (Wilson, 1988), is defined as follows: “the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems” (CBD, 2005).

Today’s agrifood systems are failing to deliver diets that are healthy, accessible, affordable and with fewer costs for the environment (FAO, 2024a). Agricultural intensification, land degradation and deforestation, combined with the homogenization of diets worldwide, dominated by only a few staple plant and animal species used for food, are negatively affecting ecosystems and leading to the rapid loss of biodiversity (FAO, 2024a). Indeed, over the past 50 years biodiversity has declined at an unprecedented rate, with more than one million plant and animal species now threatened by extinction (IPBES, 2019). This loss of genetic diversity contributes to the undermining of food security and nutrition and the reduced resilience of agrifood systems to environmental and socio-economic shocks.

Recognition of the linkages between biodiversity and healthy diets has grown in global policy discussions, particularly in the contexts of sustainable development, climate adaptation and mitigation, and the transformation of agrifood systems towards sustainability and resilience. Recognizing biodiversity as a core lever of agrifood systems transformation promotes healthy diets and delivers co-benefits for environmental, social and economic sustainability. (FAO, 2020; FAO, 2022; Rosenthal, Simpson and

Wahono , 2024). Yet, despite this recognition, practical strategies that place biodiversity at the core of sustainable agrifood systems and also contribute to healthy diets remain limited (Hunter, ed., 2020). Bridging this gap requires innovative approaches, research and programs that promote the conservation and sustainable use of biodiversity for improving diets and nutrition outcomes.

Youth have a critical role to play in advancing an agenda that recognizes biodiversity and healthy diets as two key levers for transforming agrifood systems towards greater sustainability, resilience and inclusivity. They bring fresh perspectives, openness to innovation, and the capacity to adopt emerging technologies that can drive solutions that leverage the sustainable use and conservation of biodiversity, while also representing the generation that will live longest with the consequences of today's choices (FAO, 2025). Beyond innovation, youth are essential to the intergenerational transmission of traditional agricultural practices, food cultures and biodiversity-related knowledge, learning from elders while also acting as future custodians of these resources (FAO, 2025). Nearly 45 percent of the world's estimated 476 million Indigenous Peoples are young people between the ages of 15 and 30 (FAO, 2025). As Indigenous Peoples are the guardians of much of the world's biodiversity (FAO, Alliance of Biodiversity International and CIAT, 2021), Indigenous Youth play a vital role in protecting and advocating for biodiversity conservation as a source of diverse, nutritious food, livelihoods, identity and resilience (FAO, 2025). Understanding how young people can be engaged and the barriers they face is therefore central to ensuring their full participation in biodiversity and nutrition strategies and the transformation of agrifood systems.

This report highlights youth as the centre of the relationship between biodiversity and diets. It is intended to support young leaders and change-makers seeking to contribute to the transformation of global agrifood systems by leveraging biodiversity to promote healthy diets. Although the bidirectional relationship between biodiversity and diets is acknowledged, this paper focuses primarily on the impact of biodiversity on healthy diets.

This article, acknowledging its gaps and limitations, does not intend to draw a full picture of how biodiversity, healthy diets and youth are addressed in the literature; instead, it mainly aims to introduce some of the evidence on the linkages between biodiversity and diets, how biodiversity loss affects youth, and to map existing actions that can be used as possible entry points for youth action in promoting biodiversity conservation and sustainable use as well as promoting healthy diets for all. First, it briefly presents evidence on the importance of biodiversity in global agrifood systems, introducing the theory of change underpinning the analysis. The article then presents case studies of successful youth-led initiatives that illustrate how some of the entry points identified in the theory of change can be translated into action. Finally, lessons from these experiences are used to develop recommendations for youth and other relevant stakeholders, such as policymakers, to support the empowerment of young people in addressing biodiversity loss and its impacts on diets and nutrition

2. Importance of biodiversity in global agrifood systems

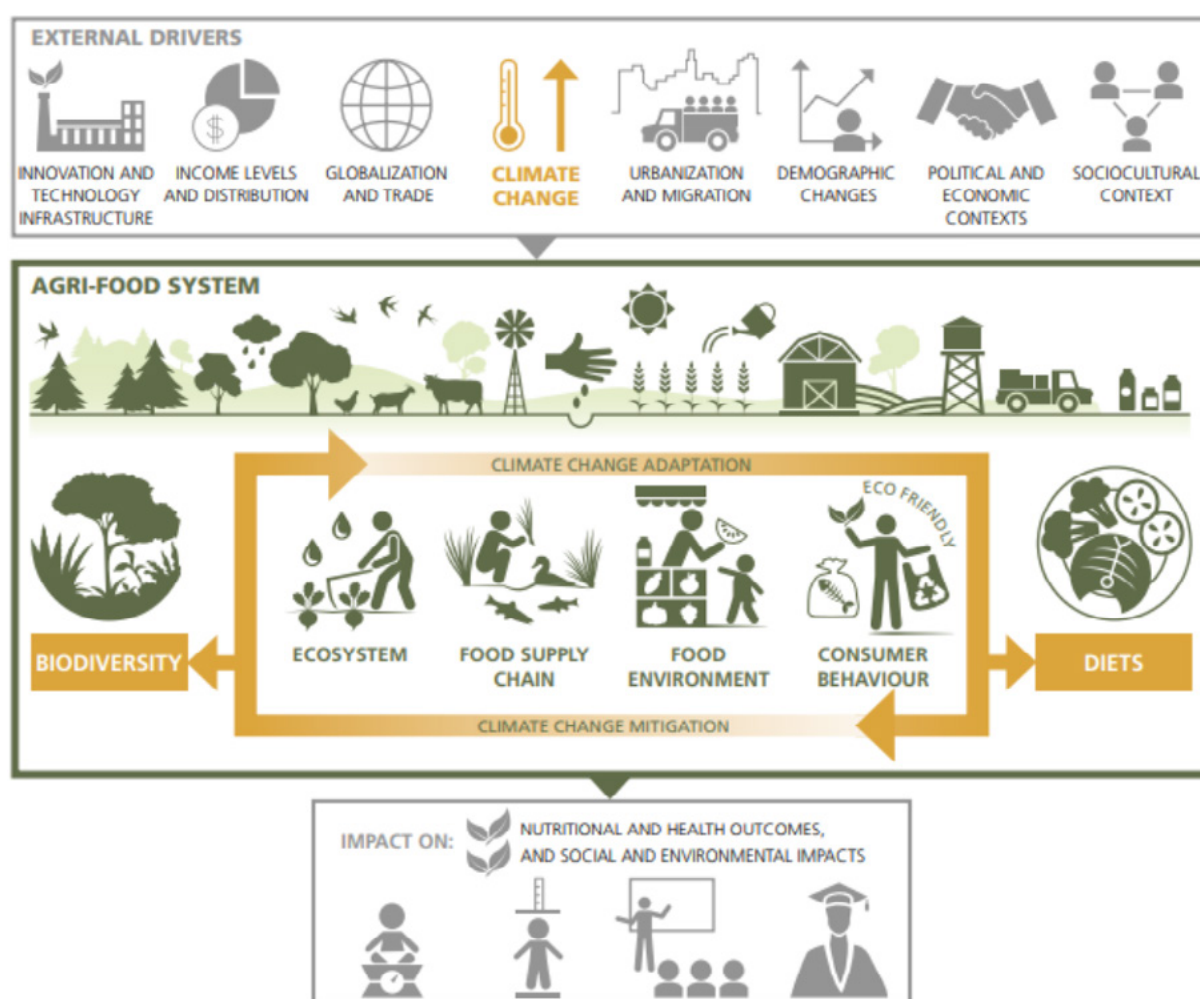
Although the global agrifood system produces large quantities of food, equitable access to and consumption of nutrient-rich foods – essential for ensuring healthy diets for all – remains unmet (Afshin *et al.*, 2019). Production heavily relies on a narrow range of crops and livestock breeds. Just three crops (rice, wheat and maize) accounted for 91 percent of total cereal production in 2023 (FAO, 2024b). Similarly, only eight species are estimated to provide more than 95 percent of total livestock food supply and only ten species account for 50 percent of total aquaculture production (FAO, 2020). This lack of diversity is mirrored in global dietary patterns changes. Globalized agrifood systems are driving the general adoption of increasingly homogenized and westernized diets (FAO, 2019), particularly in urban areas of developing countries that are undergoing a nutrition transition (FAO, 2024c). These diets are often high in ultra-processed foods, low in dietary diversity and lacking fruits, vegetables, pulses, nuts and seeds as well as whole grains, worsening nutritional and health outcomes while also contributing to environmental degradation, climate change and biodiversity loss (Kennedy *et al.*, 2022; Hunter, ed., 2020).

Biodiversity enhances sustainability and climate resilience, which are increasingly critical as climate change intensifies threats to food and nutrition security, health, the environment and overall human well-being (FAO, 2021). Through ecosystem services such as pollination, soil fertility, nutrient cycling, carbon sequestration and water regulation, biodiversity supports productive and stable agrifood systems, reducing reliance on chemical inputs (FAO, 2022). By maintaining diverse crops, livestock and aquatic species, agrifood systems can improve dietary diversity and provide nutrient-rich foods essential for healthy growth and development, particularly amongst children and youth (FAO, 2022; WHO and FAO, 2024). While biodiversity alone is not sufficient to guarantee healthy diets, its conservation, combined with equitable access and sustainable production practices, is a key pathway to resilient and nutrition-sensitive agrifood systems.

2.1. Theory of change

Figure 1 illustrates the theory of change developed by FAO to frame the linkages between climate change, biodiversity and nutrition through an agrifood systems approach (FAO, 2021). It identifies biodiversity and healthy diets as key levers to promote better nutrition in sustainable agrifood systems based on the following premises:

*“If biodiversity within and across terrestrial, marine and other aquatic ecosystems is protected and promoted as the foundation for healthy diets through agroecological, people-centred approaches, **then** a wider range of sustainable production systems (agriculture, forestry and fishery) will be incentivized; **as a result**, a variety of safe and nutritious foods will be made more accessible and affordable throughout the year.”*

Figure 1: Theory of change – climate change, biodiversity and nutrition nexus (taken from FAO, 2021).

This report builds on this theory of change to highlight the role that youth can play in the relationship between biodiversity and healthy diets across all components of agrifood systems: ecosystems, supply chains, food environments and consumer behaviour.

