Catalysing agrobiodiversity

A call for differentiated and complementary approaches

Duncan Macqueen, Anna Ducros, Isabela Núñez del Prado Nieto and Duncan Williamson

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Cover photo: agrobiodiverse family farm in Belize. Credit: Duncan Macqueen/IIED

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Contents

Abbreviations

ABC	Agrobiodiversity catalyst
CGIAR	Consultative Group on International Agricultural Research
COP26	26th United Nations Climate Change Conference
COP30	30th United Nations Climate Change Conference
CSB	Community seed bank
CSO	Civil society organisation
FAO	Food and Agriculture Organization of the United Nations
FFF	Forest and Farm Facility
FPIC	Free, prior and informed consent
GIAHS	Globally Important Agricultural Heritage System
IFAD	International Fund for Agricultural Development
PACS	Payments for agrobiodiversity conservation
PGS	Participatory guarantee scheme
RB+	Renta Básica y Acompañamiento hacia Modos Regenerativos de Vida/Basic Income and Support towards Regenerative Ways of Life
SACCO	Saving and credit cooperative organisation
TERRA	Together for the Expansion of Resilient and Regenerative Agroecology and Agroforestry
TRIPS	Trade-Related Aspects of Intellectual Property Rights
UN	United Nations
UNORCAC	Union of Peasant and Indigenous Organizations of Cotocachi
UPOV Convention	International Convention for the Protection of New Varieties of Plants

Summary

Agrobiodiversity (agricultural biodiversity) is a subset of biodiversity that includes all components of biodiversity of relevance for food and agriculture systems. It includes the variety and variability of animals, plants and microorganisms at genetic, species and ecosystem levels that are necessary to sustain key functions of those ecosystems. It also includes wild foods and crop wild relatives outside of farmers' fields and in protected areas, although the conservation of natural forest and protected areas falls outside of our focus in this paper.

There is limited consensus among the scientific community as to what taxonomic units need to be conserved when discussing agrobiodiversity. For plants, options include alleles, landraces, varieties/cultivars, species or races. For livestock, the situation is better developed but still involves options of breeds and strains. There is also little consensus on the relative importance of maintaining intra-specific diversity (different species) or infra-specific diversity (variations within a particular species). Our purpose here is to highlight rather than attempt to clarify this lack of consensus, and we use 'varieties, species and breeds' to encompass the breadth of agrobiodiversity conservation.

Maintaining and enhancing biodiversity is one of the 13 main principles of **agroecology**, an approach that applies ecological principles to agriculture. Agrobiodiversity can often be maintained or enhanced through mixed farming and cropping — for example, by incorporating crops, trees and livestock in the same fields, an approach known as **agroforestry**.

The benefits of agrobiodiversity include enhancing dietary diversity, nutrition, health, food security, climate resilience and livelihoods, sustaining ecosystem services, preserving biocultural heritage, and managing and reducing risks. For many Indigenous Peoples and local communities who steward much of the world's remaining agrobiodiversity, it is also embedded in a belief system in which the crops they grow and eat are inseparable from cultural practices, rituals, sacred and symbolic values, and deep relationships with seeds and landscapes. These belief systems shape the way communities value, steward and transmit agricultural diversity across generations. More broadly, the agrobiodiversity that people grow is linked to what people eat and to the many activities that shape these interactions within food systems — from production (agriculture, aquaculture, fresh and saltwater fishing practices) to processing and consumption — whether these systems be Indigenous/traditional or market oriented and industrialised, including manufacturing, transport, formal and informal markets, retailing, restaurants and other food services, diets, food loss and waste.

While many mechanisms and funding schemes have been set up to conserve wild biodiversity in locally managed natural forests and protected areas, comparatively little attention has been paid to conserving the agrobiodiversity on which humanity depends for its immediate nutrition. This report shines a spotlight firmly on existing and potential agrobiodiversity catalyst (ABC) mechanisms that can incentivise and reward farmers, Indigenous Peoples and local communities for conserving and enhancing agrobiodiversity.

Several political and economic forces are pitted against the maintenance of agrobiodiversity, including: powerful land grabs that undermine secure tenure; the economic profitability of monocultures; agricultural technologies that demand uniform crops; industrialised knowledge, seed and intellectual property right systems; and political power imbalances in favour of the above. Of the 6,190 breeds of mammals that humans have domesticated historically for food and agriculture, 559 (more than 9%) are extinct and at least 1,000 more are threatened. Of the 7,000 plant species cultivated historically for food, just 80 make a major contribution to the global food supply today and half of all plant-based calories come from just three species: rice, maize and wheat.

Countervailing efforts to deploy ABC mechanisms are needed to drastically slow down and reverse this global loss. A funding gap is estimated at US$700 billion per year, US$500 billion of which needs to be generated from redirecting environmentally harmful subsidies with US$200 billion of new public and private finance that should reach the local level and directly benefit those growing agrobiodiversity. With high levels of uncertainty over public finance for nature, philanthropic, private sector and self-mobilised finance in local savings groups and credit unions will also be needed.

Maintaining agrobiodiversity in often very different farming systems involves challenges to do with: how knowledge is respected, protected and shared; the scale, efficiency and sustainability of different production systems; and the security and incentives afforded by policies that govern legal tenure, rights, seed, inputs and trade. Many smallholder farmers, Indigenous Peoples and local communities have overcome these challenges through organisational innovations

to promote the benefits of agrobiodiverse products, share knowledge on farming and agroforestry systems where agrobiodiverse crops can flourish, protect agrobiodiversity-rich traditional territories and seed systems, develop business models that aggregate and sell diverse crops and sustain cultural values while generating income, mobilise internal finance mechanisms that provide loans for experimentation or conservation, and represent their members or communities in advocacy for enabling policies. They deserve to be better rewarded for these efforts.

Not all ABC mechanisms prioritise finance (although alternative priorities may still need to *be financed*). For example, some might give legal and political support to smallholder farmers, Indigenous Peoples and local communities whose values and traditions, biocultural heritage territories and local seed management systems preserve much of the world's remaining agrobiodiversity. Others can focus on conducting agrobiodiversity research, monitoring at-risk varieties, species and breeds and ex-situ conservation, developing information technologies that make agrobiodiversity knowledge available, building effective recognition systems for agrobiodiversity heritage that respect community leadership, culture and rights, and expanding nutritional education and medicinal knowledge promotion.

But other ABC mechanisms — such as incentive-based mechanisms with in-kind rewards or unconditional payments to those conserving agrobiodiversity, crop-specific subsidy and public procurement programs, agrobiodiversity-linked certification and labelling schemes, or premium market branding for agroforestry products — do involve finance. There are also communal funds designed by Indigenous Peoples that combine finance with cultural values, recognising that finance alone can contribute to erosion of cultural values for agrobiodiversity conservation.

Our review of ABC mechanisms finds that they operate across different scales — from a farmers' field to an entire nation — and very different agricultural contexts. As such, different ABC mechanisms may be needed for different contexts. These include: large-scale industrial monocropping or pastureland with very little agrobiodiversity and increasing land degradation; Indigenous and traditional territories where there is high agrobiodiversity that needs protection and financial recompense to rebuff external threats; local community smallholder farmer landscapes, which often have some cash monocrops that may be linked into industrial-scale private sector supply chains but usually also have diverse home gardens for subsistence.

Linked to these different contexts, we identified different approaches to developing ABC mechanisms. These are: **biocentric** approaches, which prioritise the conservation of rare or endangered crop varieties that contribute to agrobiodiversity; **sociocultural** approaches that prioritise protecting biocultural heritage systems and territories where agrobiodiversity is conserved; and **market-based** approaches that prioritise the sustainability of commodity supply by introducing agrobiodiversity.

Each of these three approaches might require a unique finance mechanism to support its development. An in-kind biocentric payment mechanism that rewards local communities for protecting endangered crop varieties would not be expected to alter the way Indigenous or agroindustrial crops are cultivated but might change which local crop varieties farmers are incentivised to cultivate. A sociocultural finance mechanism that supports one of several emerging Indigenous Peoples funds to protect their biocultural heritage would do little to change agroindustrial practice. A market-based credit mechanism suited to incentivise agroindustrial agrobiodiversity is unlikely to suit Indigenous Peoples and local communities who reject mechanisms that commodify nature and biocultural heritage.

A range of national to global institutions and networks — such as the Agroecology Coalition — have been established to conserve agrobiodiversity as part of a broader mandate. And supported by the Agroecology Coalition, the Brazilian government and partners launched the Together for the Expansion of Resilient and Regenerative Agroecology and Agroforestry (TERRA) coalition at the 30th United Nations Climate Change Conference (COP30) in 2025 to scale up agroecology and agroforestry solutions. This coalition might have the breadth to act as an umbrella initiative for advancing the different types of finance required for different ABC mechanisms, complementing the International Treaty on Plant Genetic Resources for Food and Agriculture's Benefit-sharing Fund, which seeks to reward agrobiodiversity conservation by farmers, Indigenous People and local communities.

Under such an umbrella, plant conservation researchers and policymakers urgently need to develop clear biocentric agrobiodiversity conservation goals and define clear market-based and sociocultural goals with agroindustry, Indigenous Peoples and local communities. The Food and Agriculture Organization of the United Nations (FAO) has set conservation goals for livestock breeds, with threat levels defined by numbers of reproductive females and their trends, differing by species, but this largely remains to be done for crops. Agrobiodiversity conservation goals will need

to consider not just areas per variety and species but also farmer numbers and spatial distribution. Armed with clearer goals, researchers could then work closely with farmers, Indigenous Peoples and local communities to co-design and better catalogue and describe ABC mechanisms that fit different contexts, test their regional suitability and set up peer-to-peer learning to advance their development. Philanthropic, bilateral, multilateral and public development bank donors can join forces with the self-mobilised financial cooperatives of smallholder farmers, Indigenous Peoples and local communities to co-design, pilot and upscale ABC mechanisms. Practitioners and advocates can start to bridge positions between Indigenous Peoples, plant conservationists, agricultural scientists and agroindustrial farmers on agrobiodiversity. They can strengthen networks and build capacity to fight for land tenure, rights to seed, and farmer-managed natural regeneration systems. They can also help break down the disconnect between in-situ and ex-situ conservation, pilot and upscale ABC mechanisms suited to different contexts, and develop labels and certification of those schemes. And finally, they can promote enabling policies such as targeted subsidies for neglected or underutilised varieties, species and breeds, and policies that protect local seed systems and traditional knowledge.

1

Introduction

Agrobiodiversity is increasingly recognised as a foundation of resilient, nutritious and climate-adapted food systems, yet the mechanisms that sustain it remain poorly mapped and unevenly supported. This paper responds to that gap by examining a broad range of existing, emerging and potential mechanisms that can help maintain and enhance agricultural biodiversity in different contexts. By assessing which mechanisms work where, how and why, we aim to support more strategic action that strengthens agrobiodiversity as a public good and as the ancestral heritage — or biocultural heritage[1] — of many Indigenous Peoples and local communities.

We use the term agrobiodiversity catalysts (ABCs) to describe the full spectrum of mechanisms that promote the conservation and enhancement of agrobiodiversity. This framing allows us to bring together diverse experiences and perspectives: from unconditional payments and credit incentives to seed exchange networks and farmer-led conservation practices. Importantly, as well as external incentives introduced by governments, donors or markets, the term covers the strengthening of internal systems that are already embedded in Indigenous Peoples' and local communities' ways of life, such as cultural valuation of crops and cultural and spiritual values related to seeds and nature.

This paper was informed by a desk-based review across academic and grey literature, as well as key informant interviews with practitioners and organisations working on agrobiodiversity. As part of the research, we convened two roundtables — one Spanish speaking one for the Latin American time zone and one English speaking one for the rest of the world — to reflect on lessons learned from existing mechanisms and explore potential new mechanisms. These roundtables were attended by practitioners and researchers, including representatives of Indigenous Peoples and farmer organisations, with experience of implementing or researching ABC mechanisms. Together, these sources allowed us to conduct a review and develop a typology of approaches for ABCs that can work across different contexts.

This paper is divided into four sections. First, we provide a rationale and description of the importance of agrobiodiversity, its role in food systems, its benefits and its challenges. This includes an overview of the key role that smallholder farmers, Indigenous Peoples and local communities play in agrobiodiversity management. Second, we provide an overview of the finance destined to protect wild biodiversity and a review of existing ABC mechanisms. Third, we propose a typology of approaches, based on the preceding sections and existing ABC mechanisms that we can build on. Finally, we identify some recommendations for researchers, donors and practitioners.

1 The term 'biocultural heritage' recognises that much of the world's agrobiodiversity has been created (domesticated and improved) by Indigenous Peoples and local communities over generations, who have made and continue to make an enormous contribution to the conservation and development of plant genetic resources, as recognised by the International Treaty on Plant Genetic Resources for Food and Agriculture. The concept of biocultural heritage, developed by Indigenous Peoples and local communities, recognises the inextricable linkages and interdependence between the biodiversity (including seeds), traditional knowledge, cultural and spiritual values, landscapes and customary laws of Indigenous Peoples and local communities, and the need to protect these biocultural systems (Swiderska et al., 2022).

Box 1. Definitions

Agrobiodiversity (agricultural biodiversity) is a subset of biodiversity that includes all components of biodiversity that are relevant for food and agriculture systems. It includes the variety and variability of animals, plants and microorganisms at genetic, species and ecosystem levels that are necessary to sustain key functions of those ecosystems. It also includes wild foods and crop wild relatives outside of farmers' fields or in protected areas, although the conservation of natural forest and protected areas falls outside of our focus in this paper.

Agrobiodiversity can be measured in different ways, such as the number of varieties, species and breeds on a particular farm (alpha diversity), the number of differences in varieties, species and breeds between different farms (beta diversity), the combined total of varieties, species and breeds in a region comprising many farms (gamma diversity), or using traditional knowledge-based classification systems (Swiderska and Argumedo, 2022).

There is limited consensus among the scientific community as to what taxonomic units need to be conserved when discussing agrobiodiversity. For plants, options include alleles, landraces, varieties/cultivars, species or races. For livestock, the situation is better developed but still involves options of breeds and strains. There is also little consensus on the relative importance of maintaining intra-specific diversity (different species) or infra-specific diversity (variations within a particular species). Whatever taxonomic units are used, agrobiodiversity is important because the world's total agricultural area stands at 48 million square kilometres — that is, 46% of the total global land surface area of 149 million square kilometres — far exceeding the area of remaining forests of 40 million square kilometres, which makes up 38% of the total global land surface area (Potapov et al., 2022).

Agroecology is "an approach that applies ecological principles to agriculture" (Altieri, 1987). It is relevant to agrobiodiversity in that maintaining biodiversity is one of the ecological principles that must be applied to agriculture within an agroecological approach (Sinclair et al., 2019). It is vital to recognise that in agroecosystems, agrobiodiversity performs a variety of ecological services beyond producing diverse products, including recycling nutrients, regulating microclimate and local hydrological processes, suppressing undesirable organisms and detoxifying noxious chemicals. A consensus view on the ecological principles that must be applied within an agroecological approach (FAO, 2018; Barrios et al., 2020) includes: biodiversity; co-creation and sharing of knowledge; synergies between system components; efficiency by using fewer external inputs; recycling; resilience; human and social values; culture and food traditions; land and natural resource governance; and a circular and solidarity economy. Maintaining agrobiodiversity underpins many of these ecological principles.

Agroforestry is "a range of land management practices that incorporate woody perennials (trees, shrubs, palms, bamboos and so on) with crops and/or animal husbandry" (Leakey, 1996). Its relevance to agrobiodiversity is that agroforestry by necessity mixes crops and trees or livestock and therefore requires the use of at least some agrobiodiversity (Smith et al., 2020). Agroforestry is as old as agriculture itself and as flexible a solution as the innumerable economically useful trees, crops and animals that can be incorporated within it. There are almost limitless variations of what actual varieties, species and breeds are mixed, how they are arranged spatially or over time and the main purpose of the system (food, fodder, fuelwood, timber, soil erosion control, wind protection and so on). New research shows how some of the barriers to agroforestry uptake can be overcome (Macqueen and Spinggaye, 2025)

Agrobiodiversity catalysts (ABCs) refer to a range of mechanisms that sustain and increase agrobiodiversity, spanning external incentives such as policies, payments and credit schemes as well as the internal sociocultural incentives (such as cultural and spiritual values) and livelihood practices (such as seed exchange networks) through which Indigenous Peoples and local communities maintain diverse crops and landscapes.

2

Rationale

2.1 The importance of agrobiodiversity

2.1.1 Benefits of agrobiodiversity

As humans depend on the fragile layer of life that covers the surface of planet Earth, the health of that thin layer and its capacity to survive human impacts is an important topic. It shapes global temperatures, sea levels, weather patterns, geochemical nutrient cycles, water supplies, food production, energy sources, construction materials and much more. And since the largest proportion of this fragile layer is now put to agricultural use, how we farm matters. Maintaining agrobiodiversity is essential, and doing so through agroecology using agroforestry and other mixed cropping systems has several benefits, outlined in Table 1.

Table 1. Benefits of agrobiodiversity

Benefit	Description
Food and livelihood security, including traction and transport	Cultivating multiple varieties, species and breeds on productive land reduces the risk of failure in any one variety, species or breed when encountering climate change, political, economic or pandemic shocks (Zimmerer and de Haan, 2020; Kerr et al., 2021). Agrobiodiversity therefore enhances both food and livelihood security, including elements such as traction and transport.
Health and nutrition	Cultivating and consuming a wide range of varieties, species and breeds as food and medicines can greatly enhance and maintain nutritional health (Harris et al., 2022; Zaccari et al. 2023). Byproducts of agrobiodiverse farms can also offer useful household products beyond food and medicine — such as construction materials, fuelwood, traction and organic manure — that enhance health and self-sufficiency (Immerzeel et al., 2013; Subedi et al., 2020)
Ecosystem services	When managed well, more agrobiodiverse farming can provide a range of ecosystem services, such as carbon sequestration, soil erosion control, soil fertility enhancement, water cycle management, pollinator and seed dispersal agent preservation, and pest and disease control (Gerits et al., 2021; Drucker et al., 2024a). Agrobiodiversity conservation also conserves the underlying evolutionary services that have resulted from thousands of years of interaction between humans (farmers) and the environment.
Preservation of traditional knowledge and biocultural heritage	Many Indigenous Peoples and local communities have long histories of in-situ conservation, domestication, improvement and use of locally adapted crops, trees and livestock breeds. Maintaining such use is often not only an integral part of their cultural tradition and identity, but also sustains place-based traditional knowledge and innovation systems relating to agrobiodiversity and agroecology (Agnoletti and Santoro, 2022; Swiderska et al., 2022).

Benefit	Description
Managing and reducing risk	Agrobiodiversity can provide ecological, economic and political stability and option values for risk reduction for farmers. It can also increase the availability of food and other products, and enhance survival in conflict situations by providing subsistence and cash income. Agrobiodiversity can be promoted as a means of recognising local rights in processes that build political stability (Tamariz and Baumann, 2022). However, promoting agrobiodiversity for political ends must be suited to the political context (Zimmerer et al., 2022).
Climate adaptation and resilience	Evidence increasingly links agrobiodiversity to improved climate resilience, showing consistent benefits for adaptive capacity through more stable yields, diversified incomes and strengthened ecosystem functions in different contexts and regions, including pest and disease control (Bravo-Peña et al., 2024; Bezner Kerr et al., 2023; Zimmerer et al., 2022).
Intrinsic existence and bequest values	Beyond their utility to humans, the crop, tree and livestock elements of agricultural biodiversity have intrinsic existence value that can be bequeathed to future generations though conservation. In choice experiments, these values are often the most determining values that can motivate conservation efforts (Drucker et al., 2024a; Hines et al., 2024).

The benefits outlined in Table 1 derive in part from the values associated with agrobiodiversity, which can include utilitarian direct use values, indirect use values and option values alongside intrinsic existence values and bequest values (see Table 2).

Table 2. Values of biodiversity

Direct use values	Indirect use values	Option values	Existence values	Bequest values
Food Animal feed Fibres Fuel Construction materials Traction and transport	Agroecosystem resilience Maintenance of evolutionary processes Maintenance of Indigenous knowledge and culture	For an uncertain future	Satisfaction arising from knowing that a specific genetic resource/diversity exists	Satisfaction arising from passing specific genetic resources/ diversity on to future generations
Private goods	Public goods			

Source: Personal communication with Adam Drucker, honorary research fellow at the Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT), 2026.

Of importance in any review of approaches to catalyse agrobiodiversity is the observation that some of these values include private goods, where incentives to conserve agrobiodiversity already accrue to the individual farmer or agri-industry. Others are public goods, where incentives do not necessarily accrue to the individual. These values are the ones that would benefit from strengthening mechanisms to catalyse agrobiodiversity, bearing in mind that in some contexts — such as Indigenous Peoples' territories — cultural mechanisms for this already exist. In other contexts, where such cultural mechanisms have broken down, alternative mechanisms may be needed.

2.1.2 Linking agrobiodiversity to the main elements of a sustainable and just food system

The agrobiodiversity that people grow depends on the food people eat and the many other benefits they derive. Interconnecting these two realms are complex food systems. These include a web of activities and processes that directly and indirectly connect people to nature — such as agriculture, aquaculture, fresh and saltwater fishing, processing, manufacturing, transport, formal and informal markets, retail, food service, loss and waste, and diets — and can be urban, rural and interlinked.

Food systems and their diversity are also underpinned by the financial mechanisms and governance systems that help or harm them, which do not always support, reward or incentivise agrobiodiversity conservation.

Multiple issues are connected to food systems, including their impact on the natural environment and people's livelihoods. Health is central to this — the health of workers, personal health through diets, population health and planetary health. The current industrial model relies heavily on fossil fuels, chemicals and subsidies and has a significant negative environmental effect (Ritchie et al., 2022).

A just and sustainable food system must work within planetary boundaries and ensure climate resilience (Richardson and Christensen, 2024), restoring and protecting, rather than degrading, all natural environments. Such a system must also meet nutritional and cultural needs and not just focus on calories, protect the rights of all people and animal welfare, and provide stable and good livelihoods. Underpinning this is a need to overcome power imbalances in governance systems and across value chains and change finance systems to incorporate externalities and move away from damaging subsidies and incentive structures.

Any food system transformation will place increased importance on local systems (IPES-Food, 2024) that connect rural and urban areas. Although there will always be a place for trade and international markets, local systems will be increasingly important to deliver future food systems and contribute to sustainability goals.

2.1.3 Agrobiodiversity in food system transformation

The role of agrobiodiversity in food system transformation cannot be underestimated (Cadena-Zamudio et al., 2024). Producing food on land or from water is complex. Ecosystems are different and changeable, and a one-size-fits-all approach, such as industrial agriculture practices, is vulnerable to emerging climatic events (Kornhuber, 2023). Agrobiodiversity is flexible and adaptable, working with the landscape, local conditions and the weather (Hailu, 2025).

Agrobiodiversity already plays a critical role in feeding people. It brings health and nutritional benefits, as a healthy diet is best achieved through a varied diet (Lawrence, 2024), and is ecologically responsible, relying on few chemical inputs. It can also improve food security and livelihoods (FFF, 2024). Some authors have commented on the coincidence of high levels of agrobiodiversity with high levels of poverty (Azariadis and Stachurski, 2005) but rather than consider it a poverty trap, the consensus view is that people without means rely more heavily on agrobiodiversity as a safety net, without which their circumstances would be even more desperate (Roe et al., 2011).

The loss of agrobiodiversity weakens farmers' ability to react to external hazards, while robbing them of the genes that could confer new resilience (Hailu, 2025). Agrobiodiversity helps buffer against shocks, harvest failures, pest infestation and other diseases, and can provide a rolling harvest rather than a single season of abundance, ensuring food availability.

Promoting and protecting agrobiodiversity enhances food system resilience by increasing its capacity to withstand and recover from disruptions and guarantee a stable food supply. Food security will only be achieved by improving the resilience of food systems (Lipper et al., 2022) by diversifying production, livelihoods and diets to enable flexible and timely responses to change (Ruben et al., 2021). For Indigenous Peoples, restoring or repatriating traditional crops can restore related traditional knowledge and cultural values and bring multiple benefits, strengthening ecological values, cultural identity and social cohesion while also enhancing resilience, nutrition and income (Swiderska and Argumedo, 2022).

Food systems are causing significant environmental degradation, with serious repercussions for the environment and human development (Hadjikakou et al., 2025). As food systems transform, they should move away from industrial models towards systems built around diverse, locally adaptable crops and livestock. The agrobiodiversity-rich food systems and traditional knowledge of smallholder farmers, Indigenous Peoples and local communities have a critical role to play in food system transformations, complementing scientific knowledge.

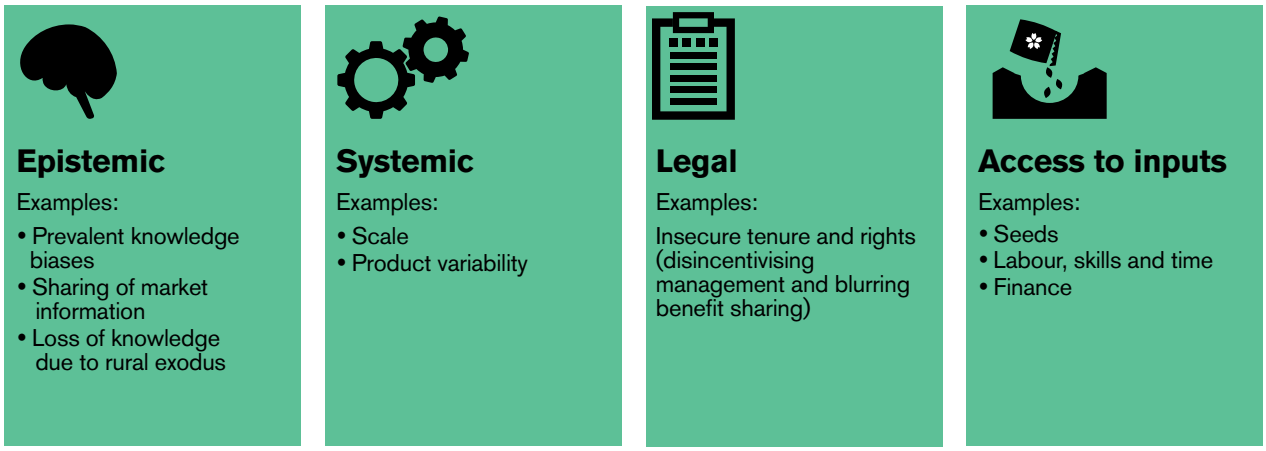
Agrobiodiversity can reverse much of the damage caused by existing food systems, enriching soils, restoring biodiversity and enhancing water conservation through reduced usage. It can also increase production and maintain nutrition across varieties, species and breeds, and provide crops that are more resistant to disease and stress as the climate crisis deepens.

As the transition away from industrial systems accelerates, agrobiodiversity will play a central role in the future of food systems. It is important to avoid losing any more agrobiodiversity and sustain related local knowledge, now and for future generations. Mechanisms that maintain and increase agrobiodiversity will be key for this. Taking a whole-food-systems approach that includes the environment, people and infrastructure will help proactively build systems that endure disturbances by strengthening their ability to ensure all people have access to sufficient and appropriate food over time. The complex nature of food systems is a challenge, as improvements in one area can fail to address — or even exacerbate — deficiencies in another (Mumah et al., 2025).

2.1.4 Challenges of maintaining agrobiodiversity and creating agrobiodiverse food systems

Despite its many benefits, agrobiodiversity does not dominate agricultural landscapes. This is due to several challenges in maintaining agrobiodiversity, including within agroforestry systems, which are well documented (see Tranchina et al., 2024). Climate change may exacerbate these challenges — for example, by reducing tree growth, intensifying tree-crop resource competition and reducing crop yields (see Figure 1; Watts et al., 2022).

Figure 1. The challenges of maintaining agrobiodiversity



Along with the loss of traditional knowledge, a challenge Indigenous Peoples and local communities face in maintaining agrobiodiversity is the weakening of their cultural and spiritual values, worldviews and customary laws that require seed and nature conservation (Balvanera et al., 2022). Formal seed policies and conservation practices that are rooted in Western science tend to overlook, rather than support, such factors. For example, in Andean cosmovision, which plays a critical role in agrobiodiversity conservation in South America, the wild and the sacred realms play a greater role in seed governance than humans. In Peru's Potato Park, which has one of the highest levels of potato diversity in the world, seeds have spirits or souls, form communities and have systems of rules that humans do not understand. As such, they are not regarded simply as biological and economic resources (Swiderska and Argumedo, 2022).

In summary, spreading the benefits of agrobiodiverse systems may require support to overcome some of the challenges outlined above. This report examines the possible mechanisms for supporting and rewarding those who invest in and implement such systems.

Box 2. Growing public awareness of the challenge in food systems

The climate crisis impacts food systems in multiple ways. Droughts diminish water supplies, while floods destroy crops, drown animals and wash away topsoil. Growing seasonal variability diminishes the nutritional composition of crops and livestock, reduces yields and alters the geographical ranges of pests and diseases (Owino et al., 2022).

The rise of industrial agriculture built around large-scale monocropping systems and industrial livestock production is clearly linked to these effects. These have led to soil degradation and loss of fertility in many regions, reducing the land's productive capacity. Water scarcity threatens irrigated agriculture, and the loss of biodiversity, including pollinators, weakens the natural systems that support farming. Industrialised agriculture and trade liberalisation have worsened food access, marginalising smallholder farmers and consolidating power in large agribusinesses (Ospina-Alvarez et al., 2024; Schoneveld, 2022).

All this will impact supply chains and affect prices. As harvests and supply chains fail, consumer competition for those food crops increases, which in turn drives up prices. The food sector is starting to notice and comment on these connections, as seen in a recent memo from 20 food systems leaders in *The Grocer* (Quinn, 2025).

Recent events, such as the COVID-19 pandemic and increases in the cost of living, have turned a spotlight on issues in food systems. COVID-19 exposed the fragility of globalised and industrial food systems, while more localised and Indigenous food systems were far less impacted (Swiderska et al., 2022). Although this fragility has not cut through into the mainstream, especially in higher- and middle-income countries, there is a high awareness of food insecurity in lower-income countries, where more people are directly affected (BMC Medicine, 2023).

A 2025 report from the United Kingdom's National Preparedness Commission, one of the world's most comprehensive studies on narrowing the food resilience gap, found that one of the major challenges to building a resilient diverse system is the lack of public awareness of current vulnerability, even among the most vulnerable to food price changes (Lang et al., 2025).

Food system vulnerability is slowly moving up the agenda but has yet to become a global political priority as politicians continue to focus narrowly on increasing production. The focus is often on increasing quantities of cash crops for export profit rather than who is producing the food and how profits feedback (or do not feedback) into purchasing power for local people to buy nutritious food (Sokona et al., 2023).

2.2 Smallholder farmers and Indigenous Peoples: primary stewards of agrobiodiversity

2.2.1 Indigenous territories and smallholder farms as hotspots for agrobiodiversity — and the important role of women

Evidence documents the important role that Indigenous Peoples' and local community territories play in biodiversity conservation, particularly when they have primary control (IPBES, 2019; Dawson et al., 2024), and there also appears to be a strong inverse correlation between farm size and agrobiodiversity (Rist et al., 2020).

Globally, around 2 billion rural people live in about 475 million small farm households, working on land plots that are smaller than 2 hectares and producing 30–34% of the world's food supply on 24% of the world's gross agricultural area (Ricciardi et al., 2018). These small farmers often achieve higher overall productivity per unit area, partly through greater diversity of varieties, species and breeds on and around their farms (Ricciardi et al., 2018, 2021).

In other words, it is smallholder farmers', Indigenous Peoples' and local community landscapes that foster high biodiversity and agrobiodiversity. Many of the world's centres of crop domestication and diversity are on Indigenous Peoples' territories, which contain rich ancestral gene pools and crop wild relatives that they conserve through traditional ecological knowledge, values and customary laws (Maxted et al., 2020; Swiderska and Argumedo, 2022).

Greater smallholder agrobiodiversity is partly due to the range of subsistence items that local people need and plant alongside cash crops (Jarvis et al., 2008). This mix helps smallholders secure income, food, energy, shelter, health,

cultural knowledge and ecosystems services (Kahane et al., 2013). Cultural and spiritual values also play an important role in sustaining agrobiodiversity for use in rituals and festivals and by promoting seed sharing, reciprocity and balance with nature in different regions and cultures (Swiderska and Argumedo, 2022).

Smallholder farmers, Indigenous Peoples and local communities and their organisations and networks play a key role in managing agrobiodiversity, including conservation and improvement (Macqueen, 2024).

Indigenous women and elders often lead these agrobiodiversity conservation and innovation efforts (Labeyrie et al., 2021), playing a key role in the four main areas that categorise current research on agrobiodiversity: how agricultural ecologies evolve; how knowledge, seed and enterprise are governed; how food, nutrition, health and resilience are enhanced and impacted; and how these are all affected by global environmental and socioeconomic changes (see Zimmerer et al., 2019). Women also play a key role in agrifood systems generally. In many communities, seed circulation is maintained through customary family-based systems that save seeds from one planting season to the next rather than buying them. And it is often women who manage these practices, selecting, storing, exchanging and safeguarding seeds for their household and community. Women often carry a triple burden because men migrate to work in towns and mines, leaving them to care for the family, the farm and agrobiodiversity.

Agrobiodiversity is closely tied to caregiving roles — particularly around food preparation, nutrition and medicinal practices — that shape how crops are valued and sustained. Women's management of agrobiodiversity is often intertwined with access to land and water, and with securing and controlling seed systems, enabling households and communities to maintain diverse food sources under changing conditions. Beyond these community-based roles, women are also central actors in agrifood systems more broadly. In many countries over half of working women work in agriculture. In sub-Saharan Africa and southern Asia, 66% and 71% of women's employment is in agrifood systems, respectively. Agrifood systems are a key source of employment for young women, especially those aged 15–24 (FAO, 2023).