Through this framework, the report identifies some of the key challenges within the biodiversity-nutrition nexus that also affect youth, more or less directly. These challenges were mainly taken from *The State of the World's Biodiversity for Food and Agriculture* (FAO, 2019), *The Global Assessment Report on Biodiversity and Ecosystems Services* (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services/IPBES, 2019), *The Status of Youth in Agrifood Systems* (FAO, 2025), and *The State of Food and Agriculture 2024 – Value-driven transformation of agrifood systems* (FAO, 2024a), among other resources. The report then explores some potential mitigation activities for the sustainable use and conservation of biodiversity, and promotion of healthy diets through youth engagement. These potential activities were developed based on exploration of the literature and are presented to find possible youth-focused responses to the challenges identified and provide inputs for future analysis. Some of the entry points listed in the table below identify possible mitigation strategies that are further elaborated in the following chapter, supported by real-life examples from selected case studies. Finally, we outlined possible long-term outcomes on health, the environment and overall livelihoods if these youth-led or youth-oriented solutions are successfully implemented (Table 1)

Table 1. Youth engagement as an entry point in the relationship between biodiversity and diets

	Current challenges	Can be mitigated by	Leading to tangible outcomes
Ecosystems	Changes in land and water use with consequences on livelihoods and food security (FAO, 2019) Overexploitation and over harvesting of natural resources affecting ecosystems' health and causing biodiversity loss (FAO, 2019) Loss of traditional knowledge on sustainable land and natural resources management (FAO, 2019)	Leveraging Indigenous Youth involvement in policy discussion to enhance the intergenerational transmission of Indigenous Peoples' Food and Knowledge System, particularly on the sustainable management of ecosystems and genetic resources Support youth's entrepreneurship to promote the development of innovative solutions (nature-based solutions, use of artificial intelligence (AI) and digital tools, etc.) for the conservation and sustainable use of biodiversity Increase youth-led and youth-targeted education programs to increase the mainstreaming of conservation practices at ecosystem level that help conserve and sustainably use biodiversity	Improved land, soil and water management Reduced deforestation, biodiversity loss and overexploitation of natural resources Increased intergenerational knowledge transfer on farming and biodiversity preservation practices for future generations
Food supply chains	Rural youth populations currently reside in areas projected to experience declines in agricultural productivity potential due to adverse effects from climate change, which also results in youth migration from biodiverse rich areas due to lack of income or professional opportunities (FAO, 2025) Few local varieties and breeds are being cultivated, raised, traded and maintained, leading to genetic diversity (IPBES, 2019) Unsustainable agricultural practices contributing to biodiversity loss, ecosystem degradation and decrease of yields (FAO, 2019) Food loss occurring at multiple levels of the supply chain, leading to economic, social and environmental hidden costs (FAO, 2024)	Leveraging neglected and underutilized species for income-generating opportunities, supporting youth's resilience and entrepreneurial opportunities Building youth's capacity in climate-smart, biodiversity-supporting practices that also target food loss Promoting agroecological farming practices, regenerative agriculture and precision agriculture to ensure long-term sustainable use of resources for food production Improving the post-harvest processes to preserve the food from spoilage; ensure harvested food is sent to the market or consumers in as short time as possible	Mainstreamed the sustainable use of neglected and underutilized species Improved agricultural practices that promote biodiversity conservation and sustainable use Increased adoption of farming or food production methods with positive outcomes for the environment and natural resources Improved supply chain infrastructure leading to reduced food waste and loss at farmgate or along the food supply chain

Food environment	Youth targeted by aggressive marketing campaigns that promote the consumption of ultra-processed foods and distance them from diverse diets (UNICEF, 2025) Low availability and access to a diverse range of nutritious food groups, such as fruits and vegetables Limitations in school food environments in the offer of nutritious foods and inclusion of ultra-processed foods (UNICEF, 2025)	Involving youth in the monitoring of implementation of food and beverage marketing strategies in their environments, particularly in schools Leveraging youth's knowledge in projects aiming to promote the accessibility and affordability of nutritious foods in urban settings Involving youth in the development of school feeding programmes that help align nutrition guidelines with youth behavioural change and consumption patterns in school settings	Improved regulation of ultra-processed food marketing Increased youth access to healthier food options in their home and school food environments Increased awareness among youth about healthy eating leading to preference for healthier food options
Consumer behaviour	Adoption of unhealthy dietary patterns, low in dietary diversity, that have strong hidden costs on health and the environment (FAO, 2024) Overconsumption of staple and ultra processed foods paired with low consumption of nutritious foods, particularly among youth (UNICEF, 2025) Large shares of the food available to consumers is wasted, mainly at household level (FAO, 2021) Limited inter-generational transmission of knowledge (FAO, 2019)	Increasing youth's awareness on the hidden environment, social and health costs of consumer's dietary choices to influence their behaviour and food choices Developing school and community garden programs targeting young students to increase their knowledge and familiarity with nutritious foods, including neglected and underutilized species Education campaigns for promoting consumption of local, seasonal and traditional food varieties, as well as food waste prevention strategies at individual level Concerted efforts to preserve indigenous knowledge on food production and preservation methods	Increased demand and consumption of healthier food options among youth Reduced food waste among young consumers Increased awareness and consumption of seasonally available foods to ensure there is a supply-demand equilibrium and reduced food loss Increased transfer of indigenous food production knowledge and adoption/preservation of these methods in the new generation of food producers and processors

2.2 How biodiversity affects diets and nutrition

Securing access to safe and nutritious food as part of healthy diets for all, produced in environmentally sustainable ways, is one of the greatest challenges of our time (International Food Policy Research Institute/IFPRI, 2024). Today, this challenge is intensified by the convergence of multiple crises, including climate change, environmental degradation, economic shocks, rapid population growth, urbanization, conflicts and extreme poverty (Charles, 2019; Fanzo *et al.*, 2022). These interconnected pressures increase the fragility of our agrifood systems, threatening global food security and nutrition, with women, children, youth and other vulnerable groups being disproportionately affected (Charles, 2019).

Evidence highlights the alarming severity of global food insecurity. In 2024, an estimated 638 to 720 million people – representing 7.8 to 8.8 percent of the world’s population – faced hunger, while undernourishment may have affected about 8.2 percent (FAO, International Fund for Agricultural Development/IFAD, United Nations Children’s Fund/UNICEF, World Food Programme/WFP and WHO, 2025). Around 28 percent of people worldwide were estimated to be moderately or severely food insecure, with higher prevalence in rural areas than urban areas, and among women than men. The global number and percentage of people experiencing food insecurity has declined except in countries simultaneously affected by one or more crises such as climate change, economic downturns or conflicts (FSIN and GRFC, 2025). In 2024, almost 2.6 billion people could not afford a healthy diet (FAO, IFAD, UNICEF, WFP and WHO, 2025).

The world is off track to meet global nutrition targets. Stunting remains a widespread problem, with nearly 150 million children affected (FAO, IFAD, UNICEF, WFP and WHO, 2025). Around 1.6 billion young children and women suffer from the lack of one or more essential vitamins or minerals (Stevens *et al.*, 2022). Undernutrition during childhood has implications for growth, learning and future productivity, with lasting impacts at the community and country level. On the other end of the spectrum, millions of adults are either struggling with obesity or suffering from non-communicable diseases. Unhealthy diets contribute to overweight, obesity and diet-related non-communicable diseases, which are today the leading cause of premature mortality, estimated at nearly 11 million adult deaths annually (Afshin *et al.*, 2019).

Malnutrition has many causes, such as lack of clean water or access to healthcare, but diets are always a central driver. The prevalence of minimum dietary diversity among women between the ages of 15 and 49 and young children between the ages of 6 and 23 months has recently been added to the Sustainable Development Goal (SDG) indicators (SDG 2.2.4 a and b), reflecting the recognition that dietary diversity can predict diet quality and is a reliable indicator of micronutrient adequacy (WHO and FAO, 2024). For young populations in particular, dietary diversity can supply a broader spectrum of nutrients that are essential for growth, immune function, cognitive development and disease prevention (WHO, 2019).

Undernutrition and low dietary diversity remain big challenges in many developing countries, especially among small-scale producers. A systematic review of 45 original studies from 26 countries, found that less than 20 percent of the studies reported consistently positive and significant associations between **small-farm production diversity** and dietary diversity and/or nutrition. According to this study, farms in Africa would have to produce around nine additional species to increase dietary diversity by one food group. The study highlights the importance of accounting for contextual factors when designing strategies for improving smallholder diets and nutrition through diversified production (Sibhatu and Qaim, 2018). Similarly, a comprehensive review of five databases revealed that **agricultural biodiversity** had a small but consistent association with more diverse household- and individual-level diets, although the magnitude of this association varied with the extent of existing diversification of farms. Greater on-farm crop species richness was also associated with small, positive increments in young child linear stature

(Jones, 2017). Biodiversity also provides a crucial safety net for vulnerable communities, including youth. In rural areas, households often rely on wild plants, algae and fungi as fallback resources when harvests fail, or markets are disrupted (IPBES, 2022). These foods not only contribute to dietary diversity but also buffer families against hunger and malnutrition in times of scarcity (Dejene, Oria-de-Rueda and Martín-Pinto, 2017; Yorou *et al.*, 2014).

While agricultural biodiversity represents an important entry point for dietary diversity, a wider perspective on biodiversity reveals the striking contrast between the number of edible plant species, estimated at 7,039 (Ulian *et al.*, 2020), and the small handful of promoted food crops within the current food systems. These edible plants may be defined as **neglected and underutilized species (NUS)** and include wild, domesticated or semi-domesticated plants, whose potential to improve people's livelihoods, as well as food security and sovereignty, is not fully realized because of their limited competitiveness with commodity crops in mainstream agriculture (Hunter *et al.*, 2019; Ulian *et al.*, 2020). Evidence shows that many of these NUS have superior macro- and micronutrient profiles compared with commonly consumed crops (Kennedy *et al.*, 2022). The inclusion of nutrient-rich NUS as part of healthy diets can provide essential nutrients like iron, zinc and vitamins A, C and E (Hunter, 2019; FAO, 2020; Kennedy *et al.*, 2022).