As climate change threatens agrobiodiversity, smallholders, Indigenous Peoples and local communities are already working to build resilient systems through innovation (see Section 2.2.2), investing their time, money and knowledge in adapting to climate change. A survey of more than 1,800 farmers across 13 countries in Asia, Africa and Latin America suggests that smallholder forest and farm producers managing ten hectares or less are investing, on average, 20–40% of their annual income in adapting to climate change (Hou-Jones and Sorsby, 2023).

2.2.2 Innovations to maintain agrobiodiversity

Organisational innovations by smallholder farmers, Indigenous Peoples and local communities are at the heart of their conservation of agrobiodiversity (Macqueen, 2024). There are five main types of innovation — mechanisms to promote agrobiodiverse products; practices that cultivate agrobiodiverse crops; business models that aggregate and sell diverse crops; internal finance mechanisms that finance experimentation; and advocacy strategies to shape enabling agrobiodiversity policies — which we discuss here.

Mechanisms to promote agrobiodiverse products in smallholder farmer, Indigenous Peoples' and local community organisations are often rooted in traditional knowledge and built on the understanding that agrobiodiversity has positive, culturally grounded nutrition and health benefits (Remans et al., 2014; Jones, 2017). For example, women leaders of Ecuador's Union of Peasant and Indigenous Organizations of Cotocachi (UNORCAC) maintain and promote their own traditional gastronomic and health practices. They do this through a series of seasonal gastronomic fairs — *Pawkar Raymi* (21 March), *Inti Raymi* (21 June), *Koya Raymi* (21 September) and *Kapak Raymi* (21 December) — and the *Pachamama Nos Alimenta* (Mother Earth Nourishes Us) community product fair that complements other family and religious ceremonies, celebrating and promoting 172 traditional food and medicine crop species (Piñán Cajas, 2023). Promoting natural medicines is also a feature of local producer organisations. For example, women in Nepal's Chabeli Farmers' Group of the Adivasi Janjati Indigenous People maintain and promote traditional healing practices based on medicinal herbs that they cultivate and collect alongside other wild foods (Nepal and Koirala, 2023). Promoting organic or agroecological production systems is often closely allied with promoting nutrition and health benefits, as seen in the promotion of organic farming by Ghana's Abrono Organic Farmers Association (Paul, 2023). These benefits can be promoted locally and in exported products through marketing — for example, in the use of multiple local rainforest flavours for chocolate from Ecuador's Kallari cooperative (Poso, 2020).

Practices that cultivate agrobiodiverse crops are widespread among smallholder farmer, Indigenous Peoples and local communities — including seed supply, as 75–90% of Majority World farmers get their seed primarily from informal

local seed systems (Heindorf et al., 2021). Producer organisations such as Mviwaarusha in Tanzania often train farmer members in agroecological methods, run peer-to-peer learning within and between their local groups and networks, and support seed and market fairs to broaden understanding of different crop options (Kayombo et al., 2023). Others, such as the Union of Farmer Organisations of Atsinanana in Madagascar, encourage crop diversification by building knowledge and tree seedling nurseries to install agroforestry systems (Raharison, 2025). Organising local seed fairs is part of this strategy. For example, for 20 years, UNORCAC in Ecuador has helped organise the *Muyu Raymi* Seed Fair, creating space for local producers to learn about and access native seeds (Piñán Cajas, 2023). Groups often establish community seed banks (CSBs) to maintain local crop varieties. For example, in Ghana, the Abrono Organic Farmers Association CSB preserves 31 varieties of Indigenous seed (Paul, 2023). In Guatemala, smallholder network ASOCUCH supports a network of CSBs and, following a payments for agrobiodiversity conservation services (PACS) intervention, contributed accessions to the national gene bank, establishing a complementary route for national banks to obtain under-represented varieties or species (Drucker et al., 2019)

Business models that aggregate and sell diverse crops are an important strategy for conserving agrobiodiversity. Sometimes this involves linking producer members to market fairs. For example, in Madagascar, the ARFDDSA Analamanga farmers' group supported women farmer leaders to participate in the International Fair of Agriculture, Livestock and Fishing in September 2022, which helped them increase and diversify their sales (Andrianaivolala, 2023). Many smallholder farmer, Indigenous Peoples and local communities also develop collective enterprises to market particular products. For example, in Ecuador, UNORCAC's *Sumak Mikuy* company aggregates, processes and promotes underutilised traditional crops, such as cape gooseberry, rocoto pepper and mortiño fruit (Piñán Cajas, 2023). In Nepal, the Setidevi dairy cooperative produces and sells a single product, milk, which is built on a stall-fed agroforestry production system in which five different types of Napier grass are intermingled with at least ten varieties of fodder tree as food for the livestock (Acharya et al., 2025). Shared labels, such as participatory guarantee schemes (PGS), can help local producer organisations make positive market claims about their products (Wagner, 2022) — for example, the organic origin claimed by the Chabeli Farmers Group in Nepal (Nepal and Koirala, 2023).

Internal finance mechanisms that can finance experimentation are an important part of developing agrobiodiverse production systems, and the power of local saving and credit cooperative organisations (SACCOs) is often overlooked as the engine that empowers agrobiodiversity (Núñez del Prado Nieto, 2024). Some communities with exceptionally high levels of agrobiodiversity, such as Peru's Potato Park, have set up communal funds that redistribute a share of the profits from collective microenterprises fairly among communities, according to customary law principles for a solidarity economy (Swiderska and Stenner, 2020). In many cases, village savings and loan funds are consolidated as more substantial credit unions, as was the case with the 96 village savings and loans associations that were consolidated by the Ghanaian Kassena Nankana Baobab Cooperative Union into the Jwa Ngwaane Cooperative Credit Union (Adagenera and Kuudaar, 2023). Similarly, in Ecuador, the Santa Anita Savings and Credit Cooperative, established by UNORCAC in 2001, has evolved and now raises funds from savings and fixed-term deposits, cooperation funds, international banks, second-tier banks and government funds to channel credit to its clients in the rural sector (Carrera Rueda and Vallejo Rojas, 2023). Growing financial capabilities can also attract investment in such agrobiodiverse systems. For example, in Bolivia, attention to financial management by the chocolate-producing Association of Wild Cocoa Collectors Yuracaré caught the eye of the Breick chocolate company, which negotiated a deal directly benefiting 130 cocoa-picking families (Aro, 2020).

Advocacy strategies to shape enabling agrobiodiversity policies are another important strategy smallholder farmers, Indigenous Peoples and local communities use to promote agrobiodiversity. For example, the Viet Nam Farmers' Union worked with local producer groups on labelling systems that are helping promote Indigenous cultural values and products in mountainous areas (Bui and Thang, 2022). In Tanzania, representatives of Mviwaarusha have been advocating for the recognition of farm-managed seed systems for health and sustainable food production in the face of seed laws that have banned farmer seed sales (Kayombo et al., 2023). The fight is often for secure tenure within which agrobiodiverse systems can thrive. For example, in Ecuador, UNORCAC mobilised from a struggle against discrimination, racism and the marked social inequality and poverty found in Indigenous communities in Cotacachi, and its very existence is considered locally a vindication of the rights of Indigenous Peasant Peoples (Piñán Cajas, 2023).

These innovations show how groups maintain agrobiodiversity and can build climate resilience, restore nature, and enhance both livelihoods and food security. While finance is not the only, and perhaps not even the primary, incentive

for smallholder farmers, Indigenous Peoples and local communities to conserve agrobiodiversity, it is striking that just US$1.3 billion of current global climate finance — just 0.1% of the US$1.3 trillion total climate finance in 2021–22 (Global Alliance for the Future of Food, 2024b) — is for activities that support agroecology, cooperatives, smallholders, women and girls, Indigenous Peoples and rural income.

As the world recognises the importance of agrobiodiversity, it is important that its main stewards be rewarded and their knowledge considered when developing ABCs. Any mechanism aiming to maintain agrobiodiversity must include and recognise the role of these groups and be co-designed with or by smallholder farmers, Indigenous Peoples and local communities.

2.3 Agrobiodiversity loss

2.3.1 Drivers of agrobiodiversity loss

The often-agrobiodiverse smallholder farms and Indigenous Peoples' or local community territories have come under countervailing pressure from globalisation and several inter-related forces, including: human population growth; urbanisation, consumer affluence and changing tastes; land grabs, leading to land tenure inequalities; the economic profitability of monocultures, sometimes through subsidies; technology and biotechnology advances that demand uniformity; industrialised knowledge, seed and intellectual property right systems; political power imbalances; and a loss of traditional knowledge and cultural values.

Human population growth is an underlying driver of agrobiodiversity loss, as the need to produce more food from finite lands often leads to a focus on varieties, species and breeds with high productivity and broad consumer taste. The efforts of the green revolution are a case in point, involving a significant reduction in varieties, species and breeds grown (Trajkova et al., 2021; Hailu, 2025).

Urbanisation radically alters land use patterns and the heterogeneity of the natural environment (Dadashpoor et al., 2019). But patterns of urban affluence and changing consumer tastes also affect what is demanded from agricultural land, with often more homogenous diets requiring fewer species.

Land grabs, leading to land tenure inequalities, have affected more than 30 million hectares within 1,560 concluded land deals, often involving large-scale corporate investments in single-commodity crops such as oil palm, rubber, sugar cane and displacing agricultural smallholders (Lay et al., 2021; Oliveira et al., 2021).

The economic profitability of monocultures is one of the main reasons behind land grabs. Strictly speaking, these may be financially (privately) profitable but not necessarily economically (publicly) profitable once we consider environmental and other impacts and hidden costs. Yet economic profitability per unit area (not the same as productivity per unit area) has seen a global expansion of input-intensive monoculture production around a small number of varieties, species and breeds such as soybean and oil palm, often replacing more diverse natural ecosystems, common land and agricultural smallholdings (Kröger, 2022; Wagner et al., 2022). Neglected and underutilised varieties, species and breeds are particularly vulnerable in this context, as while there are plenty of these in local markets, they may prove non-commercial or difficult to integrate into provincial or national markets where consumers are unfamiliar with their uses or nutritional benefits. Despite efforts by farmer organisations to create market outlets for these varieties, limited communication, weak product innovation and market preferences for uniform commercial crops, subsidised monoculture seeds and inputs, and cheap foods continue to restrict their commercial viability, discouraging cultivation and placing these varieties at ongoing risk. Additional challenges include food safety and hygiene concerns and issues of scale (producing reliable volumes) requiring farmers to market collectively.

Technology and biotechnology advances that demand uniformity also play a role in degrading agrobiodiversity. As profitability and incomes rise, labour costs also rise, motivating mechanisation that can improve labour efficiency. Highly mechanised production and processing plants require high levels of uniformity, often tied into aggressive advertising of limited product brands to ensure returns on investment (Leite et al., 2022). Seed certification criteria also require distinctiveness, uniformity and stability, encouraging the development of genetically uniform varieties.

Industrialised knowledge, seed and intellectual property right systems take root to protect the systems described above. In addition to the loss of traditional knowledge as smallholder farmers are displaced, pressure from globalised industrial knowledge systems, urbanisation and changing consumer preferences, and agricultural policies,

research and extension systems force farmers to adopt modern varieties and join global value chains. These often replace neglected or underutilised varieties, species or breeds with high-input, high-output alternatives, often for widely grown crops such as rice, maize and wheat, as seen in the Green Revolution of the 1960s and 1970s (Ramankutty et al., 2018; Lusty et al., 2021). Seed-related intellectual property rights often protect plant breeders' rights (that is, industrial profits), but not farmers' rights; evidence shows that assigning genetic resources property rights benefited industry rather than suppliers or farmers (Swanson and Göschl, 2000; Sievers-Glotzbach et al., 2021).

Political power imbalances result from the patterns described above, with high and growing concentrations of power in the agricultural seed, input and food distribution networks that tend to reduce agrobiodiversity. These powerful players channel investment into high-yielding but high-risk production systems, which increasing numbers of smallholders are forced into (Howard, 2020; Clapp, 2021).

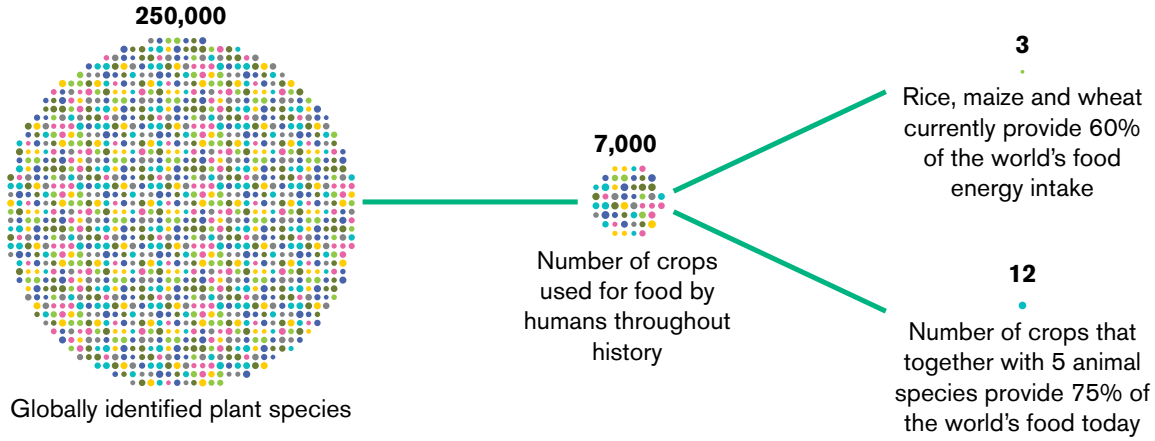
Traditional knowledge and cultural and spiritual values are lost, with Indigenous Peoples and traditional farming communities also losing related agrobiodiversity. This is often linked to out-migration of youth, a lack of recognition of the importance of traditional knowledge and cultural values by state policies across sectors (including agriculture and agricultural research and extension and education), globalisation, and colonial religions (Balvanera et al., 2022; Swiderska et al., 2025). There is a common perception of traditional knowledge and seeds as backward and uneconomic, and this is reinforced by colonial mindsets, racial injustice and the drive for modernity (Swiderska and Argumedo, 2022; Sorsby et al., 2026).

2.3.2 The scale and nature of agrobiodiversity loss

As a result of the forces described in Section 2.3.1, the world has witnessed an alarming loss of agrobiodiversity. Of the 6,190 breeds of mammals domesticated historically for food and agriculture, 559 (over 9%) have become extinct and at least 1,000 more are threatened (IPBES, 2019).

In a similar way, of the 7,000 plant species cultivated historically for food, only 80 make a major contribution to global food supply (Romanelli et al., 2015). Of these, just nine — sugarcane, maize, rice, wheat, potatoes, soybeans, oil palm, sugar beet and cassava — make up 66% of total global crop production (FAO, 2019). More than half of all plant-based calories come from just three species: rice, maize and wheat (Frison and IPES-Food, 2016; see Figure 2). This heavy reliance on a narrow diversity of varieties, species and breeds puts future food and nutrition security at risk. And although it is less well documented, the same may be true of other plant-based products such as construction materials, medicines and cosmetic products.

Figure 2. Humans' heavy reliance on a narrow diversity of varieties, species and breeds



Source: FAO, 1995

3 Existing foundations

3.1 Mechanisms for conserving nature and biodiversity

3.1.1 Current state of nature finance

There are two types of nature finance. Pro-nature finance conserves nature and supports positive outcomes for people, while nature-harmful finance, such as environmentally harmful subsidies, has a negative impact on nature and some groups of people, though not the subsidy recipients (IIED, 2025).