As ecosystems degrade and species go extinct, food systems become more homogenized, narrowing the range of foods accessible (FAO, 2021; HLPE, 2020). This reduction in diversity often leads to greater reliance on refined staples and industrial food products. Ultra-processed foods (UPFs), heavily marketed to children and youth, are calorie-dense but nutrient-poor. The growing dominance of these foods in markets is contributing to the rise of overweight, obesity and diet-related non-communicable diseases in young populations, even as undernutrition persists (Fanzo *et al.*, 2021; Swinburn *et al.*, 2019). While biodiversity loss does not directly drive the nutrition transition, reduced availability of diverse and nutritious foods diminishes alternatives to ultra-processed foods, thereby accelerating the shift. In this context, the decline of biodiversity restricts dietary options, undermining both micro- and macronutrient intake that is critical for growth, cognitive development and immune function in young populations. Several studies and analyses have examined the growing trend toward homogenization in agrifood systems, where a limited number of commodities serve both as dietary staples and as key ingredients in manufactured foods, including UPFs (Khouri *et al.*, 2014). Fewer studies have explored the implications of the global commercialization of selected NUS, often marketed as "superfoods." These trends can be equally disruptive for Indigenous Peoples and local communities, who have traditionally consumed these foods as part of their diets (UNICEF, 2025).

Dietary shifts and increased consumption of UPFs are particularly critical in low- and low-middle income countries undergoing a nutrition transition, whereby prevalence of child stunting remains high while there are increasing trends of overweight and obesity among children and adolescents and diet-related non-communicable diseases in adult populations. A recent report by UNICEF underlies the pervasive, negative impact of food and beverage marketing campaigns on children and adolescents, especially in the school food environment (UNICEF, 2025).

The sustainable management and use of NUS represent a critical resource for addressing food security and nutrition, particularly among populations that rely heavily on their ecosystems and own production systems (FAO, 2019; Kennedy *et al.*, 2022). However, this potential must be safeguarded and promoted through a right-to-food-based approach, integrated within National Biodiversity Strategies and Action Plans (NBSAPs) that explicitly recognize the role of biodiversity in enabling access to healthier diets. A global review of 192 NBSAPs revealed that 62 percent make no intentional links between biodiversity and nutrition, and only 4 percent include concrete commitments to mobilize resources and take action on these connections (Rosenthal, Simpson and Wahono, 2024).

2.3 How biodiversity loss affects youth

Youth are central to the future of food systems, yet biodiversity loss affects them in ways that extend beyond nutrition to livelihoods, cultural identity and ecological stewardship. These impacts are shaped not only by ecological decline but also by social transformations, including migration, urbanization and technological change, which reshape how youth engage with biodiversity.

Beyond nutrition and immediate safety nets, biodiversity underpins youth livelihoods and entrepreneurial opportunities. Wild species, for example, offer income-generating opportunities, particularly in regions where agricultural productivity is limited and livelihoods are scarce (Shrestha, Dhital and Gautam, 2019). In the Himalayan region, harvesting and trade of Chinese caterpillar fungus *Ophiocordyceps sinensis*, known as yarsagumba, accounts for up to 92 percent of total cash income for vulnerable households (Childs and Choedup, 2014). More broadly, in Latin America, an estimated 19 percent of total employment is directly related to biodiversity and ecosystem services, highlighting the economic importance of conserving and sustainably using biodiversity (Dietershagen and Bammann, 2023).

As biodiversity declines, these opportunities diminish, reducing incentives for youth to engage in farming, foraging or other related activities. Environmental induced migration, resulting from environmental degradation but also climate shocks, can weaken rural economies and further detach youth from ecosystems that once sustained both nutrition and income (Warner *et al.*, 2010). When land becomes degraded, soils lose fertility, water becomes scarce, or forests and fisheries are depleted, rural youth often perceive few viable livelihood prospects in rural areas and are more likely to migrate in search of other sources of income (Moreda, 2023). This process erodes the labour base of rural economies, reduces household capacity to diversify production, and can undermine traditional food systems. For many youths, migration disrupts contact with local ecosystems and the transfer of ecological knowledge and skills needed for the sustainable management of resources. Over time, this loss of human capacity and cultural continuity could further accelerate the aging process in rural communities and potential loss of knowledge (Liu *et al.*, 2025). Conversely, conserving and sustainably using biodiversity can create avenues for youth-led innovation that could foster both economic empowerment and ecological stewardship as highlighted in the second section of this publication.

The migration of youth to urban areas paired with biodiversity loss can also erode cultural continuity and identity, particularly among Indigenous youth. Migration separates young people from the ecosystems and elders that sustain traditional knowledge, weakening intergenerational transfer of practices linked to wild foods, native species, and sustainable management of natural resources (FAO, 2021). This is particularly evident in Indigenous Peoples' food systems, which rely on place-based knowledge that is not always documented but instead transmitted through lived experience and cultural practices. Rapid rural, urban and even overseas migration of youth has led to reduced use of forest products in livelihoods (Ojha *et al.*, 2017) and could lead to the loss of knowledge and cultural continuity between generations.

Modern sciences, technologies and globalized education further shape youth engagement with biodiversity. While technological advances support improved monitoring and management of species, they also contribute to reduced direct contact with ecosystems. Worldwide, increased screen time and urban lifestyles, particularly among youth, reduce time spent outdoors which further limits engagement with biodiversity (Adams and Savahl, 2017). As Pyle (2002) observes, collective ignorance often leads to collective indifference, which hastens ecological degradation through an increasing disconnection from nature.

Taken together, these dynamics show that biodiversity loss affects youth through multiple, interconnected pathways. It reduces dietary diversity and nutrition quality, erodes safety nets during times of crises,

undermines livelihood opportunities and entrepreneurship, and threatens intergenerational transmission of knowledge and cultural identity. These impacts are not isolated; they form a compounding cycle in which biodiversity decline reduces youth engagement, which in turn can accelerate ecological degradation and weaken food system resilience. Addressing these challenges requires approaches that maintain youth connection to biodiversity, support healthy diets, strengthen rural livelihoods and youth entrepreneurship, and safeguard the transmission of cultural and ecological knowledge between generations.

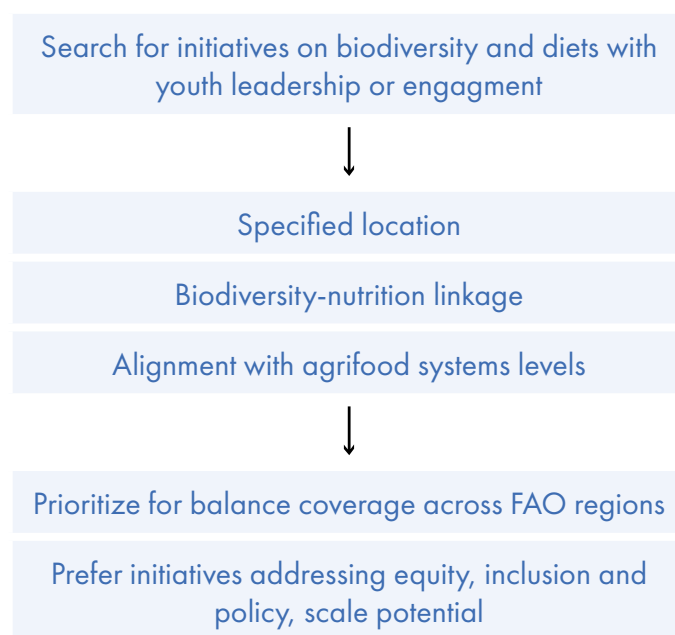
3. Global case studies on youth and biodiversity initiatives

The challenges outlined in the previous section show how biodiversity loss undermines dietary diversity, nutrition and food security. As the aim of this report is to explore the potential role of youth in the linkages between biodiversity and healthy diets, this section explores how youth-led initiatives can offer practical responses to the challenges of the nexus. There are numerous youth-led or youth-focused initiatives that actively operate on the linkages between biodiversity and diets, and their experiences highlight what is possible when young people are engaged as innovators and leaders.

The following case studies, drawn from the different FAO regions, showcase how young people are mobilizing knowledge, cultural identity and community action to conserve and sustainably use biodiversity, strengthen access to nutritious foods and promote healthy diets. For young leaders, these examples serve multiple purposes: they highlight diverse entry points for action, from seed banks and agroecology to school feeding and urban farming; they offer lessons on how to integrate cultural identity, traditional knowledge and modern science; and they demonstrate how youth can influence both community practices and policy discussions. Taken together, these case studies provide lessons and inspiration for youth leaders working on similar initiatives, while also pointing to opportunities for scaling and policy influence.

Selection criteria

The case studies were selected through a structured three-step process (Figure 2). First, an initial online search was conducted to identify initiatives on biodiversity and diets that were youth-led or demonstrated documented evidence of youth participation. Second, the identified initiatives were screened and retained if they met all of the following eligibility criteria: specified their country or subnational location, showed measured outcomes, described mechanism or potential for linking biodiversity conservation and sustainable use to the promotion of healthy diets, and aligned with at least one of the agrifood systems components – ecosystems, supply chains, food environments or consumer behaviour – outlined in the theory of change. Third, from this verified set, cases were prioritised to assemble a balanced portfolio across all FAO regions – Africa, Asia and the Pacific, Europe and Central Asia, Latin America and the Caribbean, the Near East and North Africa, and North America – with preference given to initiatives addressing equity and inclusion and/or demonstrating potential for policy uptake or scaling. This report initially highlights global initiatives followed by specific regional ones.

Figure 2: Case study selection process

3.1. Global initiatives

At the global level, youth networks and movements are key platforms for collective action, enabling young people to influence biodiversity policy, share knowledge and implement solutions that connect conservation and sustainable use with the promotion of healthy diets. These initiatives offer concrete solutions with measurable outcomes.

- The **Global Youth Biodiversity Network** (GYBN) unites youth organizations and individuals in over 140 countries, working to prevent biodiversity loss and ensure the sustainable use of natural resources (GYBN, 2025). GYBN plays a critical role as the official youth constituency to the Convention on Biological Diversity (CBD) and as a partner to the World Food Forum. The network mobilizes young people to actively participate in international negotiations, influence biodiversity policy, and implement local projects that directly link biodiversity conservation and its sustainable use with better nutrition. GYBN's initiatives focus on educating youth about the importance of biodiversity for agrifood systems, empowering them to develop projects that protect ecosystems while promoting nutritional food practices in their communities (GYBN, 2025).
- The **Climate Smart Agriculture Youth Network Global** (GCSAYN) promotes climate-smart farming practices that empower young farmers to adapt to climate change and protect biodiversity through sustainable agricultural methods (Farming First, 2025). This initiative builds youth capacity in practices such as agroforestry, intercropping, soil health management, cover crops, reduced tillage and the on-farm conservation of diverse varieties. These practices support biodiversity conservation and contribute to the cultivation of nutritious crops. While there is limited evidence directly linking these practices to immediate improvements in youth's diets, the overall benefits of climate-smart farming – such as increased food security and access to a wider range of crops – are clear (Farming First, 2025). GCSAYN continues to strengthen partnerships and improve education, helping youth integrate both biodiversity and nutrition considerations into their farming practices.
- **Act4Food**, a global youth-led initiative, advocates for 'nature-positive' agrifood systems by promoting sustainable food production methods that regenerate soil health, reduce the use of

harmful chemicals and ensure food diversity (Food Ethics Council, 2021). Through its “Actions 4 Change” movement, the pledge frames agrifood systems as drivers of the biodiversity crisis and mobilizes youth to push governments and business to adopt biodiversity-protecting practices (e.g., agroecology/nature-positive production, food education, and food loss and waste reduction), with over 160 000 pledges to date. Act4Food influences policy to support sustainable farming practices that regenerate ecosystems, promote biodiversity conservation and sustainable use, and ensure that diverse, nutritious food is affordable and accessible (Food Ethics Council, 2021). The initiative pushes governments and businesses towards practices such as agroecology, food education, and reducing food loss and waste.

- The **UN Food Systems Youth Leadership Programme** connects youth innovators, especially from low- and middle-income countries, to build critical skills in governance, negotiations, and policy advocacy, accelerating the transition to sustainable food systems (UN Food Systems Summit Hub/UNFSS Hub, 2025). One of the Programme’s major contributions was the UN Food Systems Summit Stocktake (UNFSS+4) Youth Declaration on Food Systems Transformation, which calls for a transition to agroecological food systems that prioritise biodiversity and protect Indigenous land rights (UNFSS+4 Youth Declaration, 2025). This Declaration pushes for increased investments in ecosystem restoration and biodiversity protection, ensuring that food systems support both healthy diets and environmental sustainability (UNFSS Hub, 2025).

While advocating for change, these initiatives also provide concrete, actionable solutions that directly link youth involvement in biodiversity conservation and sustainable use activities with healthier, more sustainable agrifood systems. Youth engagement is driving policy advocacy, on-the-ground action and community-driven projects, demonstrating that young people are central to the transformation of agrifood systems. However, challenges remain, particularly in establishing direct evidence that these movements consistently lead to dietary improvements or long-term sustainable impacts. Despite these limitations, the work of these initiatives is pivotal in shaping a future where biodiversity and nutrition go hand in hand.

3.2. Region-specific initiatives

While global interest around youth-led action in biodiversity and sustainable agrifood systems is increasing, it is important to acknowledge that regions are characterized by different ecological, socio-economic and cultural contexts. Therefore, country-specific initiatives can help address biodiversity loss and malnutrition with a tailored approach. This section highlights various youth-led initiatives that are driving positive change in biodiversity conservation and sustainable use in agrifood systems at national levels across the globe. These case studies have been organized by region to showcase the diverse approaches young people are taking to address pressing environmental and food security challenges. The following case studies, presented in boxes, provide an overview of region-specific examples based on the following regions: Africa, Asia and the Pacific, Europe and Central Asia, Latin America and the Caribbean, the Middle East and North Africa, and North America.

3.2.1. Africa

Africa has the youngest population in the world, with the United Nations reporting that 70 percent of sub-Saharan Africa’s population is under the age of 30 (United Nations, 2024). This demographic reality makes the continent a critical space for integrating biodiversity and diets through youth-led action. In recent years, multiple programmes across Africa have engaged with this nexus, providing lessons on how young people are shaping biodiversity-friendly agrifood systems that also improve nutrition.

Empowering Women and Youth Through Moringa Farming in Mali

In Mali, where nearly 70 percent of the population is under 25 and food insecurity is widespread, the [Herou Alliance](#) has developed an innovative model linking biodiversity, nutrition and livelihoods. Since 2021, the initiative has trained over 15 000 women and young farmers in the cultivation and processing of Moringa, a nutrient-rich tree with significant health benefits. By integrating Moringa into existing farming systems through intercropping, the project helps restore degraded land, enrich soil and improve dietary diversity. Women and youth farmers are supported with training, seeds, organic fertilisers, irrigation and market linkages for Moringa-based products such as tea, oil and spices. This inclusive value chain approach has enabled rapid scaling, from 60 women and youth cultivating 600 trees in 2021 to over 2 000 farmers managing 100 000 trees by 2023. While barriers remain, including limited access to finance, infrastructure and climate variability, the initiative demonstrates how women- and youth-led agroforestry can tackle land degradation, improve the accessibility of certain products in markets, and strengthen economic resilience in West Africa ([AFSA, 2024](#)).

The [Green Africa Youth Organization \(GAYO\)](#) empowers young people through environmental advocacy, waste management projects, eco-clubs and campaigns against plastic pollution, while also promoting sustainable agrifood systems. Their initiatives show how protecting ecosystems supports food security and access to healthy diets. In Accra, GAYO supports vegetable farmers at Korle Bu to adopt sustainable practices that protect soil and water resources while ensuring a reliable supply of fresh produce for urban diets. In Ghana's Upper East region, young leaders such as Alice Atuligiya Agudabisa, a midwife and farmer, have applied climate-smart techniques like zai pits and stone lines to conserve water, restore degraded land and increase crop yields. With GAYO's mentorship, Alice doubled her harvests during droughts and now trains other farmers, demonstrating how youth innovation can restore ecosystems and improve community diets. While much of GAYO's work centres on climate resilience, waste management and sustainable farming, these existing efforts provide a strong entry point for integrating biodiversity more explicitly into food system initiatives. Building on their current projects could help link biodiversity protection, conservation and sustainable use more directly to healthier diets, creating further opportunities for youth-led leadership in this space.

In Kenya, the [Green Belt Movement \(GBM\)](#), founded by Wangari Maathai, combines environmental conservation with community development, focusing on tree planting as an entry point for restoring ecosystems and strengthening livelihoods. Since 1977, GBM communities have planted over 51 million trees across key watersheds in Kenya, protecting rivers, soils and rainfall patterns while providing access to fruits, vegetables and medicinal plants. Youth are engaged in hands-on activities that demonstrate the connection between biodiversity, healthy ecosystems and nutrition. By involving women, schools and young people in reforestation and watershed restoration, GBM not only combats climate change and land degradation but also supports more diverse diets and resilient agrifood systems.

The Youth Ambassador Programme is part of Local Governments for Sustainability's [AfriFoodLinks](#) initiative, which works to make African city-region agrifood systems more sustainable, inclusive and resilient. Through this programme, young leaders in cities such as Cape Town, Kisumu and Ouagadougou engage directly with markets, schools and food businesses to promote healthy diets and strengthen urban food environments. Their activities include highlighting local food cultures, supporting informal vendors such as fishmongers and vegetable sellers and using storytelling to connect biodiversity with everyday food choices. While the ambassadors' primary focus is on healthy diets and consumer awareness, their work also creates indirect pathways to biodiversity. By encouraging demand for diverse local foods and engaging with food environments that feature underutilised produce, they contribute to consumption patterns that can reinforce biodiversity in both diets and production systems. This illustrates how urban youth engagement within AfriFoodLinks can serve as an important entry point for linking dietary health with biodiversity-sensitive agrifood systems.

A concrete illustration from the region described in Box 1 (Zimbabwe: [Bikita Youth-Led Seed Sovereignty Movement](#)) shows how youth seed banks restore Indigenous crops and translate biodiversity conservation and sustainable use into more diverse diets at the local level.

Box 1: Africa

Case study: Bikita Youth-Led Seed Sovereignty Movement (Zimbabwe)

Overview

In Bikita District, Zimbabwe, years of drought, erratic weather and dependence on costly hybrid seeds left farmers with declining yields and depleted soil. Youth faced high unemployment and the pull of migration. In 2021, young people working with Schools and Colleges Permaculture (SCOPE) Zimbabwe launched “Sowing Hope: Youth-Led Seed Sovereignty in Bikita” to restore Indigenous seed systems, promote agroecology and empower young farmers.

The project mobilized young people across Mazungunye Primary and Secondary, Ngondyore Primary, Chirumba High, Chirima High, Duma Primary and Mukore High, training them in agroecological principles, seed conservation and sustainable farming. More than 2 500 students participated in school permaculture gardens which function as outdoor classrooms. By 2024, 750 young people were directly involved in the movement. Community-managed seed banks were established to conserve and produce locally adapted seed varieties resilient to climate change ([AFSA, 2024](#)).

Impact on diets and biodiversity – diets nexus

Youth collectives and schools have recovered and preserved locally adapted seeds such as millet, sorghum, cowpea, groundnut and red maize, with 350 young farmers producing over 5 000 kilograms of open-pollinated seeds, giving local farmers access to high-quality seed without relying on expensive imports. Participating farmers reported an average 25 percent increase in yields, improving food security and supporting the local economy. Some, like Patience Makuyana, generated up to USD 500 per season from seed sales, while others reinvested profits in livestock or home improvements. Farmers have also diversified their production with a wider range of African crops, enriching soils. While expanding access to a wider diversity of seeds is expected to translate into more diverse diets and nutrients at household level, no formal dietary survey data are yet available on whether greater availability of Indigenous crops has led to measurable dietary improvements ([AFSA, 2024](#)).

Challenges and lessons learned

The Movement still faces challenges in systematically documenting biodiversity outcomes and in creating strong market incentives for Indigenous crops. The Movement faces challenges in scaling due to limited technical training on documenting biodiversity outcomes and weak market incentives for Indigenous crops. As stated, the connection between biodiversity conservation and sustainable use and healthy diets is also missing, which can be leveraged in the future to strengthen the project. However, community-led seed fairs have proven effective in raising consumer awareness and linking smallholder farmers to local restaurants. The Bikita experience shows that youth leadership and cultural identity can be powerful drivers of biodiversity-friendly farming practices. Demonstration centres, mentorship programmes and additional seed banks are being rolled out to support scaling, while SCOPE Zimbabwe is advocating to integrate agroecology and seed sovereignty into national curricula and policy ([AFSA, 2024](#)).