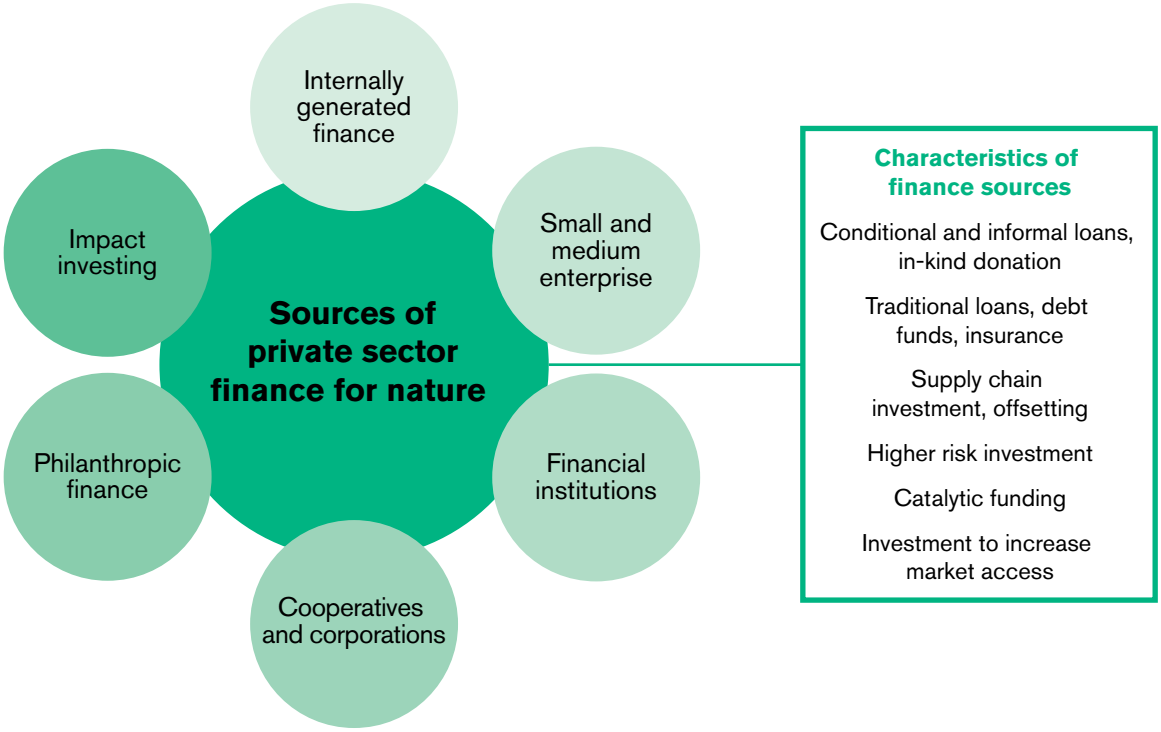
Both the quality and quantity of finance targeted for conservation and restoration of nature, and reaching nature stewards, must increase to support the action needed to drastically slow down and recover global biodiversity loss. Generating finance for nature and people has been a large focus of the conservation community in recent years, especially since the agreement of the Kunming-Montreal Global Biodiversity Framework in December 2022 and the more recent Agreement on Resource Mobilisation and Financial Mechanism in February 2025. Reaching a consensus on resource mobilisation and financial mechanisms required a substantial level of compromise, particularly for least developed countries, Small Island Developing States, Indigenous Peoples and local communities, and the agreement lacks detail on country commitments and timing. But these agreements are useful for concentrating the nature finance community's efforts to close the biodiversity funding gap. It is also important to contextualise the biodiversity funding gap in the wider political economy of nature loss and social inequality.

At the same time, there are high levels of uncertainty in public finance, at both national and international levels. Increased demands on public finance for military spending and domestic interests have increased pressure on already scarce resources for nature and people. This is one of the reasons that the private sector has been called upon to 'fill' the biodiversity financing gap. Private sector finance for nature is diverse and can be categorised as shown in Figure 3. But concerns remain around how effectively the private sector can meet the needs of nature and people, and whether they are willing to do so. The main point to note here is that there is a market for relatively few varieties and species, and we cannot expect to develop a market for everything that needs (from a strategic perspective) to be conserved. But varieties, species and breeds without current market potential may have high public good values, justifying their conservation. So, market development by itself will not be enough to maintain a priority conservation portfolio of genetic resources.

Where markets are to be developed for neglected or underutilised varieties, species and breeds, it is certainly worth approaching market development in a participatory, interdisciplinary, pro-poor gender- and nutrition-sensitive way (see Padulosi et al., 2014).

We raise the current state of nature finance here to highlight the opportunity for agrobiodiversity initiatives to harness existing nature finance streams, given the joint objectives and benefits of investing in nature and agrobiodiversity (see Table 1). For example, highlighting the positive nature impacts of agrobiodiversity initiatives when applying or pitching for nature finance could increase the probability of receiving investment and allow those seeking investment to access a broader range of investors.

Figure 3. Sources of private sector finance for nature



Given the connection of agrobiodiversity initiatives to markets through food products, medicines and other outputs, it could be possible to leverage market-based nature and nature stewardship finance mechanisms for agrobiodiversity initiatives. This includes, but is not limited to, payment of ecosystem services, biodiversity credit schemes, nature-based carbon offsets and blue carbon. But many Indigenous Peoples have expressed concerns about commodifying nature through private sector credit schemes (Sorsby et al., 2026). Market-based mechanisms and their application to agrobiodiversity are explored in more detail in Section 4.

3.1.3 Challenges in financing nature

There are many challenges to ensuring that nature conservation, restoration and stewards of nature, have access to timely, quality finance at scale. In this section, we highlight four challenges around using nature finance for agrobiodiversity solutions.

Quantity: the biodiversity funding gap — the deficit in funding required to effectively protect and restore nature (all biodiversity) — is estimated at US$700 billion per year: US$500 billion from redirecting environmentally harmful subsidies and US$200 billion of new public and private finance (Convention on Biodiversity, 2024). But as of 2024, only US$164 million had been pledged for nature, and even less had been delivered. Agrobidiversity had been almost completely overlooked.

Quality: very little finance reaches the stewards of nature at local level. Challenges include: difficulties in accessing finance for Indigenous Peoples, local communities, women and youth; finance not being delivered in a timely manner; and inequities in finance and conservation systems linked to coloniality and racial injustice (Sorsby et al., 2026).

Fragmentation across sectors and intersections: nature finance continues to be fragmented from other sources of finance — for development, climate change mitigation and adaptation, health, food systems, and social welfare. This presents a challenge, given that activities that support nature conservation and restoration have co-benefits across various sectors but may also be undermined by them. One solution is to have country platforms for nature, climate and people that are self-determined to ensure harmonisation across the interlinked challenges of climate change, biodiversity loss and social welfare (Gul et al., 2025).

Reducing harmful spending: nature-negative finance needs to be curbed for increased investment in nature to have a positive impact. Though estimates vary based on methodology, approximately US$7 trillion is spent on supporting nature-negative activities (UNEP, 2023). Reducing and reforming harmful spending is a huge opportunity to reduce damage to biodiversity and alleviate funding to implement positive incentives for nature and people that support the economy and welfare of society.

These four challenges sit in a wider context characterised by a lack of political will to invest in nature and coordinate nature finance across diverse stakeholders and worldviews.

3.2 Mechanisms for promoting agrobiodiversity

With many aspects of globalisation driving agrobiodiversity loss, it is difficult to find market advantage in diversity and complexity. Why produce 50 different types of potato chips when the average consumer prefers one? It is the comforting magic of well-known food retail outlets. There is also peace of mind in seeing a field without any weeds. The benefits of agrobiodiversity often lie in areas such as nutritional health, ecosystem functionality or cultural identity. For this reason, many of the prevailing mechanisms to conserve agrobiodiversity come down to social practices and conventions, community organisation and rights, government policies and laws, and political will to enforce each of those.

Through key informant interviews, two roundtables and literature review, we identified some mechanisms that promote agrobiodiversity in different ways. Some of these are internal to Indigenous Peoples' and local communities' systems, traditions and knowledge that value agrobiodiversity and are part of their way of living due to their values and beliefs. Others are related to research, policy, recognition and legislation by different institutions that provide tools and frameworks to conserve agrobiodiversity. And others use direct economic incentives to maintain or increase agrobiodiversity through payments or market-based mechanisms.

3.2.1 Indigenous Peoples' and local communities' stewardship

In Section 2.2, we already covered the key role of Indigenous Peoples and local communities in managing agrobiodiversity. Here, we explore some of the more prominent mechanisms internal to their systems and practices: their values and traditional knowledge; biocultural heritage territories; and local seed management systems and related in-situ conservation practices, such as CSBs.

Indigenous cultural traditions and territories, in which subsistence agriculture, seed exchange and barter go hand in hand, have resulted in high levels of agrobiodiversity (Swiderska et al., 2025). There is a strong correlation between Indigenous territories and high agrobiodiversity because Indigenous ways of living and cultural values often centre on maintaining balance and harmony with nature, including spiritual beliefs, practices and festivals that promote sharing knowledge and seeds (Swiderska and Argumedo, 2022; Balvanera et al., 2022).

Biocultural heritage territories conserve biodiversity, promote self-determination and protect territorial rights. These collectively governed Indigenous and traditional territories are strong mechanisms for conserving agrobiodiversity, because conservation is woven directly into the cultural traditions, customary laws and collective livelihood practices that are rooted in Indigenous cosmovision. In these territories, elders and women have a deep and significant repository of traditional knowledge on agrobiodiversity and how to store, plant, sustainably use and improve it. A survey of Indigenous farmers in four countries (China, Kenya, India and Peru) found more than 500 biocultural innovations in China alone that enhance food security, resilience, livelihoods and biodiversity (Swiderska et al., 2018). And in Peru's Potato Park, five Quechua communities conserve more than 1,300 potato varieties (according to traditional classification, or around 650 varieties based on Western science), while generating income through educational ecotourism and associated economic collectives (gastronomy, medicinal plants, homestay and so on), with the benefits shared by the communities through a communal fund. Here, conservation is not tied to financial transfers. Rather, it is part of a diversified local biocultural economy, where a self-generated finance model ensures the maintenance of cultural values and non-monetary exchanges, making the maintenance of agrobiodiversity both culturally rooted and economically viable.

Local and traditional seed management systems that involve CSBs, seed networks and participatory plant breeding also help increase agrobiodiversity. CSBs are locally managed institutions where farmers collectively conserve, exchange and access a wide range of crop seeds, often focusing on traditional landraces and underutilised varieties (see Vernooy et al., 2015). At their most basic, seed banks provide a safety net for farmers, safeguarding against crop failure and reducing their dependency on commercial seed markets. But some CSBs go further, incorporating incentive mechanisms such as revolving seed funds, seed loans or community biodiversity funds. These features reward households that conserve and share diverse landraces, offering preferential access to seeds, small loans or other benefits in return for their stewardship of genetic resources. In this way, the seed bank becomes more than a storage facility; it is a system of incentives that directly encourages farmers to maintain crop diversity on their farms (see Section 2.3). Seed fairs and traditional festivals can strengthen seed exchange and the cultural values that underpin seed sharing and exchange.

Seed networks such as the *Red de Guardianes de Semillas* (Seed Guardians' Network) in Ecuador and Colombia exemplify the role local organisations play in promoting and maintaining agrobiodiversity. These grassroots networks enable the conservation, multiplication and exchange of native seeds through decentralised seed banks and farmer-to-farmer knowledge sharing. *Guardianes de semillas* (seed guardians) voluntarily take on the responsibility of protecting agrobiodiversity in their regions, selecting and preserving traditional crop seeds, cultivating these varieties on their own fields, sharing seeds within local networks and teaching others about agroecological practices and seed-saving techniques. In Guatemala, ASOCUCH adopts similar practices while also contributing accessions to the national gene bank as a route for national seed banks to obtain under-represented varieties or species (Drucker et al., 2019).

3.2.2 Research, policies and recognition

Other mechanisms that complement and support Indigenous Peoples' and local community conservation efforts include: collaborative agrobiodiversity research; ex-situ conservation; information technologies that make agrobiodiversity knowledge available; recognition systems for agrobiodiversity heritage; nutritional education and knowledge promotion; and policy and legal frameworks.

Collaborative agrobiodiversity research with Indigenous Peoples and local communities is important to enhance agrobiodiversity conservation — for example, by documenting interesting systems, varieties, species and breeds, the benefits of agrobiodiversity and how to conserve it (see Hailu, 2025). Research can span and link traditional knowledge and Indigenous Peoples' innovations on the one hand and Western science using taxonomic and genomic tools on the other. Traditional knowledge and Western science have both developed inventory methods to assess and categorise agrobiodiversity. Simply enhancing understanding of what there is can strengthen incentives to conserve it, determine whether varieties, species and breeds are at risk, and highlight trends in agrobiodiversity loss. Agrobiodiversity inventories, baseline assessments, and other tools are key for conservation, providing essential data to guide management and policy. For example, the 4 Cell Method is now widely used to assess and manage on-farm agrobiodiversity (see Sthapit et al., 2012; Drucker and Ramirez, 2022), and the Agrobiodiversity Index aims to measure agrobiodiversity across production and genetic resources, as well as in markets and consumption (Jones et al., 2021). Related areas of research investigate how best to conserve agrobiodiversity — for example, through biocultural heritage systems and agroecological farming practices — and how agrobiodiversity can improve climate resilience. In Peru's Potato Park, Indigenous potato experts are monitoring the impacts of climate change on potato diversity through transects, linking traditional and western science (INMIP, 2025).

Ex-situ conservation plays a vital part in agrobiodiversity conservation. At international level, there are many ex-situ seed and gene banks — for example, within the Consultative Group on International Agricultural Research (CGIAR) centres or in the Svalbard Global Seed Vault — that complement the work of botanical gardens in documenting and conserving plant varieties, and the work of communities in sustaining evolving and co-evolving gene banks in situ. Many of these ex-situ collections are not representative of large swathes of agrobiodiversity, including crop wild relatives, and many national gene banks have not had recent collection missions. Others (such as the bank in Peru collecting quinoa) have not maintained the names of the accessions, which is not very helpful, or keep them in a precarious state — for example, kept in Coca Cola bottles — with only tiny amounts available for distribution.

Seed repatriation and knowledge restitution is another key mechanism in agrobiodiversity conservation, involving the return of traditional or culturally significant seeds to the communities that originally developed and stewarded them, often after displacement or loss (Teixidor-Toneu et al., 2023). This process supports the restoration of agrobiodiversity, empowers Indigenous Peoples and local communities, and recognises their rights over genetic resources. It is a restorative act focused on historical justice and the reclamation of ancestral heritage. In Ecuador, for example, communities implement a participatory process to determine which varieties are at risk; these are then taken to the national agriculture centre (INIAP) to be multiplied and returned to the communities, as the original owners, for them to plant in their farms (UNDP, 2012). And around 450 potato varieties were repatriated from the International Potato Centre to Peru's Potato Park, leading to the restitution of associated traditional knowledge and cultural values, protection of intellectual rights and enhanced food security, resilience and livelihoods, and the multiplication of disease-free seeds for distribution (INMIP, 2025).

Participatory plant breeding is a collaborative approach in which farmers and plant breeders work together to develop new crop varieties that are better suited to local conditions and cultural preferences. By integrating farmers' knowledge, seeds and priorities, this approach ensures that new varieties are adapted to diverse local farming systems, which in turn helps maintain and expand genetic diversity on farms. For example, in the mountains of China's Yunnan and Guangxi provinces,

local farmers partnered with Farmers' Seed Network and Chinese Academy of Sciences scientists through participatory plan breeding to conserve over 200 traditional crop varieties and develop resilient seeds that are better adapted to drought and pests. This process integrated Indigenous knowledge to improve old varieties, alongside CSBs and agroecological practices such as intercropping, shifting cultivation and integrated rice–duck–fish systems. Outcomes include 15–20% higher staple crop productivity, enhanced food self-sufficiency, reduced input reliance, and improved market access for these isolated communities (Song et al., 2016). The negative view of neglected or underutilised varieties, species and breeds is often predicated on unfair comparisons between local unselected materials and those that have been highly selected or where both have received different soil fertility or feed regimes. For example, in Yucatán, Mexico, backyard creole pigs were considered to be less prolific than exotic breeds. Yet, when they were brought onto the university's experimental farm and fed the same, their litters were just as big.

Information technology systems offer promising opportunities for promoting agrobiodiversity. For example, the 'My Farm Trees' app, supported by the Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT), allows farmers to identify native trees that they can integrate into agroforestry systems and find out where to source seeds or seedlings of those species (MyFarmTrees, 2024). Using mobile technology and blockchain, the app creates a transparent information link from seed collection to tree growth, enabling digital payment transfers as incentives for restoration efforts by smallholders, community groups and schools. For example, in Kenya 3,400 farmers (1,500 men and 1,900 women) had benefited from the app by 2024, receiving tree seedlings and information support for planting, which contributed to the restoration of 1,250 hectares of forest landscapes with native species. Indigenous organisations and communities have also developed their own apps for inventorying agrobiodiversity. For example, Asociación ANDES and the Quechua Barter and Maize Park in Lares, Cusco developed the YupanApp (named after the Inca matrix ranking method, *yupana*), to inventory wild foods and medicinal plants in Peru (Swiderska and Stenner, 2020).

Recognition systems for agrobiodiversity heritage also help strengthen agrobiodiversity. Perhaps the best known is the Globally Important Agricultural Heritage System (GIAHS) developed by FAO (Howard et al., 2009), which recognises the heritage of particularly important agricultural heritage systems that conserve unique assemblages of agricultural practices and crops. This raises the profile of the cultural landscape and can increase returns from the products emerging from the system. But the effectiveness of GIAHS depends on how it is implemented. In some cases, such as in China, where the focus has been commercial rather than community and culture-centred, this has not strengthened agrobiodiversity (Swiderska, 2016). Recognition can also result in external institutions exerting control over communities and undermining autonomous conservation efforts, while claiming credit. As a result, some Indigenous Peoples have opted for self-designation as biocultural heritage territories (INMIP, 2025).

Nutritional education and promotion campaigns can provide a powerful incentive to conserve agrobiodiversity. People are generally concerned over their own health. But although public nutrition and health campaigns and their associated media can draw attention to the benefits of a varied and primarily plant-based diet, new agrobiodiversity indexes show limited attention and underutilisation in food systems across the globe (Jones et al., 2021). Public school feeding programmes — such as the Philippines network of lighthouse schools and school-linked crop museums — have the dual advantage of ensuring better child nutrition and educating the next generation of consumers about healthy eating (Anunciado et al., 2023). Slow food movements can mobilise civil society (Stalmirska and Ali, 2025), while agricultural extension services can promote the economic and climate resilience benefits of diversified agroecological production. Beyond health, revitalising gastronomic heritage and agroculinary practices is a relatively untapped pathway for promoting agrobiodiversity. Native crops and seed varieties are often overlooked because their cultural, symbolic, culinary and nutritional values are poorly understood or communicated, limiting their use in diverse preparations. Meaningful collaboration with traditional knowledge holders is therefore essential and there are a few examples of successful collaboration between chefs and farmers (Jonsson et al., 2024; Pereira et al., 2022).