3.2.2. Asia and the Pacific

The Asia and the Pacific region is also home to a large number of young people between the ages of 15 and 24 years (roughly 19 percent of the region's population according to the United Nations Population Fund/UNFPA, 2024). The following highlights multiple initiatives undertaken by youth across different types of ecosystems.

In Bangladesh, the [Green Kuakata initiative](#) engages members of youth-led organizations and university students in biodiversity conservation along the Kuakata sea beach, with activities such as mangrove restoration. This project enhances coastal resilience and biodiversity conservation. Restored mangroves can support small-scale fisheries and shellfish harvests; when paired with local access measures (for example, community fisheries management, procurement for schools and affordability initiatives) and food and diet education, these gains can increase the availability and consumption of aquatic foods, promoting greater local dietary diversity, although impacts on diets are context-dependent and not automatic (United Nations Development Programme/UNDP, 2023).

In India, the [Bibi Fatima Self-Help Group](#) has been recognized for its work in sustainable agriculture, focusing on millet-based cropping, seed conservation and climate-resilient farming practices. These efforts improve food security and biodiversity conservation and sustainable use across 30 villages, ensuring diverse, nutrient-rich crops are available to local populations (The Times of India, 2025). The RoaRsearch workshop in Vadodara trains youth in wildlife monitoring techniques, including bird census and camera trap usage, empowering young researchers to contribute to biodiversity protection and conservation. Such monitoring can inform habitat management and community stewardship that could help maintain ecosystems that include wild species used for food (RoaResearch Workshop, 2021).

In the Pacific Islands, the [Pacific Climate Warriors grassroots movement](#) advocates for climate justice and the protection of the cultural heritage of Pacific Island communities. Protecting the cultural and environmental heritage of these islands is crucial to ensuring that local communities have access to a greater diversity of nutritious foods, which are vital for youth nutrition. The Pacific Youth-led Small Grant Initiatives on Climate Change and Resilience awarded grants to youth-led projects across Fiji, Niue and other Pacific nations, focusing on climate resilience and sustainable agriculture. These projects can enable healthy diets by improving the availability of diverse, locally sourced foods when coupled with access, affordability and food education measures (Pacific Island Forum, 2022).

Additionally, the [Samoa Conservation Society](#) works to conserve Samoa's biodiversity, focusing on endangered species and forest restoration.

In Australia, [Seed Indigenous Youth Climate Network](#), the country's first Indigenous youth climate network, leads campaigns to protect land, water and culture from climate change. They focus on protecting ecosystems, particularly those important for food sovereignty, ensuring that First Nations youth are connected to culturally significant, biodiversity-rich agrifood systems (Seed, 2020). The Seed Savers' Network in Byron Bay has been conserving agricultural biodiversity by collecting and redistributing garden seeds, promoting the importance of locally saved seeds and cultural practices across Australia. This initiative directly ties biodiversity conservation to food sovereignty, supporting access to nutrient-rich, locally grown foods (The Seed Savers' Network, 2020).

Another Asia and the Pacific example is highlighted in Box 2 (Japan: [Lake Biwa Paddy Field Fish Nursery Project](#)), where youth revive satoyama practices (community-managed countryside traditions where people care for rice fields, canals and nearby woods together so nature and farming support each other) to boost aquatic biodiversity and channel fish into school meals and local diets.

Box 2: Asia and the Pacific

Case study: Lake Biwa Paddy Field Fish Nursery Project (Japan)

Overview

The Lake Biwa Paddy Field Fish Nursery Project in Shiga Prefecture revives a satoyama practice where rice paddies are intentionally flooded post-harvest to create seasonal wetlands. Led in part by students and local residents, the project integrates traditional rice-paddy management with ecological monitoring (e.g., visual surveys and catch/observation records) to confirm which species are present (primarily small native fish) and to track changes in species use of paddies and connected waterways as indicators of ecosystem health.

Impact on diets and biodiversity – diets nexus

The flooded paddies provide habitat for endemic fish species, some endangered, which naturally control pests and reduce pesticide use. The consumption of these fish, rich in omega-3 and lean protein, is promoted through the inclusion of school feeding programs, such as the Biwa Trout School Lunch Program. The project enhances aquatic biodiversity while contributing to the promotion of healthy dietary patterns rooted in local ecosystems.

Challenges and lessons learned

Scaling the project beyond Shiga Prefecture is hindered by a lack of subsidies and technical support for fish-friendly farming elsewhere. Nonetheless, youth-led citizen science and social media campaigns have increased public support and informed local policy, demonstrating how young people can blend traditional knowledge with scientific innovation to influence biodiversity–diet policies.

3.2.3. Europe and Central Asia

In Switzerland, the [Slow Food Youth Network](#) launched the “Calendarium Culinarium”, a seasonal food calendar designed by youth to promote the consumption of local, seasonal produce and traditional varieties. This initiative serves as both an educational tool and a guide for biodiversity-friendly purchasing decisions. The calendar is currently circulated through online platforms, such as the Slow Food Youth Network’s website and social media channels, where it can be accessed and downloaded. It is also shared at Slow Food events, local farmers’ markets, and through collaborations with sustainability-focused businesses and food organizations. These distribution methods ensure the calendar reaches a broad audience, empowering individuals to make more informed, environmentally conscious food choices (see Box 3).

In Ireland, [Bord Bia](#) offers a range of sustainability programmes aimed at youth, promoting an understanding of biodiversity and healthy eating. Food Dudes uses a peer influence model to encourage children to eat more fruits and vegetables, linking balanced diets with environmental sustainability. The Seedlings Programme introduces students to gardening, teaching them about biodiversity and the connection between food production and diets. The Organic Gardening initiative focuses on growing food without synthetic chemicals, highlighting the benefits of organic farming and soil health. Finally, the Incredible Edibles Programme engages students in growing their own food, helping them develop a deeper appreciation for biodiversity and the nutritional benefits of diverse crops. While Bord Bia’s initiatives are not strictly youth-led, they actively engage youth in sustainable practices and use peer influence models to encourage young people to make informed decisions about food and the environment. Through these programmes, Bord Bia helps youth connect sustainable practices with better nutrition, encouraging a future generation of environmentally conscious and health-focused individuals.

As part of the UNDP regional “Climate Box” initiative, which covers nine countries, including Kazakhstan, a youth-led Green Kazakhstan initiative “The Climate Will Not Wait” camp engaged school students in developing green solutions, with biodiversity conservation among its key themes (UNDP, 2025). However, while participants explored environmental and sustainability issues, no direct connection to diet or nutrition was identified in the initiatives described.

[EIT Food](#) works across Europe to support young innovators in creating more sustainable and resilient agrifood systems, including biodiversity-focused approaches. For example, its Inspire – Sustainable Agriculture for Biodiversity track trains participants in entrepreneurship, business design and pitching skills to help develop market-ready ideas. Beyond education, EIT Food runs programmes such as the Global Food Venture Programme and the Regional Innovation Scheme that help youth and researchers form start-ups and link with private-sector partners and local markets. It also promotes entrepreneurial mindsets through its Youth Mission and the Young Professionals Platform, which support youth-led organizations in shaping innovation pathways. However, EIT Food’s own seven-year review notes that while these initiatives build skills and networks, translating biodiversity-friendly innovations into profitable products remains a key challenge.

[The Youth Eco Hub](#) – Eco-Schools of the Baltic Sea Region for a Sustainable Future is a youth-led international initiative connecting students and mentors from Finland, Estonia, Russia, and Latvia to promote sustainability through education and practical action. Funded by the Nordic Council of Ministers, it focused on biodiversity, climate change, and the circular economy, engaging young people in hands-on projects such as building insect “hotels,” creating compost, planting trees, and reducing plastic pollution. The programme strengthened environmental awareness, cross-border cooperation, and community involvement, empowering youth to take an active role in shaping a sustainable future.

The [GROMADA Project \(2023–2025\)](#), led by the Conflict and Environment Observatory (CEOBS) and partners under the Erasmus+ programme, takes its name from the Ukrainian word “Gromada,” meaning community—reflecting its focus on community-based citizen science and participation. The initiative trains Ukrainian and international youth in citizen science, environmental law, and remote monitoring to document war-related environmental damage and support ecological recovery. Through summer schools, webinars, and hackathons, young people gained practical experience in soil and water quality assessment and developed eight student-led environmental projects at Odesa State University. The project has also produced a Handbook on the Legal Dimension of Environmental Harm Monitoring in War Contexts. While focused on post-conflict recovery, it contributes indirectly to the biodiversity–nutrition nexus by protecting ecosystems and water resources that underpin food security and community health.

The [Rebooting the Food System project \(2024–2027\)](#), coordinated by CEEweb for Biodiversity and co-funded by the EU’s DEAR programme, is a €10.29 million initiative engaging youth across nine EU countries to transform the global food system through agroecology and due diligence in supply chains. While not youth-led, it empowers young Europeans as agents of change through campaigns, citizen science, agroecology training, policy research, and advocacy on issues such as food waste, climate justice, and human rights. By linking ecosystem protection with sustainable food production, the project strengthens the biodiversity–nutrition nexus, demonstrating how biodiversity-friendly farming and youth engagement can support resilient, equitable, and nutritious food systems.

Box 3: Europe and Central Asia

Case study: Slow Food Youth Network “Calendarium Culinarium” (Switzerland)

Overview

The Slow Food Youth Network “Calendarium Culinarium” is a seasonal food calendar designed by youth to promote consumption of local, seasonal produce and traditional varieties. Developed through participatory workshops with farmers, chefs and consumers, it serves both as an educational tool and a guide for biodiversity-friendly purchasing decisions.

Impact on diets and biodiversity – diets nexus

Aligning diets with seasonal availability can encourage the consumption of lesser-known varieties. While it may not automatically reduce demand for imported monocultures – due to factors like availability, price and cultural preferences – promoting seasonal consumption can still contribute to promoting the inclusion of more food diversity in production and support shorter supply chains, directly linking biodiversity conservation to everyday food choices.

Challenges and lessons learned

The calendar’s influence depends on effective dissemination and integration into procurement policies. In some municipalities, it has been adopted in school meal planning, but broader uptake requires stronger partnerships with retailers and public institutions. The case shows that practical, user-friendly tools can translate biodiversity goals into tangible dietary change.

3.2.4. Latin America and the Caribbean

Latin America and the Caribbean is home to 160 million youth between the ages of 10 and 24 years, and it represents a quarter of the region's population (UNFPA, 2025). Youth are actively engaged in initiatives that link biodiversity and nutrition. For a vivid example from Latin America and the Caribbean, Box 4 (Colombia: [“Cultivando el Cambio” Youth Agroecology Showcase](#)) links native-crop cuisine, youth storytelling and policy dialogue to promote dietary diversity and overall healthy diets.

In Argentina, the [Monte Alegre Nature Reserve Project](#) involves youth in ecological restoration activities such as building a native plant nursery and conducting biodiversity censuses, supporting the conditions of the biodiversity-nutrition nexus by promoting the restoration of diverse ecosystems that support food security.

In Puerto Rico, [El Departamento de la Comida](#) is a youth-led organization that promotes food sovereignty and sustainable agriculture through initiatives like a commercial kitchen, seed library and solar-powered food storage system. By focusing on local food production and preserving agricultural biodiversity, the initiative strengthens the connection between biodiversity and nutritious, locally produced foods.

The [Empowering Waorani Youth to Protect Their Ancestral Rainforest Territory project](#), led by the Waorani Organization of Pastaza (OWAP), supports Indigenous youth in safeguarding 230,000 hectares of biodiverse rainforest in Ecuador's Amazon. The initiative combines traditional Waorani knowledge with Western education, strengthening cultural identity and resilience while ensuring the long-term conservation of forests that play a crucial role in global biodiversity and climate stability.

Box 4: Latin America and the Caribbean

Case study: [“Cultivando el Cambio” Youth Agroecology Showcase \(Colombia\)](#)

Overview

“Cultivando el Cambio” was a youth-led platform at the 2024 United Nations Biodiversity Conference of the Parties to the CBD where young and Indigenous leaders from Colombia presented agroecology-based agrifood systems rooted in native crops. The event combined live cooking demonstrations, storytelling and policy dialogues to highlight the role of biodiversity in ensuring healthy diets as a climate and cultural resilience strategy.

Impact on diets and biodiversity – diets nexus

The showcased diets integrated underutilized native crops such as amaranth, quinoa and cassava, all adapted to local ecosystems and rich in micronutrients. By framing these foods as climate-smart and culturally significant, the initiative reinforced the role of dietary diversity in sustaining both biodiversity, promoting healthy diets and community health.

Challenges and lessons learned

While the event gained visibility, sustaining momentum after a policy forum remains difficult without ongoing funding and local program integration. The case demonstrates the importance of linking youth advocacy to long-term capacity-building and local implementation.

3.2.5. Near East and North Africa

Across the Near East and North Africa, youth initiatives often use place-based learning and intergenerational knowledge to connect biodiversity with everyday food culture. Activities commonly include school- and community-garden learning and school-grounds greening that help children recognize native crops and seasonal foods. Regional reviews also document school-garden components within Eastern Mediterranean school nutrition programmes alongside broader food-and-nutrition education (Al-Jawaldeh *et al.*, 2023). Box 5 (Morocco: [Youth4Nature “Samedi Scientifique”](#)) profiles one such program, where youth ambassadors blend hands-on learning with cultural storytelling to build acceptance of biodiversity-rich diets from an early age.

Box 5: Near East and North Africa

Case study: Youth4Nature “Samedi Scientifique” (Morocco)

Overview

Youth4Nature’s “Samedi Scientifique” is a grassroots educational initiative where youth ambassadors take children and families to farms and gardens to learn about biodiversity, sustainable farming and dietary choices. The program blends hands-on experience with cultural storytelling about food and the environment.

Impact on diets and biodiversity – diets nexus

By exposing children early to a variety of local crops, herbs and farming practices, the initiative builds familiarity with diverse, local foods. This early engagement aims to foster acceptance and preference for local, seasonal and diverse diets, potentially influencing long-term food habits and preserving biodiversity.

Challenges and lessons learned

The program relies heavily on volunteer effort, limiting its scalability. However, it highlights that intergenerational learning and place-based education can be powerful tools for embedding biodiversity–diet connections from a young age.

3.2.6. North America

Youth (from 15 to 24 years of age) make up about 20 percent of the region's population (Pan American Health Organization and WHO, 2018). Youth-led initiatives focusing on biodiversity are often led within Indigenous and/or urban agrifood systems. A North American example appears in Box 6 (United States of America: Vermont Youth Conservation Corps Food and Farm Program), demonstrating how youth training in diversified organic farming can advance pollinator habitats while supplying fresh produce to food-insecure households.

The Milpa Project in Mexico engages young people in the conservation of traditional agricultural practices, such as cultivating diverse crops in the milpa system. By preserving Indigenous knowledge and promoting the cultivation of native plants, including maize, beans and squash, the project strengthens local biodiversity while ensuring a diverse food supply of nutrient-rich foods for local communities. This effort helps combat biodiversity loss while providing a range of nutritious foods that support nutrition.

The Urban Growers Collective in Chicago engages youth in urban farming projects, teaching sustainable agricultural practices, biodiversity conservation and sustainable use. Through hands-on farming experiences, youth learn how to cultivate a variety of crops, with a focus on promoting healthy, locally sourced foods and community resilience. The initiative also provides opportunities for youth to engage in environmental advocacy, ensuring they understand the relationship between biodiversity and agrifood systems.

Box 6: North America

Case study: Vermont Youth Conservation Corps Food and Farm Program (United States of America)

Overview

The Vermont Youth Conservation Corps Food and Farm Program trains youth in diversified organic farming while supplying community-supported agriculture shares to local families, including food-insecure households. The program integrates ecological farming practices and community service.

Impact on diets and biodiversity – diets nexus

Through crop diversification and organic soil management, the program increases the range of fresh produce available locally. This supports dietary diversity while conserving pollinator habitats and soil biodiversity, linking ecological health directly to community nutrition.

Challenges and lessons learned

Sustaining youth participation beyond seasonal contracts can be challenging and measuring biodiversity outcomes alongside dietary impacts requires additional investment. Nevertheless, the program illustrates how youth training can simultaneously address ecological and nutritional goals.

4. Conclusions and recommendations

Today, there are 1.3 billion young people between the ages of 15 and 24, accounting for 16 percent% of the global population (FAO, 2025). This number is expected to rise as the global population is projected to reach 9 billion by 2050 (United Nations, 2017). Urgent action is needed now to mitigate any potential pressures on food production resources and ensure biodiversity conservation and sustainable use.

The above case studies highlight the important role youth play in connecting biodiversity conservation and sustainable use with improved nutrition. A lack of case studies on food environments and consumer behaviour contexts, particularly those of youth, in comparison to agriculture, is a limitation of our mapping, as more case studies focusing on these agrifood systems components might exist and simply not feature in our selection. Additionally, while all of these initiatives focused on biodiversity conservation and its sustainable use, not all of them made a direct connection with healthy diets, which can be an entry point for strengthening these initiatives. Through these activities, young people are promoting practices that protect biodiversity while improving access to diverse, nutrient-rich food sources. They also serve as educational platforms, equipping youth with the knowledge and skills to understand the vital relationship between biodiversity and healthy diets. In doing so, they contribute to a future where both the health of the planet and the nutritional needs of youth are safeguarded, supporting the development of resilient agrifood systems.

Drawing on the desk review and lessons learned from these global and regional case studies of youth-led initiatives, this report proposes the following recommendations for young leaders and professionals who are engaged in efforts to conserve and sustainably use biodiversity and improve diets through an agrifood system lens. These recommendations highlight strategies that can empower youth to leverage biodiversity for healthier diets, build more resilient and sustainable agrifood systems and drive positive change in their communities, countries and beyond. Additionally, since many of the challenges, entry points and activities identified through the case studies are related to policy, the report also includes higher level recommendations for policy makers and other relevant stakeholders who can facilitate youth engagement in agrifood systems through the levers of biodiversity and healthy diets.

Recommendations for young leaders and professionals:

1. **Take action in communities by developing initiatives that address both biodiversity conservation and sustainable use as well as access and affordability of healthy diets.** This can include starting community gardens featuring NUS, organizing seed exchanges, or creating nutrition programs that embrace local and traditional foods. Ensure that initiatives include monitoring and measurement of dietary outcomes to assess the impact of biodiversity conservation efforts in communities.
2. **Explore and apply innovative approaches such as artificial intelligence, and other digital tools** in the design and implementation of youth initiatives. These approaches can strengthen youth-led actions, enhance sustainability and create scalable solutions that not only preserve biodiversity but also address interconnected food, health, climate and livelihood challenges.
3. **Learn from and collaborate with Indigenous Peoples, including Indigenous youth**, as custodians of biodiversity and holders of fundamental knowledge for the improvement of agrifood systems. Support the integration of their foods and practices into local agrifood systems, including in school meals, as well as the dissemination of their skills and knowledge within communities, and advocate alongside them for the protection of their resources, territories and food heritage.
4. **Document and share knowledge and experiences** by recording good practices, impacts, challenges, lessons learned and success stories focused on biodiversity and healthy diets. Share

success stories through blogs, videos or presentations within the community to inspire peers as well as help fill knowledge gaps on access to opportunities for young people, particularly those from marginalized groups.

5. **Amplify youth voice through social media** to increase awareness on the potential of NUS and traditional foods for ecosystems conservations and improve diets. Share engaging content, such as recipe videos, personal stories, nutrition facts, and videos supporting local producers. Include information on sustainable farming practices that conserve biodiversity, reduce environmental impact and minimize food loss, while also spreading nutrition messages to improve diets and healthy eating habits among young people.
6. **Promote and initiate capacity-building activities** in communities and schools to raise awareness and knowledge about the sustainable management of agriculture, aquaculture, fisheries and forestry. At the same time, encourage the consumption of local, seasonal, and traditional foods, and the adoption of food waste reduction strategies, highlighting the link between biodiversity and healthy diets.