International policy and legal frameworks can create the right enabling conditions for conserving agrobiodiversity. The Global Plan of Action for Animal Genetic Resources and the Interlaken Declaration on Animal Genetic Resources are backed by a partnership of stakeholders known as the Global Agenda for Sustainable Livestock, which is committed to the sustainable development of the livestock sector. They are supported by the Domestic Animal Diversity Information System, an FAO database providing comprehensive data on global livestock diversity, covering over 8,800 breeds from 182 countries. The International Treaty on Plant Genetic Resources for Food and Agriculture provides a useful normative structure that protects traditional knowledge relevant to plant genetic resources and farmers' rights to: participate in

equitable benefit-sharing arising from the use of genetic resources; participate in making decisions, at national level, on matters related to crop genetic resources; and save, use, exchange and sell farm-saved seed/propagating material, subject to national law (see Golay et al., 2022). Yet these provisions are often weakly implemented and enforced, and undermined by conflicting international laws, such as the 1978 and 1991 International Convention for the Protection of New Varieties of Plants (UPOV Convention), which confers plant breeders' rights to protect the commercial interests of formal plant breeders (see concerns of Swanson and Göschl, 2000) and the 1995 World Trade Organization Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), which introduced obligatory protection of plant variety rights. Rigid application of the UPOV Convention as a means of meeting TRIPS requirements can be highly contentious (Antons, 2016) and assessments of the application of the UPOV Convention in West Africa and other regions demonstrate a high degree of dysfunction and negative side-effects for local farmers (Coulibaly and Brac de la Perrière, 2019).

National laws and policies also shape agrobiodiversity use by creating enabling or constraining conditions. For example, agriculture and seed laws can protect farmers' or commercial plant breeders' rights. There are also broader forest and agriculture policies, and the repurposing of subsidies or incentives that affect land use. But policy frameworks alone do not conserve agrobiodiversity; their impact ultimately depends on how they are implemented, resourced and taken up by farmers and local institutions. For example, following years of agricultural land degradation, in 2025 Malawi launched the Fertilizer and Soil Health Action Plan (2024–2034), which prioritises agroecological approaches, crop diversification and the use of biological fertilisers from crop waste, tree mulch and livestock. Similarly, newer generations of agricultural development projects such as the Asian Development Bank-funded Ugandan Farm Income and Forest Conservation Project often include a specific focus on land restoration and the adoption of agroforestry practices and conservation farming, aligning in this case with Uganda's National Development Plan and Vision 2040. Farmer and Indigenous organisations often advocate for more favourable policies for agrobiodiversity — for example, in Ecuador, UNORCAC succeeded in getting a local ordinance in Cotacachi that protects and promotes agrobiodiversity, traditional knowledge and associated cultural expressions. This regulation was later helpful for them to obtain GIAHS recognition. Similarly, in Peru, the Potato Park and Indigenous communities in Cusco influenced the introduction of regional ordinances to prevent biopiracy and to ban genetically modified organisms (ANDES, 2016).

3.2.3 Direct economic incentives and market-based mechanisms

Direct economic incentives and market-based mechanisms leverage financial incentives or market opportunities to promote the maintenance and expansion of agrobiodiversity. These approaches can go beyond direct payments by creating value for diverse crops through price premiums, certification and labelling schemes, targeted market campaigns, inclusion in public procurement programs, loan schemes linked to agrobiodiversity stewardship and so on. By connecting the conservation of traditional and underutilised varieties to tangible economic benefits, such mechanisms encourage farmers and communities to maintain or increase diversity in their production systems while also reaching consumers who value such products. Some Indigenous and traditional communities such as Peru's Potato Park have developed self-generated finance systems — or biocultural economies — which align with their cultural values, since focusing on economic incentives alone can undermine cultural values and incentives (INMIP, 2025). In this section, we document four mechanisms that can promote the expansion and maintenance of agrobiodiversity: incentive-based mechanisms such as in-kind rewards or unconditional payments to those conserving agrobiodiversity; crop-specific subsidy and public procurement programmes; certification and labelling schemes; and premium market branding for agroforestry products.

Although most commonly used for wild biodiversity, **direct economic or in-kind incentives** have also been applied to agrobiodiversity conservation. They include direct payments, monetary and in-kind incentives that are not tied to markets, but rather encourage farmers to maintain or increase diversity in their productive systems. Boxes 3 and 4 provide examples of successful initiatives offering in-kind and monetary rewards. While such mechanisms can be highly beneficial for participating farmers and communities, their scope is often limited by available resources and eligibility criteria, and fail to reach many potential stewards of agrobiodiversity. Where such approaches rely on monetised rewards, careful design is needed to avoid unintended tensions or conflicts and ensure that incentives complement — rather than displace or weaken — social, cultural and collective motivations and systems for conserving diversity. It may be best to make payments to communities rather than individual farmers, recognising agrobiodiversity as their collective heritage and the importance of collective action for its conservation. In-kind rewards such as seed repatriation can minimise conflict while enhancing agrobiodiversity, culture and livelihoods. Indigenous stewards of nature and agrobiodiversity may want payments that enable them to sustain their traditional lifestyles (Sorsby et al., 2026).

Box 3. Payments for agrobiodiversity conservation services

Implemented by Bioversity International in partnership with other organisations, PACS incentivise farmers to cultivate threatened crop varieties through in-kind rewards (Narloch et al., 2011; Drucker and Ramirez, 2020; Drucker et al., 2023). Under this approach, which has high levels of participatory justice, communities participate in landscape-wide competitive tenders, where farmer groups submit bids. These bids relate to previously identified priority threatened crop varieties (for example, through the 4 Cell Method) that require conservation services and specify the conditions of participation (areas, farmer numbers and resources needed). Bid selection is guided by criteria focused on efficiency and social equity, ensuring resources are allocated fairly and effectively.

Selected communities receive or use existing seeds to cultivate the identified threatened varieties and enter into formal agreements to do so. Monitoring visits verify compliance and provide training where needed. A self-enforcement mechanism helps ensure high levels of compliance and minimise monitoring costs. Upon a successful harvest, there is a celebration ceremony where communities receive the in-kind benefits they had identified in their bid offers, such as agricultural inputs, building materials, or school supplies. These ceremonies, often attended by representatives from international organisations and government , aim to promote agrobiodiversity conservation within broader policy discussions.

Evaluations have revealed that PACS is highly efficient and equitable. Participating farmers often report that they continue cultivating the threatened varieties or would cultivate other threatened varieties if they had access to seeds, even in the absence of further external rewards. This is partly the result of the group incentive mechanism design, which seeks to support existing institutions of collective action and considers social equity by including vulnerable groups such as women, youth and poorer farmers. PACS has also worked closely with government, and in Peru, the Ministry of Environment is looking to take forward policies that incentivise agrobiodiversity conservation (Drucker et al., 2024b).

Box 4. Renta Básica y Acompañamiento hacia Modos Regenerativos de Vida (Basic income and support towards regenerative ways of life, or RB+)

RB+ was a two-year programme that gave direct monetary monthly compensation of US$250 to farmers and other community members in ten provinces across Ecuador. This was an unconditional payment to recognise and value farmers' enormous contribution to biodiversity and ancestral knowledge conservation, and food security and sovereignty, which is not fairly remunerated in the current economic system. The compensation aimed to alleviate the economic pressures of beneficiaries and their families, and support a transition to regenerative models.

The intervention was implemented by the *Red de Guardianes de Semillas*, a civil society organisation (CSO) dedicated to the conservation, exchange and revitalisation of native and traditional seeds. It promotes agroecological practices and supports biodiversity and food sovereignty through collaborative work with farming communities across the country. This organisation added the + component to the intervention: the provision of regular technical guidance and ongoing support to beneficiaries to transition to regenerative, agroecological and diverse livelihood systems, from seed guardians who had lived in the territories for many years. The seed guardians developed strong relations with the beneficiaries, providing mentorship and revitalising traditional collective ways of working (known as *mingas*). This was considered a key element for the intervention's success.

Beneficiary selection was context dependent as the intervention was rolled out in ten provinces across three of the country's four regions. In some cases, they were selected by their own communities; in others, they were recommended by the seed guardians. But a common element was that they already had intentions to transition to a regenerative livelihood model but lacked the resources to do so.

An assessment of the impact of this intervention using control groups concluded that all beneficiaries adopted and strengthened permaculture and agroecological models characterised by high diversity. Other positive results included improved access to diverse and nutritious food, higher income, improved capacities and access to knowledge through peer-learning, strengthened social cohesion and the empowerment of women.

While PACS and RB+ have a direct or in-kind payment approach, the payments are not tied to market dynamics or forces. Other market-based mechanisms rely on creating financial value or stable demand for neglected and underutilised varieties, species and breeds, thereby encouraging farmers to maintain and expand agrobiodiversity. Unlike non-market approaches such as direct payments, market-based systems work by embedding conservation into broader economic systems, such as public procurement schemes, subsidies, labelling schemes, targeted market campaigns, or loan schemes linked to agrobiodiversity stewardship.

Local collective financial structures, such as SACCOs provide another type of incentive-based mechanisms for agrobiodiversity conservation. For example, in Tanzania, Mviwaarusha, a network of smallholders, has SACCOs that encourage diverse and agroecological farming by tailoring loan conditions. Farmers pursuing agroecological ventures benefit from reduced interest rates, simplified loan access procedures and grace periods of up to six months, while group-based self-insurance mechanisms lower risk for both lenders and borrowers (Kayombo et al., 2025).

Crop-specific subsidy and public procurement programmes represent a state-mediated form of market mechanism. Some experiences show how governments guarantee markets for diverse crops by offering procurement, price supports or input subsidies. One of the most notable examples is the Odisha Millets Mission in India, which combines farmer support with assured procurement, value chain development and promotion of different varieties of millet consumption in public food distribution systems. By ensuring a stable return for farmers who cultivate traditional cereals, this model directly incentivises the expansion and maintenance of agrobiodiversity at scale.

Certification and labelling schemes are powerful market-based mechanisms that foster agrobiodiversity by linking biodiversity-friendly agricultural practices with consumer recognition and price premiums. A standout case is the *Cultivo Amigo de las Aves* verification seal, created by Aves Argentinas and BirdLife International (López Villamil, 2022), which certifies organic and agroecological yerba mate herbal tea production that protects surrounding native forests. To qualify for the seal, producers must conserve two hectares of forest for each hectare of open-field crops or one hectare of forest for shade-grown crops, with these areas mapped and monitored. In India, traditional rice landraces, such as *Wayanad Gandhakasala* and *Jeerakasala* have been granted geographical indications (GI) status, which highlights their unique characteristics tied to specific local cultivation practices, effectively protecting their cultural and genetic heritage while enabling producers to command premium prices and preserve local agrobiodiversity. But in some cases of GI rice application — such as those for Navara or Basmati rice — difficulties in gaining price premiums from traders or disputes from producers using the same rice in other regions have undermined potential benefits (Pant, 2015).

Perhaps the largest mainstream certification and labelling system that indirectly encourages agrobiodiversity use is for organic agriculture in its various regional guises, and it may be that PGS certification systems — such as Ecuador's *Sello Chakra*, which certifies products from the Chakra Amazónica, a GIAHS-recognised system for its high level of agrobiodiversity (Wagner, 2022) — are better at encouraging agrobiodiverse organic systems than third-party certification systems (Parreira Brito et al., 2024). PGS mechanisms enable producers to access premium markets while rewarding them for practices that integrate agrobiodiversity conservation into their production systems. Community-led certification and labelling systems can also better align with cultural values and customary laws. For example, the communities involved in Peru's Potato Park developed the rules governing the park's informal collective trademark, and use of the label has brought both livelihood and biodiversity benefits (Argumedo, 2013).

Premium market branding for agroforestry initiatives can also reward agrobiodiversity conservation when they directly tie products to premium markets and income opportunities. In Ecuador, the Regenerative Cacao Program led by the Third Millennium Alliance, in partnership with high-end chocolate brands such as To'ak, supports farmers in establishing diversified cacao agroforestry systems. These systems integrate heirloom cacao varieties with native shade trees, fruit species and food crops, conserving genetic diversity while restoring degraded lands. Farmers receive transitional support and benefit from guaranteed purchase agreements at prices up to three times the market rate, creating a strong financial incentive to maintain biodiversity-friendly production. By linking agrobiodiversity conservation with market premiums and brand partnerships, this programme demonstrates how agroforestry can become a viable business model for both livelihoods and ecosystems.

3.3 Financing to complement these mechanisms

From the review of mechanisms in Section 3.2, an important observation is that ABCs and their associated metrics operate across **different scales** and agricultural contexts. Some reward mechanisms are focused primarily on agrobiodiversity within an individual farmer's land — often to ensure climate resilience — for example, through organic or bird-friendly certification schemes. In these cases, agrobiodiversity is usually measured by counting varieties, species and breeds. Other reward mechanisms, such as GIAHS, operate at farming landscape level. At this level, one method for assessing which agrobiodiversity components to conserve for a specified budget is the Weitzman prioritisation approach (see Samuel et al., 2013). Another widely used method is the 4 Cell Method, which compares the number of households cultivating a given variety of a crop on one axis (from few to many) with the scale at which the crop variety is being cultivated (from small to large) to assess both the number of varieties being cultivated and the threat and corresponding conservation priority of those varieties. The 4 Cell Method can permit a landscape-level analysis, although the challenge is to aggregate the individual community-level results to the landscape-level. But this simple farmer-focused analysis can be complemented by much more involved and data-intensive methods that look at issues of wild biodiversity, connectivity and so on (see Quintero et al., 2022), as well as traditional knowledge-based inventory and assessment methods (Swiderska and Stenner, 2020). Finally, other reward mechanisms target agrobiodiversity conservation at national level. One example is national forest and agriculture policies, such as the Malawi Fertilizer and Soil Health Action Plan (2024–2034). Few metrics cover agrobiodiversity at national scale, and while the Agrobiodiversity Index is one metric that aspires to this, it may lack the infra-specific data to achieve this.

It is also important to recognise that reward mechanisms or catalysts to enhance agrobiodiversity target **different agricultural contexts** and so take different approaches. At least three main agricultural contexts may require quite different ABCs: biocentric contexts in which particular endangered varieties, species and breeds are a critical in-situ conservation target; Indigenous biocultural territories in which agrobiodiversity is already at very high levels, but needs protection, and financial recompense to rebuff external threats and large-scale industrial monocropping or pastureland in which there is very little agrobiodiversity and land degradation may be increasing (see Figure 4). There is a financing gap for each of these contexts, but each context requires a different sort of finance (see Figure 3).

3.3.1 Biocentric contexts: funding in-situ conservation of endangered varieties, species and breeds or biocultural and/or agricultural heritage systems

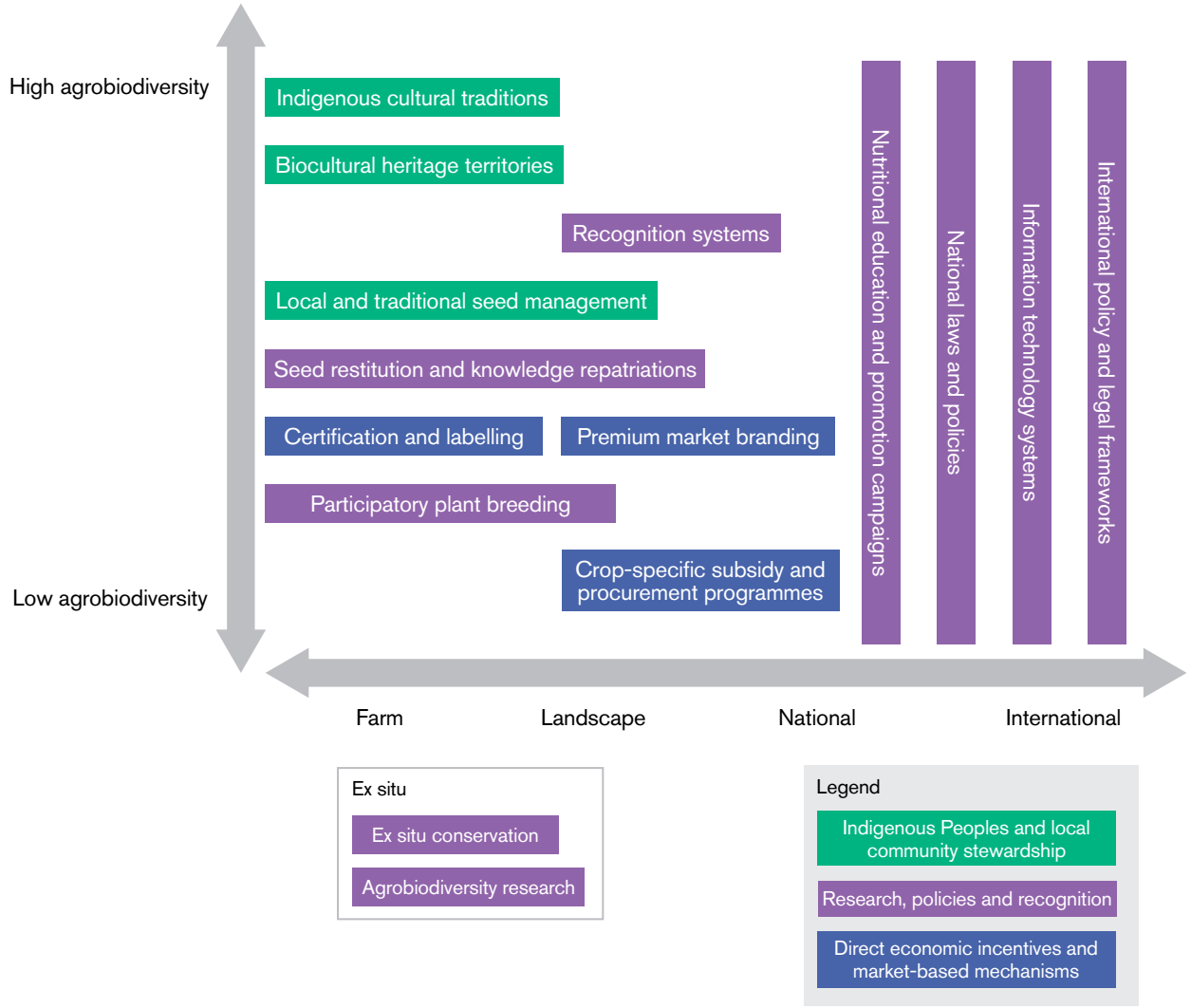
Extending finance beyond the world of ex-situ conservation seed banks and gene banks into the messy world of in-situ farmer and community conservation is an important priority. The climate is now changing rapidly. Realtime evolution of crops in situ — from selection of surviving plants to maintenance and use of evolving crop wild relatives — allows farmers to maintain stocks of plants that will flourish in that changing environment. Reliance on ex-situ seed banks and gene banks may mean conserving things that are no longer adapted, so funding in-situ conservation becomes increasingly important. This can take various forms. Beyond protected areas and biological corridors of different sorts (where the focus is primarily on wild biodiversity), in-situ conservation of agrobiodiversity can include on-farm conservation of rare crops, trees or livestock varieties, species and breeds as happens in: the PACS scheme (see Box 3); the conservation of entire biocultural heritage territories with unique ancestral gene banks (domesticated and wild) in centres of origin and diversity; agricultural heritage systems such as GIAHS; and CSBs and conservation plots, such as demonstration farms for varieties of particular crops and home gardens.

But all these activities will incur additional costs. Maintaining agrobiodiverse biocultural heritage territories and agricultural heritage systems in the face of growing needs for cash income may also involve an opportunity cost. So, establishing financial mechanisms to help pay these costs may be justified in the interests of humanity, depending on biological diversity. CSBs, PACS and GIAHS have some limited funding, but their limited scope to date hints at the need to expand the financing mechanisms for in-situ conservation in centres of origin and diversity to protect endangered varieties, species and breeds from a biocultural and biocentric outlook — that is, linking science and traditional knowledge.

3.3.2 Sociocultural contexts: protecting and rewarding Indigenous or smallholder community agrobiodiversity and territories

Many smallholder farms, Indigenous Peoples' or local community territories have a rich biocultural heritage and/or a patchwork of smallholder fields where agrobiodiversity is maintained. These nature-rich production systems are at threat from both the industrialisation of agrifood systems and the lack of recognition for, and loss of, traditional ecological knowledge and cultural values, which result in a mutually reinforcing crisis of nature and culture loss (Balvanera et al., 2022). There are many examples of types of ABCs, as shown in Figure 4.

Figure 4. Examples of types of ABC across different spatial scales and varying degrees of existing agrobiodiversity



There is less need for transition funding, but that does not preclude a finance mechanism to reward these groups for their contribution to agrobiodiversity conservation while recognising and strengthening cultural values, or to incentivise more diversified production systems in local communities that are under pressure to supply markets.

Any finance mechanisms should build on existing cultural objectives, values, practices and governance structures. Recent years have seen a proliferation of climate and nature small grant funds set up by and managed by Indigenous Peoples, such as (see IUCN, 2025):

- African Indigenous Women's Fund
- Australia's Indigenous-led Fire Management Fund
- Fondo Territorial Mesoamericano, working across six Central American countries
- Indigenous Peoples' Resilience Fund, working in Canada

- Indigenous Peoples of Asia Solidarity Fund, working across 13 Asian countries
- Indonesia's Nusantara Fund, managed by the Indigenous Peoples Alliance of the Archipelago AMAN, the Consortium for Agrarian Reform KPA and the Environmental Justice Movement Forum WALHI
- Kenya's Community Development Trust Fund
- Mexico's Forest Communities Fund, linked to Rainforest Alliance
- National Committees of Family Farming Challenge Fund, under the World Rural Forum
- Nepal's Community Forestry User Groups' Fund
- Network of Community Funds, Brazilian Amazon
- Pawanka Fund (COVID-19 rapid grants)
- Podáali Fund (Brazilian Amazon), serving 160 Amazonian groups
- Young Farmers' Enterprise Challenge Fund, serving Asian Farmers' Association members.

But not all these funds prioritise agrobiodiversity, and Indigenous Peoples' and local community-led funds for nature and agrobiodiversity may need significant investment and support, including to build community capacity for self-generated finance through biocultural economies and related communal funds.

There are also large populations of smallholder farmers, some of whom are Indigenous or traditional but not recognised as such, who are integrated into commodity markets for agricultural products to varying degrees. For these groups, perhaps even more important than dedicated small grant funds are the substantial numbers of collective finance structures (such as SACCOs and credit unions) that smallholder farmers groups often set up to allow members to access savings and small loans. While often starting small, when linked to income-generation opportunities, such funds can quickly grow into substantial financial mechanisms managing millions and even billions of dollars (Núñez del Prado Nieto, 2024). Working through or capitalising such funds to make loans available to groups committed to agrobiodiversity conservation is one way to establish a financial ABC without distorting local priorities. Similarly, PGSs that use second-party peer verification of locally designed standards can substantiate claims about the quality, origin, sustainability and agrobiodiversity of those Indigenous or local community farming practices — again, fully under their control.

3.3.3 Market-driven contexts: catalysing agrobiodiversity in industrial-scale market-led agriculture

The main reasons for biodiversity and agrobiodiversity loss lie not in the conversion of untouched wildlands, which were almost as rare 12,000 years ago as they are today, but in smallholder farmers, Indigenous Peoples and local communities converting traditional low-intensity practices into ecologically simplified, homogenous large-scale industrial landscapes (Ellis, 2021). The continuing expansion of industrial monocropping to meet primarily urban food needs lies at the root of the agrobiodiversity crisis. There is now widespread consensus that continuing a chemical-heavy, industrial-scale, monocropping approach leads to land degradation and potential ecosystem collapse, and that organic soil amendments, crop rotation, intercropping and agroecological or agroforestry approaches offer a more sustainable alternative (Belete and Yadete, 2023; Apoorva and Kundlas, 2024).

The challenge with converting away from industrial agriculture is that, while regenerative agriculture can be competitive across a wide range of sites in both productivity and financial terms (Agnes, 2025), there is often also a short-term (three- to ten-year) dip in competitiveness when transitioning from monoculture to agroecological or agroforestry practices. This reflects the time when investments in new layouts are installed, but before new component production starts or fertility gains kick in. This creates a financing gap that could be filled by some kind of ABCs that financially reward people who transition from on-farm monocropping to agroforestry or agrobiodiverse farming, perhaps with a label to confirm the transition and a set of threshold indicators (for example, number of varieties, species and breeds introduced).

3.3.4 The interface between biological variety, species and breed conservation, people and markets

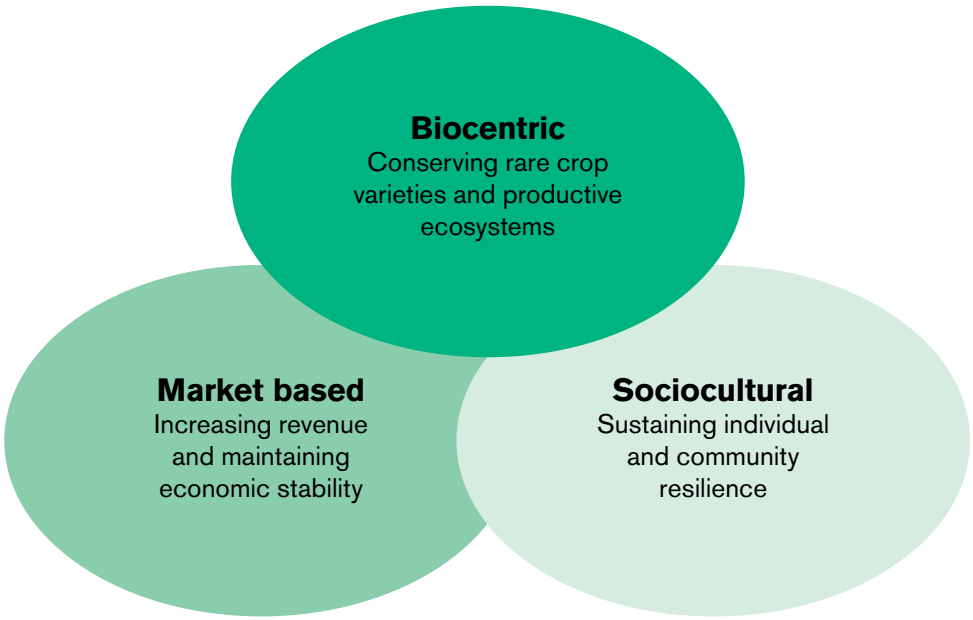
Is there any overlap between these three finance mechanism gaps that might allow the development of a finance mechanism suited to all three? From our early discussions, this seems unlikely. Some Indigenous Peoples and local communities reject the extension of market credit mechanisms that are out of their control, commodify biocultural heritage and do not align with their cultural and spiritual values, such as biocredits for wild biodiversity (Sorsby et al., 2026). It is also highly improbable that industrial-scale agriculture would ever adopt traditional biocultural practices for reasons of scale and uniformity, or conserve multiple landraces of traditional crop varieties for the same reason. What seems most useful, therefore, is to think of ABCs as a set of non-financial and financial approaches, in support of which several different financial mechanisms might be further developed to fit distinct agricultural contexts. It is this that we explore in Section 4.

4

Complementary financing mechanisms to support ABCs

In Section 3, we concluded that there are gaps in what financial mechanisms can provide, and filling these gaps could support a wide range of market and non-market approaches to agrobiodiversity conservation in various agricultural contexts. Given the variety of contexts, it is unlikely that a single mechanism could fill these gaps. It seems most useful to develop a set of finance mechanisms to serve three different entry points or rationales for agrobiodiversity conservation, as shown in Figure 5. To enhance agrobiodiversity, we must first understand the motivational drivers at play. Market-centric actors must not assume that what works to deliver functional agrobiodiversity in their context will suit biocultural heritage territories or conservationists. Similarly, Indigenous Peoples or biocentric conservationists must not assume that market-driven actors will or can adopt their outlook. On the other hand, we note that it is very rare for an approach to be solely focused on one of the entry points. The categories are not mutually exclusive and in most cases, agrobiodiversity activities have multiple objectives. For example, biocultural heritage and territories governed by Indigenous Peoples and local communities protect and conserve rare species and varieties. We also note that the overlap in approaches will vary depending on what is being considered (productivity, area, effectiveness, and so on), so we have left the overlap the same across the three pillars, when these may overlap to a higher degree for different comparisons and use cases.

Figure 5. Venn diagram of different ABC entry points



In essence, these entry points or rationales can be differentiated depending on whether they are motivated primarily by environmental, sociocultural or economic objectives.

- The primary objective of **biocentric** or conservationist mechanisms is the conservation of biodiversity, such as rare or endangered varieties of crops in an agrobiodiverse landscape. For example, the PACS mechanism rewards participating communities for cultivating varieties of crops that might go extinct without intervention. Their entry point is restricted to the landscapes where those rare varieties exist; the primary focus is not communities or economic gains in areas where rare or endangered varieties do not exist, although these may be additional concerns.
- The primary objective of **sociocultural** or community resilience and territorial mechanisms is the resilience and wellbeing of people and communities in an agrobiodiverse landscape. For example, territorial rights of Indigenous Peoples are primarily concerned with people and biocultural heritage systems, even if the holistic nature of their worldview includes strong concerns for nature and economic wellbeing.
- The primary objective of **market-based** or economic mechanisms is the sustainability of functional agrobiodiversity, which maintains the ecosystem services necessary for economic production emerging from an agrobiodiverse landscape. For example, in Europe, agricultural intensification and monocropping have increased short-term yields, potentially at the expense of long-term ecosystem service decline (see Bianchi et al., 2013). The threat to long-term economic potential drives measures to promote functional agrobiodiversity, even if there are secondary concerns for conserving varieties, species and breeds, or for the sociocultural impacts of farming.

Respecting both the existence of different entry points and the balance between them can pave the way towards an integrated approach to catalysing agrobiodiversity that works in different contexts without demonising or marginalising people with different priorities and worldviews. So, an inclusive and participatory process is vital to achieve the right balance.

4.1 Drivers of finance mechanisms for agrobiodiversity

The rationales for developing financial mechanisms in support of agrobiodiversity spill over into different casts of actors that need to drive the development of those financial mechanisms. For example, systems established to benefit and conserve Indigenous cultural farming systems and territories are best driven and run by Indigenous Peoples, whereas those set up to reinsert agrobiodiversity into large companies' agroindustrial farming systems might require a different set of actors. But agroindustrial concerns for agrobiodiversity could also lead to some overlap between the three main types of finance mechanism. For example, agroindustries might contribute to funds set up to reward Indigenous Peoples for their agrobiodiversity stewardship or sponsor the conservation of endangered crop varieties. In Peru in 2018, the Kai Pacha Foods company began buying the endangered White Chullpi variety of quinoa to make quinoa milk, adding the Orange Chullpi variety in 2017; by 2021 the community and cooperative involved had a contract for 23 hectares of Chullpis, with the aim of producing more than 20 tonnes (Drucker et al., 2021). But despite the possibility of such overlaps, it seems prudent at this stage to describe three separate types of financing mechanism or ABC.

4.1.1 Biocentric or conservationist mechanisms

These mechanisms focus primarily on maintaining and recovering diversity within agricultural and biocultural landscapes, often emphasising rare and endangered crops. Research organisations, botanical gardens, gene banks and conservation networks have a key role to play, but often actively collaborate with Indigenous Peoples and local communities as partners, because conservation cannot be effective without their active participation and leadership, as their traditional knowledge, farming systems and landscapes have maintained crop diversity over generations. Partnerships between research organisations, Indigenous Peoples, local farmers and producers enable the linking of in-situ (on-farm) and ex-situ (in gene banks) conservation efforts, which is considered the most robust approach to agrobiodiversity conservation (Khoury et al., 2022), and traditional knowledge and science, which is also vital for agrobiodiversity conservation. In-situ conservation maintains traditional ecological knowledge and crop evolution, and promotes resilience and nutrition, as well as conserving crops (Jago and Borrell, 2024), while ex-situ approaches protect genetic resources from loss, enabling future crop recovery, restoration, reintroduction, repatriation and improvement even if local threats or climate impacts occur (Engels and Ebert, 2021). Linking these approaches strengthens the agency of local communities as central actors with formal recognition from research centres (see, for example, Shrestha and Sthapit, 2015).

Importantly, CSBs and farmer-led conservation initiatives form the living infrastructure of on-farm and in-situ agrobiodiversity management, and smallholder farmers, Indigenous Peoples and local communities are therefore key stakeholders in these mechanisms (Vernooy et al., 2017). CSBs act as both repositories of local genetic diversity and hubs of collective knowledge exchange, ensuring that neglected and underutilised varieties, species and breeds remain accessible and cultivated. Other farmer-led initiatives — such as local seed fairs and networks — not only strengthen the resilience of agrobiodiverse systems but also complement formal conservation efforts by maintaining these resources within production landscapes, allowing for their ongoing adaptation and evolution in response to changing local conditions. Financing and technical support for these organisations are therefore central to sustaining long-term conservation outcomes.

Finally, safeguarding is essential to ensure that biocentric or conservationist mechanisms respect community rights and traditional knowledge (Amancah et al., 2023). Biocentric approaches must avoid the risk of extractive research by taking a biocultural approach that actively engages traditional knowledge holders. They must also avoid extractive conservation, where genetic material is collected and preserved at the expense of local control and ensure two-way exchange and repatriation. Finally, they should respect and embed traditional knowledge and cultural ways of learning, as these are key elements for agrobiodiversity conservation in Indigenous territories (Rosado-May et al., 2025). Embedding safeguards such as equitable partnerships and participatory approaches, peer learning, benefit sharing, intellectual property protections for communities, and free, prior and informed consent (FPIC) ensures that agrobiodiversity conservation contributes to both ecological integrity and Indigenous Peoples' and local communities' empowerment and capacity for agrobiodiversity conservation.