Recommendations for policy makers and relevant stakeholders:

1. **Include youth representation in governance** by establishing transparent and democratic selection processes that ensure meaningful participation in decision-making bodies addressing the sustainable management of ecosystems and genetic resources, and nutrition challenges. Priority must be given to representing marginalized groups including young women, Indigenous youth and rural youth to ensure diverse perspectives shape policies and programs that promote biodiversity conservation and sustainable use as well as improve access to affordable, healthy diets.
2. **Involve youth in the development of school feeding programmes** to ensure that nutrition guidelines are aligned with youth behaviour and consumption patterns in school settings. Link these programs with local young farmers, particularly those cultivating NUS, to sustainably diversify the foods offered in schools while also strengthening farmers' businesses and increasing their incomes.
3. **Incorporate biodiversity and nutrition modules into school curricula** to increase students' knowledge of healthy diets, including drivers and barriers to healthy eating, the importance of local, seasonal and traditional foods, and strategies to reduce food waste. Include capacity-building on climate-smart, biodiversity-supporting practices that conserve ecosystems and minimize food loss. These modules should be included at all educational levels and incorporate hands-on activities such as school gardens, farm visits and cooking classes that connect students with local agrifood systems.
4. **Allocate public funding and promote private research grants and fellowships** that support context-specific solutions promoting the conservation and sustainable use of biodiversity and measures to improve access to and consumption of affordable, healthy diets, enhancing livelihoods and well-being. Ensure that these research initiatives also include robust data collection on the linkages between biodiversity and diets, so the evidence generated can inform policies at community and regional levels.
5. **Scale up youth-led initiatives** by providing targeted funding and incentives to support projects that conserve biodiversity and promote its sustainable use to enhance access to diverse, nutritious foods. In addition to financial support, **offer mentorship programs** and business development assistance to strengthen the feasibility, sustainability and impact of these initiatives.
6. **Strengthen community-based conservation infrastructure**, such as seed banks and seasonal seed fairs, to conserve traditional varieties and improve access for youth-led farms and gardens,

enable their sustainable use and ensure nutritious and diverse foods are available at the local level. These infrastructures can serve as platforms for knowledge transfer, where experienced community members can mentor younger generations, sharing insights on the nutritional, environmental and cultural importance of crop diversification.

7. **Facilitate knowledge and learning networks** to collect, analyze and disseminate case studies of youth initiatives linking the conservation and sustainable use of biodiversity and diets to encourage knowledge sharing and coordinated efforts. For example, create platforms where young practitioners can share experiences, troubleshoot challenges and coordinate their own efforts across different sectors and regions to learn from diverse contexts and approaches.
8. **Build a cross-cutting system** that provides coordinated action across different stakeholders to make previous recommendations stronger. Policymakers should work with educational institutions, research organizations, private sector actors, civil society and underrepresented groups to create a supportive system where young people can access resources, mentorship, platforms and overall outreach to turn their biodiversity-diet initiatives into sustainable and impactful interventions.

For young people, especially those engaged in agrifood systems, the decline in biodiversity presents both a challenge and a call to action. As the next generation of producers, retailers, caterers, consumers, innovators and policymakers, youth have a critical role to play in protecting biodiversity and promoting sustainable agrifood systems that enable access to healthy diets for all. Ensuring that young people can access healthy diets today is also about safeguarding their ability to shape sustainable and diverse food futures tomorrow. By investing in youth capacities, entrepreneurship and decision-making power now, we not only strengthen their agency but also lay the foundation for resilient, biodiverse agrifood systems that benefit future generations.

References

- Alliance for Food Sovereignty in Africa (AFSA).** 2024. *African Youth in Agroecology: Stories of Experience*. AFSA. <https://afsafrika.org/wp-content/uploads/2024/10/stories-copy-final-2-1.pdf>
- Al-Jawaldeh, A., Doggui, R., M. Taleb, L. Hwalla, and S. Naja.** 2023. School-Based Nutrition Programs in the Eastern Mediterranean Region: A systematic review. *International Journal of Environmental Research and Public Health*, 20(22), 7047
- Act4Food.** 2021. The power of youth: co-creating sustainable food systems together. In: *Food Ethics Council*. <https://www.foodethicscouncil.org/opinion/the-power-of-youth-co-creating/>
- Adams, S., and Savahl, S.** 2017. *Nature as children's space: A systematic review*. The Journal of Environmental Education. <https://doi.org/10.1080/00958964.2017.1366160>
- Afshin, Ashkan et al.** 2019. Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*, 393(10184). [https://doi.org/10.1016/S0140-6736\(19\)30041-8](https://doi.org/10.1016/S0140-6736(19)30041-8)
- Bibi Fatima Self-Help Group.** 2021. *Bibi Fatima Women's Self-Help Group Wins UNDP's Prestigious Equator Initiatives Award 2025*. In: AMK Resource World. https://amkresourceinfo.com/bibi-fatima-womens-self-help-group-wins-undps-prestigious-equator-initiative-award-2025/#google_vignette
- CBD.** 2005. *Handbook of the Convention on Biological Diversity: including its Cartagena Protocol on Biosafety / Secretariat of the Convention on Biological Diversity*. 3rd edition, Montreal, Canada, CBD and UNEP. <https://www.cbd.int/doc/handbook/cbd-hb-all-en.pdf>
- Charles, A., Kalikoski, D. and Macnaughton, A.** 2019. *Addressing the climate change and poverty nexus: a coordinated approach in the context of the 2030 agenda and the Paris agreement*. Rome, FAO. <https://openknowledge.fao.org/handle/20.500.14283/ca6968en>
- Childs, G. and Choedup, N.** 2014. Indigenous management strategies and socioeconomic impacts of Yartsa Gunbu (*Ophiocordyceps sinensis*) harvesting in Nubri and Tsum, Nepal. *Himalaya*, 34(1): 8–22. https://www.researchgate.net/publication/281718346_Indigenous_management_strategies_and_socioeconomic_impacts_of_Yartsa_Gunbu_Ophiocordyceps_sinensis_harvesting_in_Nubri_and_Tsum_Nepal
- Climate Smart Agriculture Youth Network Global.** 2025. Youth-led collaborations key for transforming global food systems. In: *Farming First*. [Cited 18 August 2025]. <https://farmingfirst.org/2025/05/youth-led-collaborations-key-for-transforming-global-food-systems/>
- Dietershagen, J. and Bammann, H.** 2023. *Opportunities for youth in the bioeconomy – Opportunities and barriers for youth employment and entrepreneurship in the emerging bioeconomy sectors*. FAO Agricultural Development Economics Technical Study, No. 30. Rome, FAO. <https://doi.org/10.4060/cc8238en>
- Fanzo J., Rudie C., Sigman I., et al.** 2022. Sustainable food systems and nutrition in the 21st century: a report from the 22nd annual Harvard Nutrition Obesity Symposium. *Am J Clin Nutr*, 115(1): 18–33. <https://doi.org/10.1093/ajcn/nqab315>
- FAO, IFAD, UNICEF, WFP and WHO.** 2025. *The State of Food Security and Nutrition in the World 2025 – Addressing high food price inflation for food security and nutrition*. Rome; FAO, IFAD, UNICEF, WFP and WHO. <https://doi.org/10.4060/cd6008en>

FAO. 2019. *The State of the World's Biodiversity for Food and Agriculture*. FAO Commission on Genetic Resources for Food and Agriculture Assessments. J. Bélanger & D. Pilling (eds.). FAO Commission on Genetic Resources for Food and Agriculture Assessments. Rome. 572 pp. <https://doi.org/10.4060/CA3129EN>

FAO. 2020. *How the world's food security depends on biodiversity*. Rome, FAO. <https://openknowledge.fao.org/handle/20.500.14283/cb0416en>

FAO. 2021. *Climate change, biodiversity and nutrition nexus – Evidence and emerging policy and programming opportunities*. Rome, FAO. <https://doi.org/10.4060/cb6701en>

FAO. 2021. *The White/Wiphala Paper on Indigenous Peoples' food systems*. Rome.

FAO. 2022. *Framework for Action on Biodiversity for Food and Agriculture*. FAO Commission on Genetic Resources for Food and Agriculture. Rome, FAO. <https://doi.org/10.4060/cb8338en>

FAO. 2024a. *The State of Food and Agriculture 2024 – Value-driven transformation of agrifood systems*. Rome, FAO. <https://doi.org/10.4060/cd2616en>

FAO. 2024b. *Agricultural production statistics 2010–2023*. FAOSTAT Analytical Briefs, No. 96. Rome, FAO. <https://openknowledge.fao.org/handle/20.500.14283/cd3755en>

FAO. 2024c. *The state of agricultural commodity markets 2024 – Trade and nutrition: Policy coherence for healthy diets*. Rome, FAO. <https://doi.org/10.4060/cd2144en>

FAO. 2025. *The Status of Youth in Agrifood Systems*. Rome, FAO. <https://doi.org/10.4060/cd5886en>

FAO and Alliance of Bioversity International and CIAT. 2021. *Indigenous Peoples' food systems: Insights on sustainability and resilience from the front line of climate change*. Rome, FAO. <https://doi.org/10.4060/cb5131en>

FSIN and GNAFC. 2025. *Global report on food crises 2025*. Rome, FSIN and GNAFC. <https://doi.org/10.71958/wfp130664>

Ghana Youth Environmental Movement. 2020. Who We Are. In: *Ghana Youth Environmental Movement*. [Cited 12 August 2025]. <https://gyemgh.org/>

Green Africa Youth Organization. 2020. Leading the way to a greener future. In: *Green Africa Youth Organization*. [Cited 12 August 2025]. <https://greenafricayouth.com/>

HLPE. 2020. *Food security and nutrition: building a global narrative towards 2030*. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security. Rome, FAO. <https://openknowledge.fao.org/server/api/core/bitstreams/2a2bdf7d-596e-485c-9521-f4227db5c6aa/content>

Hunter, D., Borelli, T. and Gee, E., ed. 2020. *Biodiversity, food and nutrition: a new agenda for sustainable food systems*. Abingdon, Oxon and New York, NY, Routledge. <https://www.routledge.com/Biodiversity-Food-and-Nutrition-A-New-Agenda-for-Sustainable-Food-Systems/Hunter-Borelli-Gee/p/book/9780367141516>

Hunter, D., Borelli, T., Beltrame, DMO, et al. 2019. The potential of neglected and underutilized species for improving diets and nutrition. *Planta*, 250: 709–729. <https://doi.org/10.1007/s00425-019-03169-4>