4.1.2 Sociocultural mechanisms for Indigenous Peoples and local communities

These mechanisms prioritise the resilience, rights, wellbeing and cultures of Indigenous Peoples and local communities as stewards of agrobiodiversity. Their central objective is to strengthen existing sociocultural or biocultural systems that sustain agrobiodiverse landscapes, including ancestral knowledge, values, worldviews and customary laws and institutions. These are and should continue to be led by Indigenous Peoples, local communities and smallholder farmer organisations.

Smallholder farmers, Indigenous Peoples and local communities are key drivers of agrobiodiversity conservation (Macqueen, 2024). By working together, these groups can strengthen local seed systems and networks and territorial governance and rights, improve market access for diverse and traditional varieties, and advocate for policies that support agrobiodiversity. These should be direct recipients of any financial mechanism that aims to conserve agrobiodiversity.

There are funds led by Indigenous Peoples groups (see IUCN, 2025) that provide direct finance, often in the form of grants, to Indigenous organisations and local communities, enabling them to continue maintaining agrobiodiversity in their territories according to customary governance and traditional productive practices. The activities they fund often emphasise land tenure security, cultural and traditional knowledge revitalisation, and organisational strengthening as key pathways for maintaining agrobiodiversity.

Such organisations often have their own collective financial structures — such as communal funds or savings and loans groups (Núñez del Prado Nieto, 2024) — which can provide financial services to their members, often for agroecological and sustainable production (Kayombo et al., 2025). They can provide grants or credit to maintain or experiment with new agroecological practices — for example, with favourable interest rates or more flexible repayment plans. Sociocultural mechanisms should therefore prioritise channelling funds through these structures.

Women, including Indigenous women, play a central but often under-recognised role in sustaining agrobiodiversity. So, sociocentric financial mechanisms should recognise their leadership and directly support women's groups, associations and networks. Financial mechanisms that prioritise women's access to grant funding, credit, training, and leadership in governance structures are crucial for maintaining agrobiodiverse production systems.

These organisations and structures can get finance to local stakeholders under their own priorities and conditions, ensuring control is in the hands of those managing the agrobiodiversity. Financial mechanisms supporting these structures would promote agrobiodiversity conservation while also strengthening collective action by local organisations, traditional knowledge and cultural values.

Networks and alliances are essential to amplify the reach of these localised structures. Umbrella federations, global funds or partnerships that provide direct support to local organisations — for example, national farmer organisations or partnerships such as the Forest and Farm Facility (FFF) and Biocultural Heritage Initiative — can strengthen visibility, co-financing and policy alignment while maintaining local ownership and Indigenous leadership.

Safeguarding is a key requirement across any financial mechanism, including sociocultural ones. They must uphold the principles of FPIC, gender equity, transparency and local leadership to ensure Indigenous Peoples, local communities, women and smallholder farmers retain control over their resources, knowledge and decision making.

4.1.3 Market-based mechanisms for industrial-scale agriculture

These mechanisms target agribusinesses and large-scale farmers, offering financial incentives when they transition towards agrobiodiverse productive models. They should be led by a combination of large-scale farmers, financial institutions and regulatory bodies, with strong support from government agencies and international organisations. Some networks, such as Regen10, already exist to focus discussions on this type of mechanism.

Market-based mechanisms can create space for the private sector to invest, buy or fund activities that maintain agrobiodiversity. The private sector may face a wide range of incentives to make better use of agrobiodiverse resources, such as reducing risk in supply chains by ensuring critical natural infrastructure for resilience remains intact in the long term. It is important to note that the private sector is a diverse group of stakeholders and may have varying incentives to engage in this type of tool. Understanding their different objectives and remits is key to ensuring that financing mechanisms have the proper incentives, disincentives and safeguards.

Crucially, governments must play a key role in supporting biocentric, sociocultural and market-based tools. Harnessing private sector funding must not crowd out or undermine the fact that biodiversity and the benefits it provides are the joint responsibility of farmers, public and private sectors, and research institutions. There are common but differentiated responsibilities. Government legislation — such as removing harmful subsidies, giving tax breaks and setting health and safety regulations that consider the importance of agrobiodiversity to food systems and associated markets — can enable market mechanisms for investment in agrobiodiversity. Given the globalised nature of industrial food systems and current trade dynamics, it is important that governments across different jurisdictions collaborate to maximise environmental, nutritional and social benefits, while minimising impacts.

4.1.4 The role of educated and empowered consumers

Consumers and the public are direct beneficiaries of greater food diversity, nutritional quality and ecological resilience delivered by agrobiodiversity, which in that sense, is a public good. But it is also important to respect the intellectual rights of the communities who have created, improved and conserved it for generations. Consumers can play a crucial role as drivers of agrobiodiverse conservation mechanisms across biocentric, sociocultural and market-based approaches. By making informed purchasing decisions and prioritising sustainably produced goods, consumers can create a demand that incentivises producers to maintain or adopt practices that support agrobiodiversity. Consumers can, for example, prioritise products with a label that certifies a product has been produced in diverse systems, such as the Chakra seal.

Considering diversified production systems often rely on agroecological practices and some produce may have more variable appearance, it is important that consumer education and retailers, including supermarkets, promote an openness to these variations. This requires a shift in consumption to embrace natural variation in appearance as a recognition of sustainable growing methods, recognising that minor imperfections in a vegetable reflect low-input and organic practices rather than poor quality.

Further investment is needed to provide evidence on how consumer demand could promote agrobiodiversity (Posadinu et al., 2021), and it is important that governments lead in raising awareness of the benefits of agrobiodiverse systems.

4.2 How finance mechanisms can build on existing systems

4.2.1 Biocentric or conservationist mechanisms

A priority in this first area of intervention financial mechanisms might be to upscale finance into an in-situ agrobiodiversity conservation network, working with research agencies to first identify endangered crop, tree or livestock varieties and then conserve them, building on traditional knowledge. This would require sustained support for community-led monitoring systems, including strengthening local capacities for tracking varieties, documenting losses and recoveries, and supporting seed restitution, repatriation and circulation over time, functions that are essential for adaptive conservation but are rarely resourced adequately. Building on traditional knowledge and linking it with science can ensure research and monitoring builds on existing knowledge, is culturally appropriate and is sustained by communities with minimal external support. For example, in the Potato Park, where climate change is impacting rare varieties, Quechua communities systematically

monitor the impacts of climate change on crop diversity using transects with pest traps at 100-metre elevation intervals, and multiplying and distributing disease-free varieties (INMIP, 2025). A repatriation and monitoring agreement with the International Potato Center helped strengthen community capacity for monitoring.

This finance mechanism could also build on existing agrobiodiversity research networks and create alliances of botanical gardens serving farmers that identify and target endangered varieties, species and breeds with appropriate information and technology systems, work closely with Indigenous Peoples and local communities, and support repatriation to restore endangered varieties and populations.

One challenge could be how to manage benefit distribution to include more support for local farmers and Indigenous groups. To maximise benefits for Indigenous Peoples and farming communities, equitable research partnerships should be established where smallholder farmers, Indigenous Peoples and local communities are recognised as experts and co-researchers and are paid as such, following an FPIC process with community authorities. There are also systems such as PACS or unconditional payment mechanisms, in which incentive-based reward mechanisms have been specifically designed to include local community groups and vulnerable members, and take local community concepts of fairness into account. Crop-specific promotion and subsidies could also be designed to benefit local community groups.

Beyond any direct financing mechanisms, governments could adopt policies that indirectly support rare or endangered crops — for example, expanding the reach and funding of the GIAHS delimitation and formally recognising and protecting biocultural heritage territories as centres of origin and diversity — as well as supportive policies that reward agroecological production, farmer seed systems and the promotion of neglected and underutilised varieties, species and breeds.

4.2.2 Sociocultural mechanisms for Indigenous Peoples and local communities

Sociocultural finance mechanisms could build on and support the existing proliferation of Indigenous Peoples' own nature, climate and development funds (see Section 3.3.2). A priority would be to upscale the finance going into Indigenous funds, support the creation of new Indigenous funds for in-situ conservation in centres of origin and diversity, and support farmer organisations' own financial cooperatives or credit unions. There were pledges at the 26th UN Climate Change Conference (COP26) in Glasgow in 2021 to channel more finance to Indigenous Peoples and local communities. At COP30 in Belém in 2025, in the forest conservation space, the Tropical Forest Forever Fund promised to channel 20% of any finance for protecting forests to Indigenous Peoples and local communities. In the agricultural space, the launch of TERRA had direct financing to farmer organisations as a central pillar. The FAO treaty has already established a benefit-sharing fund, which is meant to support farmers' rights and in-situ conservation and needs further investment.

Although there is a question mark over the scrutiny of benefit distribution at local level, many of the newly emerging Indigenous funds have designed systems to address such concerns. The opportunity lies in supporting, not replacing, internal biocultural heritage practices, nutritional and gastronomy promotion, and traditional agrobiodiversity research of smallholder farmers, Indigenous Peoples and local communities, building on CSBs and seed fairs.

It might also be possible to enrich the existing biocultural conservation of agrobiodiversity by introducing new technologies and approaches, co-developing new information technology systems like the My Farm Trees app, for example, with Indigenous People to develop knowledge on the types of tree crops that could be planted in different parts of the world. There is also potential to explore how locally controlled PGSs and labelling could be linked to agrobiodiversity within biocultural heritage systems or agroforestry systems. There could also be opportunities to develop ecotourism and Indigenous gastronomy tourism.

Beyond the direct financing mechanisms suggested here, it would also be useful to promote supportive policies for Indigenous Peoples' tenure and land use rights, emphasising securely protecting rights to land and self-determination, reclaiming education and promoting biocultural heritage knowledge, with public incentives and communal subsidies in support of traditional farming approaches.

4.2.3 Market-based mechanisms for industrial-scale agriculture

There are many options for developing market-based ABCs, including building on those that already exist (see Section 41.3). One option with immediate potential is an agrobiodiversity credit, given the growing interest in carbon credits and biodiversity credits in recent years, due to the reduction in public finance and advancements in payment and biodiversity monitoring technology. Incorporating agrobiodiversity research — including traditional ecological knowledge in biodiversity credit methodologies — would allow for biocredits to be leveraged to benefit agrobiodiversity and smallholder farmers, if designed correctly (see Box 5). In some cases, biodiversity and carbon credits are used to pre-finance required investment in sustainable business, such as beekeeping or selling herbal medicines. Strengthening these types of connections between nature finance mechanisms can allow for a more diverse application of the tools and such flexibility can support locally adapted, appropriate solutions.

But Indigenous Peoples have voiced concerns about global carbon and biodiversity credit schemes as they go against their cultural and spiritual values by commodifying nature and threaten their land rights, which are often insecure; but such concerns have not been adequately addressed when developing biocredits (Sorsby et al., 2026). One Indigenous Peoples' proposal is that the methodology used to value and assess biodiversity is not purely monetary but rather based on Indigenous Peoples' holistic wellbeing concepts, where the human, the wild and the sacred need to be in balance (Sorsby et al., 2026). Indigenous Peoples' organisations could be supported to develop such alternative valuation methods for agrobiodiversity and should be actively involved in developing any agrobiodiversity credit to ensure their concerns are addressed.

Box 5. Developing an agrobiodiversity unit: Savimbo and partners

Savimbo and the Alliance of Bioversity International and CIAT are co-designing an agrobiodiversity unit to meet an identified need expressed by traditional leaders in Latin America, the Caribbean and Africa for economic incentives to preserve rare, traditional crops. This need is echoed by CGIAR, emphasising the importance of research on genetic diversity to strengthen human resilience and food security (Arce and Salazar, 2025).

The unit aims to establish clear criteria that allow outcomes-based agrobiodiversity units to be traded on commodities exchanges. It differs from other biodiversity actions by focusing on making the genetic diversity of cultivated crops measurable and tangible. While it qualifies as a biodiversity action under the crediting programmes of three competing certifiers — Nat5, Carcarbono and the International Carbon Registry — it also complements wild area-based biodiversity metrics such as the Interoperable Biodiversity Unit (Paynter et al., 2024).

Agrobiodiversity is often defined broadly to include entire production systems. But this deliberately narrows its scope to domesticated crops, excluding forestry, fisheries, wild foods, ornamental plants, livestock, and crops with mainstream market value.

The protocol is designed to serve the global population that manually maintains the full crop cycle of living genetic variants. Whereas gene banks are managed ex situ by specialists, agrobiodiversity crops under this protocol are managed in vivo through complete crop cycles by smallholder farmers and traditional Indigenous and Afro-descendant communities. Through continuous domestication and adaptation to evolving environmental and climatic conditions, these communities provide an ongoing evolutionary service that complements ex-situ conservation by ensuring crop diversity remains viable and responsive to change. The protocol seeks to establish a scalable, outcomes-based incentive mechanism that recognises and rewards this essential contribution to global food system resilience.

From an economic perspective, this remains a diffuse global challenge. Millions of farmers maintain varieties, species and breeds, yet incentives are fragmented and largely project-based, relying on short-term research grants or project-based initiatives such as PACS. There is no sustained, scalable, financial mechanism to support this service, and crediting schemes offer a promising pathway to address this gap. Savimbo aims to establish a tangible, outcomes-based payment mechanism that enables long-term support for agrobiodiversity conservation.

4.2.4 The institutional landscape

Catalysing a transition towards greater agrobiodiversity is not a simple 'one-size-fits-all' task. Different finance mechanisms might require different approaches, and different agricultural contexts are shaped by region, climate, ecology, culture, economics and politics. For this reason, a mosaic of overlapping institutions and networks have emerged, pushing different parts of this agenda. Some of the main institutional players include:

- **FAO's Commission on Genetic Resources for Food and Agriculture:** a global intergovernmental forum linked to the International Treaty on Plant Genetic Resources for Food and Agriculture, shaping policy on agrobiodiversity, including plants, animals, aquatic species, forest genetic resources and microbes, and including 180+ member countries; its Global Plan of Action for Animal Genetic Resources and Interlaken Declaration are backed by a partnership of stakeholders known as the Global Agenda for Sustainable Livestock, which is committed to the sustainable development of the livestock sector.
- **CGIAR:** a partnership established in 1971 of multiple centres, including the Alliance of Bioversity International and CIAT, dedicated to using agrobiodiversity to improve nutrition, climate resilience and sustainable food systems; other CGIAR centres partially focus on agrobiodiversity, including the International Maize and Wheat Improvement Center, International Rice Research Institute, International Crops Research Institute for the Semi-Arid Tropics, International Center for Agricultural Research in the Dry Areas, International Potato Center and International Institute of Tropical Agriculture.
- **UN Environment Programme:** leads global frameworks on biodiversity mainstreaming, nature-positive food systems and pollinator conservation, managing programmes that link climate, land and biodiversity across agriculture systems and influencing international negotiations under the Convention for Biological Diversity, the UN Convention to Combat Desertification and global biodiversity financing mechanisms.
- **International Union for Conservation of Nature:** a network of over 1,400 members, which mainly focuses on nature but also includes agrobiodiversity-focused programmes on crops, livestock breeds, pollinators and wild food species in a range of agrobiodiverse food systems.
- **International Federation of Organic Agriculture Movements (Organics International):** a network of 800+ members that promotes biodiversity-based organic agriculture globally.

There are also notable multi-actor alliances or networks that support some element of agrobiodiversity, many of which include the institutions listed above alongside country governments, nongovernmental organisations (NGOs), Indigenous Peoples' groups and local community groups (see Table 3).