- IPBES.** 2019. *Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*. Bonn, Germany, IPBES Secretariat. https://files.ipbes.net/ipbes-web-prod-public-files/inline/files/ipbes_global_assessment_report_summary_for_policymakers.pdf
- IFPRI.** 2024. *Global food policy report 2024: Food systems for healthy diets and nutrition*. Washington, DC: International Food Policy Research Institute. <https://hdl.handle.net/10568/141760>
- Jones AD.** 2017. Critical review of the emerging research evidence on agricultural biodiversity, diet diversity, and nutritional status in low- and middle-income countries. *Nutr Rev*, 75(10): 769–782. <https://doi.org/10.1093/nutrit/nux040>
- Keep Growing Detroit.** 2020. Cultivating a food sovereign Detroit. In: *Keep Growing Detroit*. [Cited 12 August 2025]. <https://keepgrowingdetroit.org/>
- Kennedy, G., Wang, Z., Maundu, P., Hunter, D.** 2022. *The role of traditional knowledge and food biodiversity to transform modern food systems*. Trends in Food Science and Technology, 130: 32–41. <https://doi.org/10.1016/j.tifs.2022.09.011>
- Khoury, C.K., Bjorkman, A.D., Dempewolf, H., Ramirez-Villegas, J., Guarino, L., Jarvis, A., Rieseberg, L.H., Struik, P.C.** 2014. Increasing homogeneity in global food supplies and the implications for food security. *Proc. Natl. Acad. Sci. U.S.A.* 111 (11) 4001–4006, <https://doi.org/10.1073/pnas.1313490111>
- Kirts, L.** 2022. How El Departamento de la Comida Fights Colonialism Through Food. In: *Them*. [Cited 12 August 2025]. <https://www.them.us/story/el-departamento-de-la-comida-tara-rodriguez-besosa-puerto-rico-food-farming>
- Liu, Y., Song, X., Huang, S., Xu, M.** 2025. *Research on the Impact of Population Aging on Agricultural Sustainable Development*. Sustainability, 17(10). <https://doi.org/10.3390/su17104738>
- Moreda, T.** 2023. The social dynamics of access to land, livelihoods and the rural youth in an era of rapid rural change: Evidence from Ethiopia. *Land Use Policy*, 128. <https://doi.org/10.1016/j.landusepol.2023.106616>
- Ojha, H. R., Shrestha, K. K., Subedi, Y. R., Shah, R., Nuberg, I., Heyojoo, B., McManus, P.** 2017. Agricultural land underutilisation in the hills of Nepal: Investigating socio-environmental pathways of change. *Journal of Rural Studies*, 53: 156–172. <https://doi.org/10.1016/j.jrurstud.2017.05.012>
- Pacific Island Forum.** 2022. RELEASE: Pacific Youth-led small grant Initiatives on Climate Change and Resilience launched. In: *Pacific Island Forum*. [Cited 12 August 2025] <https://pacificresiliencepartnership.org/news/pacific-youth-led-small-grant-initiatives-on-climate-change-and-resilience-launched/>
- Pan American Health Organization and WHO.** 2018. Part I: A Profile of Adolescents and Youth in the Americas. In: *Pan American Health Organization*. [Cited 12 August 2025]. <https://www.paho.org/adolescent-health-report-2018/part-one-a-profile-of-adolescents-and-youth-in-the-americas.html>
- Phat Beets Produce.** 2020. In: *Phat Beets Produce*. [Cited 12 August 2025]. <https://www.phatbeetsproduce.org/>
- Popkin, B.M.** 2017. Relationship between shifts in food system dynamics and acceleration of the global nutrition transition. *Nutrition Reviews*, 75(2): 73–82. <https://doi.org/10.1093/nutrit/nuw064>

- Pyle, R. M.** 2002. Eden in a VacantLot: Special Places, Species, and Kids in the Neighborhood of Life. P. H. Kahn and S. R. Kellert, eds., *Children and Nature: Psychological, Sociocultural and Evolutionary Investigations*. Boston, MIT Press. <https://doi.org/10.7551/mitpress/1807.003.0013>.
- Rosenthal, A., Simpson, M. and Wahono, A.** 2024. *Biodiversity and Nutrition Synergies: Evaluating National Biodiversity Strategies and Actions Plans for Integration*. Geneva, Global Alliance for Improved Nutrition. <https://www.gainhealth.org/sites/default/files/publications/documents/i-can-report-on-biodiversity-and-nutrition-synergies.pdf>
- Samoa Conservation Society.** 2020. Conserving Samoa's Natural Heritage. In: *Samoa Conservation Society*. [Cited 18 August 2025]. <https://samoaconservationsociety.com/>
- Seed.** 2020. Seed Indigenous Youth Climate Network. In: *Seed*. [Cited 18 August 2025]. <https://www.seedmob.org.au/>
- Shrestha UB, Dhital KR, Gautam AP.** 2019. Economic dependence of mountain communities on Chinese caterpillar fungus *Ophiocordyceps sinensis* (yarsagumba): a case from western Nepal. *Oryx*, 53(2): 256–264. <https://doi.org/10.1017/S0030605317000461>
- Sibhatu K.T., Qaim M.** 2018. Review: Meta-analysis of the association between production diversity, diets, and nutrition in smallholder farm households. *Food Policy*, 77: 1–18. <https://doi.org/10.1016/j.foodpol.2018.04.013>
- Stevens, G.A., Beal T., Mbuya M.N.N., Luo H., Neufeld L.M., Global Micronutrient Deficiencies Research Group.** 2022. Micronutrient deficiencies among preschool-aged children and women of reproductive age worldwide: a pooled analysis of individual-level data from population-representative surveys. *Lancet Glob Health*, 10(11): e1590–e1599. [https://doi.org/10.1016/S2214-109X\(22\)00367-9](https://doi.org/10.1016/S2214-109X(22)00367-9)
- Suzuki, M.** 2020. 5 youth-led restoration projects to know. In: *Think Landscape Global Landscapes Forum*. [Cited 12 August 2025]. <https://thinklandscape.globallandscapesforum.org/57534/restoration-stewards-2020-21-five-youth-led-restoration-projects-to-know>
- Swinburn, B.A., Kraak, V.I., Allender, S., Atkins, V.J., Baker, P.I., Bogard, J.R., Dietz, W.H.** 2019. The global syndemic of obesity, undernutrition, and climate change: *The Lancet Commission report*. *The Lancet*, 393(10173), 791–846. [https://doi.org/10.1016/S0140-6736\(18\)32822-8](https://doi.org/10.1016/S0140-6736(18)32822-8)
- The Food Project.** 2020. What We Do. In: *The Food Project*. [Cited 12 August 2025]. <https://thefoodproject.org/>
- The Seed Savers' Network.** 2020. The Seed Savers' Network, est. 1985. In: *The Seed Savers' Network, Local Seed Legends*. [Cited 12 August 2025]. <https://seedsavers.net>
- Times of India.** 2021. 'Roarsearch' workshop trains youth in wildlife monitoring. In: *Times of India*. [Cited 12 August 2025]. <https://timesofindia.indiatimes.com/city/vadodara/roarsearch-workshop-trains-youth-in-wildlife-monitoring/articleshow/123221590.cms>
- Times of India.** 2025. Hubballi SHG wins UN award. In: *Times of India*. [Cited 12 August 2025]. <https://timesofindia.indiatimes.com/city/hubballi/hubballi-shg-wins-un-award/articleshow/123193432.cms>

Ulian, T., Diazgranados, M., Pironon, S., Padulosi, S., Liu, U., Davies, L., Howes, MJ., Borrell, J., et al 2020. *Unlocking plant resources to support food security and promote sustainable agriculture*. *Plants People Planet*. 2020. 421–445. <https://doi.org/10.1002/ppp3.10145>

United Nations. 2017. *World Population Prospects*. Data Booklet.

United Nations. 2024. Young People's Potential, the Key to Africa's Sustainable Development. In: *United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States*. [Cited 18 August 2025]. <https://www.un.org/ohrrls/news/young-people>

UNDP. 2023. Green Kuakata: A Youth-led Initiative to Conserve Biodiversity and Ecosystem Services. Bridging Tourism and Biodiversity: Youth-Led Conservation in Kuakata. In: *UNDP Bangladesh*. [31 December 2023]. <https://www.undp.org/bangladesh/blog/green-kuakata-youth-led-initiative- conserve-biodiversity-and-ecosystem-services>

UNDP. 2025. Climate won't wait - and neither will the youth: Kazakh school students create green solutions. In: *UNDP Kazakhstan*. [Cited 12 August 2025]. <https://www.undp.org/kazakhstan/stories/ climate-wont-wait-and-neither-will-youth-kazakh-school-students-create-green-solutions>.

UNFPA. 2024. Today's Adolescents and Youth. In: *UNFPA Asia and the Pacific*. [Cited 12 August 2025]. <https://asiapacific.unfpa.org/en/adolescents-and-youth>

UNFPA. 2025. Adolescents and Young People in Latin America and the Caribbean. In: *UNFPA Latin America and the Caribbean*. [Cited 12 August 2025]. <https://lac.unfpa.org/en/topics/adolescence- and-youth>

UN Food Systems Youth Leadership Program. Join the UN Food Systems Youth Leadership Program 2024: Empower Your Career in Food Systems Transformation. In: *UN Food Systems Hub*. [Cited 12 August 2025]. <https://www.unfoodsystemshub.org/hub-solution/youth-leadership-programme/>

UNICEF. 2025. *Feeding Profit. How food environments are failing children: Child Nutrition Report 2025*. New York, UNICEF. <https://data.unicef.org/resources/feeding-profit-2025-child-nutrition-report/>

Warner, K., Hamza, M., Oliver-Smith, A., Renaud, F., and Julca, A. 2010. Climate change, environmental degradation and migration. *Natural Hazards*, 55(3): 689–715. <https://doi.org/10.1007/s11069-009-9419-7>

WHO and FAO. 2024. *What are healthy diets? Joint statement by the Food and Agriculture Organization of the United Nations and the World Health Organization*. Geneva: World Health Organization and Food and Agriculture Organization of the United Nations. <https://doi.org/10.4060/cd2223en>

WHO. 2025a. Biodiversity. In: *WHO - Fact sheets*. [Cited 18 August, 2025]. <https://www.who.int/news-room/fact-sheets/detail/biodiversity>

WHO. 2025b. Healthy diet - Overview. In: *WHO*. Ginevra. [Cited 18 August, 2025]. https://www.who.int/health-topics/healthy-diet#tab=tab_1

Wilson, EO. and Peter, FM., eds. 1988. *Biodiversity*. National Academies Press, Washington, D.C. <https://doi.org/10.17226/989>

Youth4Nature. 2021. Mobilising Youth to Lead for nature and climate. In: *Youth4Nature*. [Cited 18 August, 2025]. <https://www.youth4nature.org/>

World Food Forum

E-mail:

Coordinator@world-food-forum.org

Web address:

youth.world-food-forum.org