Table 3. Some of the global networks promoting agrobiodiversity

Alliance/Network	Primary focus/purpose	Desired shift
Agroecology Coalition Launched at the 2021 UN Food System Summit 300+ member countries, intergovernmental organisations, research institutions, NGOs, farmers' and Indigenous Peoples' organisations	Transforming food systems through agroecology globally, with agricultural biodiversity as one of 13 principles Has working groups on policy, financing, markets, research and education, and communications	Shift from industrial/agrochemical agriculture to agrobiodiverse ecology-based, equitable, sustainable food systems Overhaul research, policy, investment, and markets
Transformative Partnership Platform on Agroecological Approaches to Building Resilience of Livelihoods and Landscapes Launched in 2021 with research and development partner members	Enhance the research and evidence base for agroecology Scale agroecological practices with resilience focus	Build knowledge, capacity and policies to implement agroecology at different scales Enable transitions via science, adaptation and investment support

Alliance/Network	Primary focus/purpose	Desired shift
Global Crop Diversity Trust A global partnership safeguarding crop genetic resources Provides long-term funding for global gene banks such as the Svalbard Global Seed Vault	Long-term conservation of crop seeds through support to global and regional gene banks, including safety duplication through Svalbard	Provide funding and infrastructure for safeguarding crop genetic resources in an ex-situ approach
Just Rural Transition Launched at the UN Climate Action Summit in 2019 and housed by the Meridian Institute Brings together countries, companies, research institutions, NGOs and so on	Broad and just transition of rural areas, food and land use towards greater social justice, climate and nature action Has a Policy Coalition, Working Group on Repurposing Public Support to Food and Agriculture, and Frontline Food Systems Representatives Network	Repurpose subsidies, change agrifood policies Uplift rural livelihoods of smallholders and Indigenous Peoples Align food systems with climate and nature goals, including through greater use of agrobiodiversity
International Network of Mountain Indigenous Peoples Established in 2014 Brings together Indigenous community members and their research and NGO allies in 14 countries in Asia, Africa and Latin America	Aims to establish and support a global network of biocultural heritage territories in centres of origin and diversity to protect threatened ancestral gene banks and territories against multiple threats and restore agrobiodiversity through repatriation and ethical partnerships that link traditional knowledge and science	Support both biocultural heritage territories with no funding or formal recognition that are losing agrobiodiversity and traditional knowledge and thriving traditional knowledge-based landscapes with strong capacity and commitment for conserving agrobiodiversity rooted in ancestral cosmovision and values and supported by Indigenous-led and communal funds
La Vía Campesina/ PROLINNOVA and other peasant, farmer and food sovereignty movements	Social movement for smallholder farmers, rural communities Rights to land, seeds, food sovereignty, agroecology and local adaptation	Transform power relations in agriculture, from corporate, industrial agriculture to peasant-based agroecology, land reform and food sovereignty
Slow Food International/ Slow Food "Ark of Taste" A global grassroots consumer movement spanning 160+ countries working to preserve endangered traditional foods, breeds and crop varieties	Focuses on protecting food biodiversity, supporting small-scale producers and preserving traditional food cultures through "good, clean, fair" food.	Shift food systems from industrial, uniform, high-input production towards biodiverse, local, agroecological and socially just food systems rooted in place and culture
World Farmer's Market Coalition Global non-profit network that brings together farmers' market organisations from around the world	Supporting and connecting farmers' markets worldwide to affirm their role as a tool for local food systems development	Shift global food systems so they recognise and support farmers' markets as strategic infrastructure where diverse, locally adapted crops and breeds are valued, fairly remunerated and made visible to consumers, helping reverse homogenised, input-intensive supply chains

TERRA is a new alliance, launched at COP30, that unites many of these institutional partners and alliances under the Plan to Accelerate Solutions for the 2030 Climate Agenda. An innovative element of this alliance is its leadership by the government of Brazil, which hopes to address under the single concept of 'productive forests' an initiative that embraces the extractive reserves of Indigenous Peoples, community agroforestry systems and the restoration of degraded agroindustrial landscapes (see Box 6). Even if it is not possible to merge all three types of ABCs into a single approach, it is useful to have an umbrella programme that recognises and wishes to advance all three with partners such as the Brazilian Ministry of Rural Development, FFF, International Union for Conservation of Nature, IIED and Agricord, Alliance of Bioversity International and CIAT (CGIAR centres), Agroecology Coalition, International Fund for Agricultural Development (IFAD) and NOW Partners. Any such umbrella partnership should also actively engage a diversity of Indigenous Peoples', local community and farmer organisations and networks as equal partners.

Box 6. The new TERRA plan to accelerate solutions for Axis 3, Key Objective 9 of the COP30 Action Agenda

At COP30 in Belém in 2025, a new initiative TERRA was launched, with the following stated objective: "With family farmers, Indigenous Peoples, traditional and local communities as key protagonists — and having women and youth at its core — TERRA aims to scale up agroecology and agroforestry systems to restore biodiversity, enhance climate resilience and mitigation potential, strengthen food and nutrition security, and generate decent rural incomes."

The rationale comes from evidence that, when implemented at scale, agroecology and agroforestry can play a crucial role in addressing the climate crisis, significantly reducing emissions while sequestering carbon in the soil, improving soil health, water retention and agrobiodiversity conservation. Diversified systems can also buffer climate shocks, reduce crop losses and enhance adaptive capacity across rural and peri-urban areas, while supporting diverse and nutritious food production.

TERRA proposes five levers of acceleration:

1. **Farmer organisations:** working with and strengthening cooperatives and producer networks to coordinate agroecology and agroforestry implementation and amplify impact

2. **Capacity building and co-innovation:** establishing regional training centres and horizontal learning networks for farmer-to-farmer exchanges and adaptive innovation

3. **Blended finance:** channelling finance through multi-donor trust funds (such as IFAD Adaptation for Smallholder Agriculture Programme (ASAP+) and FFF) to crowd in private and public investment and support farmer-led agroecology and agroforestry initiatives

4. **Seeds, bio-inputs and technology:** supporting climate-resilient and native seed systems, bio-input production and trade, and access to adapted machinery and technologies for family farmers

5. **Value addition and market access:** promoting inclusive value chains, public procurement policies, labels and certifications, and digital markets to increase farmer income and incentivise agroecology and agroforestry transitions.

Regardless of whether new alliances and funding mechanisms such as TERRA take root and grow, there is a range of institutional and partnership options to explore the development of the three main types of ABC described in this report.

4.2.5 The funding landscape

Despite the central role of agrobiodiversity in resilient food systems, dedicated financing for its protection and enhancement remains limited. But there is growing interest in directly funding agroecology and agrobiodiversity among philanthropic donors such as the McKnight Foundation, IKEA Foundation and Oak Foundation.

The Agroecology Fund is a multi-donor fund dedicated to supporting agroecological practices that embody agrobiodiversity worldwide, which draws in many of these philanthropic funds. It has a mandate to support viable food systems, human rights of small farmers and Indigenous communities, biodiversity, climate resilience and sustainable soil/water use (Agroecology Fund, 2025). Since it was founded in 2011, it has expanded to more than 55 active funders. In 2024, the Swiss Agency for Cooperation and Development became the first bilateral development agency to join the Agroecology Fund. Although not a funder, the Global Alliance for the Future of Food has since 2023–2024 convened

more than 20 philanthropic partners around regenerative and agroecological food-system transformation and has published a roadmap report 'Cultivating Change' for scaling agroecology (Global Alliance for the Future of Food, 2024a).

Until the recent retreat from official development assistance, support from bilateral and multilateral donors had also been expanding, with the Agence Française de Développement and other European donors and development banks upscaling their funding for agroecology. One key platform is the Agri-Public Development Banks platform coordinated by IFAD. As of 2025, the platform includes roughly 140 agricultural public development banks across more than 90 countries, giving it potentially massive investment power to steer agriculture towards sustainability and inclusion. The recent establishment of dedicated working groups on agroecology and agroecological financing approaches could catalyse credit lines for sustainable transformation, risk-sharing mechanisms and green finance lines to support agrobiodiversity. This might be particularly useful for market-based or biocentric ABC mechanisms.

Beyond agroecology-focused finance, broader shifts in funding for Indigenous Peoples and local communities also have significant implications. At COP30, the Forest Tenure Funders Group — a coalition of over 35 bilateral and philanthropic donors — announced a new US$1.8 billion pledge to support land and forest tenure rights for Indigenous Peoples, local communities and (for the first time) Afro-descendant communities across forests, mangroves, savannahs and other ecosystems. Building on a US$1.7 billion commitment for Indigenous and local community forest tenure support at COP26, this new pledge is led by key bilateral donors such as Norway, Germany and the UK with the Liechtenstein Global Trust Venture Philanthropy, Ford Foundation, Rockefeller Foundation, Arcus Foundation and other philanthropies. Although such funds target tropical forests rather than agrobiodiversity, they can help to protect agrobiodiversity-rich territories and farming systems and could support ABCs that seek to protect biocultural heritage systems through funds managed by Indigenous Peoples and local communities. But current flows remain highly concentrated on Amazonian forest conservation, while other diverse farming landscapes — for example, in the Andes, which are facing glacier loss, rising temperatures, pests and diseases, widespread droughts and food insecurity — are comparatively under-recognised in major nature, forest and climate finance initiatives, despite the vital role of natural mountain pastures in carbon sequestration (Swiderska et al., 2022).

Taken together, the combined architecture — comprising philanthropic funds and coalitions, public banks, and bilateral and multilateral finance — forms a growing global financing ecosystem for ABCs, through the agroecology approach. Yet even with growing funding, total resources channelled through agrobiodiversity-aligned financing remain small, roughly US$1.7 billion or 0.6% of global agricultural subsidies or industrial-agriculture finance, which totalled US$842 billion per year between 2021 and 2023 (OECD, 2025). Subsidy reform is one area where progress might be made — but the idea that primarily Minority World subsidies might be diverted into Majority World just rural transition funds is unlikely at the current time for political reasons.

Opportunities may yet emerge through local district-level financial governance in many countries as an increasing source of finance for agroecological and agrobiodiversity funding, especially as local climate adaptation finance is likely to increase in priority over time. Another often overlooked area is self-mobilised finance among Indigenous Peoples' and producer organisations and other collective financial structures, such as communal funds, savings and loans groups, financial cooperatives, SACCOs and credit unions. While widespread savings and loans groups are small, some have mobilised to collectively establish larger financial cooperatives (Núñez del Prado Nieto, 2024). Globally, there may be as many as 67,000 credit unions serving more than 412 million members with assets of US$3.8 trillion (WOCCU, 2024). Many already prioritise investment in sustainable agriculture, of which agrobiodiversity funding can be part. In contexts where external funding is limited, strengthened alliances between farmer organisations and these collective financial structures, and investment in community capacity to generate finance from biocultural products and services, could become a powerful vehicle for developing and sustaining ABCs.

5

Collective next steps

5.1 Further research: next steps for researchers and others

To guide next steps, more information on how to catalyse agrobiodiversity is required, including both financial and non-monetary approaches. This can be broken down as follows:

- **Cataloguing existing ABCs more clearly** to understand what is already happening, and what is working in different contexts or spaces, while challenging the notion that an identical solution is required in every space.
- **Regional research and analysis**, given the place-based nature of agrobiodiversity solutions and lack of systemic and participatory monitoring systems, this should include regional analyses of the degree to which agrobiodiversity has been maintained or lost in different contexts, the locally specific challenges and solutions, and remaining needs and gaps.
- **A peer-to-peer knowledge platform and multi-actor community of practice**, which includes Indigenous Peoples, local communities and farmer organisations, to build consensus about the different contexts that require different types of ABCs and break down counterproductive conflicts relating to pushing a single approach.
- **Links into an umbrella programme** that pursues a global agroecological transition — for example, establishing a global multi-actor partnership like the TERRA plan to oversee the research and be linked to various networks.

5.2 Investment: next steps for potential donors

This is a challenging time to be discussing financial investment, as the United States, followed by many European donors, are at least temporarily withdrawing or reducing support within the environmental and developmental funding space. Yet, important opportunities remain to expand and stabilise both political and financial investment in ABC mechanisms. The following strategic priorities can help strengthen the funding landscape:

- **Expand dedicated philanthropic financing for agroecology and agrobiodiversity:** strengthening dedicated philanthropic funds — including multi-donor platforms, such as the Agroecology Fund — and encouraging additional contributors to sustain long-term investment in ABCs.
- **Leverage bilateral, multilateral and public bank finance in support of a just rural transition:** harness development agencies' and agricultural public development banks' growing interest in agroecology to integrate agrobiodiversity objectives into credit lines, guarantees, risk-sharing mechanisms and green finance instruments, particularly market-based and industrial conversion ABC mechanisms.
- **Support direct and sustained financing to Indigenous Peoples and local communities, with an emphasis on locally led adaptation:** using rising global commitments to Indigenous Peoples and local communities and the growth of locally led adaptation financing at district level — of which agrobiodiversity is an important component — as entry points for biocultural heritage-based ABCs.

- **Recognise and support collective financial structures led by smallholders', Indigenous Peoples' and local community groups, such as communal funds, credit unions and SACCOs:** supporting this vast but under-recognised source of capital for maintaining and increasing agrobiodiversity, including community capacity to generate finance — for example, through biocultural economies — to create a durable, community-rooted financing base for ABC.

5.3 Practical connections and collaboration: next steps for practitioners and advocates

Given the complexity of agrobiodiverse food systems and the diverse range of stakeholders involved in implementing and maintaining them, coordinating efforts is key for creating change in a timely manner. To advance ABC mechanisms, practitioners and advocates can:

- **Bridge Indigenous, smallholder farmers', conservationists' and industrial farmers' positions on agrobiodiversity through a knowledge- and experience-sharing learning platform, active partnerships, and developing differentiated and tailored mechanisms**, building on and bringing together existing alliances such as the Agroecology Coalition, the new TERRA initiative, and Indigenous, farmer and civil society organisations and networks.
- **Strengthen networks that fight for land tenure, rights to seed, and farmer-managed natural regeneration systems**, as weak tenure and access to seeds or seedlings has been a challenge across different mechanisms. Collaborative research and inventories, CSBs and community-led conservation efforts are crucial interventions to safeguard diversity, but to be sustainable, they need a self-sustaining business model with clear benefits — for example, Peru's Potato Park is establishing a seed cooperative to allow seed guardians to get some income, but it is aligned with Indigenous values and does not aim to maximise profits.
- **Break down the disconnect between underfunded in-situ conservation at farm and landscape level and relatively well-funded ex-situ conservation in seeds banks and protected areas**, given the place-based nature of solutions and need for conservation to be based on the most up-to-date research as well as traditional knowledge. Stronger global food system commitments — on the international stage and from CSO movements — drive national policies as national commitments, while protected areas have policies, laws and global, national and local institutions. There is a need to push for greater attention to protecting agrobiodiversity in situ in centres of origin and diversity, and for synergies along a continuum between in-situ and ex-situ, and domesticated and wild, to reverse their extremely detrimental binary separation. This may include increasing the number of botanical gardens and gene banks serving smallholder farmer organisations by promoting the uptake of neglected and underutilised varieties, species and breeds and supporting the repatriation of lost traditional crops.
- **Pilot, upscale or network payment mechanisms for agrobiodiversity conservation**, focusing on rewarding biocentric groups who conserve endangered crop varieties through in-kind payments, such as PACS, supporting sociocultural approaches that seek to upscale Indigenous Peoples' and local community funds, and backing market-based approaches that seek to increase the level of diversity in market-oriented smallholder farmer (for example, agrobiodiversity ecocredits from local financial cooperatives) or agroindustrial food systems (for example, better rewarding tree diversity on coffee plantations to promote bird diversity, or rewarding border planting and ecological corridors in commercial farms). The latter could involve building a plus into existing payment for ecosystem service schemes for carbon, watershed protection or organic agriculture, but such credit systems need to be carefully designed so they do not inadvertently erode smallholders' traditional knowledge and cultural values for agrobiodiversity.
- **Develop distinct approaches, labelling and certification of agrobiodiversity benefits within ABCs**, by, for example, developing labels beyond existing organic, sustainability, carbon plus or eco labels to include reference to their origin within 'agrobiodiverse systems'.
- **Promote targeted subsidies to promote and support neglected or underutilised varieties, species and breeds** with the potential to create a coalition, including of countries of origin, following initial attempts by Peru.
- **Develop accessible learning materials and courses to promote agrobiodiversity uptake**, including open-access online platforms, farmer field schools and modular training kits tailored to smallholders, Indigenous groups and extension agents, building on models like the FAO's farmer field school approach or emerging digital tools from the Agroecology Coalition.

5.4 Conclusion

This research paper has highlighted the urgent need to advance agrobiodiversity conservation and use. It has shown how catalysing agrobiodiversity requires differentiated but complementary approaches that cope with different agricultural contexts and respect the actors within those contexts. It has described the many useful mechanisms that groups are already deploying as ABCs. These fall into three types. The first is internal to Indigenous Peoples' and local community systems, traditions and knowledge that value agrobiodiversity and are part of their ways of life due to their values and beliefs. The second is related to research, policy, recognition and legislation by institutions that provide tools and frameworks to conserve agrobiodiversity. And the third uses direct economic incentives to maintain or increase agrobiodiversity through payments or market-based mechanisms.

This final section of the report lays out further areas of research, investment and practical connections and collaboration that can build on and develop a broader alliance for conserving agrobiodiversity. And while this will involve a degree of differentiation that suits different contexts, it will also mean a sharpening in each area. For **biocentric** work, this means sharpening the definition of conservation goals for the world's varieties, species and breeds. For **sociocultural** work, it means sharpening the commitment to Indigenous Peoples' and local communities' autonomy over their territories, traditional knowledge and self-managed funds. And for **market-based** work, it means sharpening efforts to pilot incentives that will recompense the upfront costs of transition to more agroecological and agrobiodiverse farming systems. Emerging umbrella initiatives to oversee such transitions need to accommodate at least these three main entry points and ABC mechanisms.

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Knowledge Products

Research Report

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With just 80 of the 7,000 plant species humans have historically cultivated making a major contribution to today's global food supply, the world has witnessed an alarming loss of agrobiodiversity. Despite multiple schemes for conserving wild biodiversity, comparatively little has been done to conserve agrobiodiversity, and there is a funding gap of US$700 billion per year. Due to the different scales and agricultural contexts involved, no single approach can close this gap. This report identifies three approaches — market-based, sociocultural and biocentric — each with its own unique finance mechanism, that can meet the needs and priorities of all stakeholders, from agroindustry to smallholder farmers, Indigenous Peoples and local communities who reject mechanisms that commodify nature and biocultural heritage.

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