



Asian Farmers' Association for
Sustainable Rural Development

Investing in Farmer Organizations

*Lessons from Climate Action, Biodiversity
and Land Restoration Initiatives Across Asia*

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1. Introduction

The impacts of climate change are increasingly evident in the landscapes and livelihoods of smallholder producers across Asia. Unpredictable rainfall, prolonged droughts, extreme rains and floods, storms, rising temperatures, and increasing pest and disease pressures are disrupting agricultural production. Farmers are having to contend with shifting planting seasons, water shortages, crop losses and increasingly variable yields, making it more difficult to plan and sustain production from one season to the next.

These impacts do not occur in isolation. They interact with existing pressures on rural livelihoods, including insecure access to land and natural resources, inadequate agricultural infrastructure, rising costs of seeds, fertilizer, fuel and labor, and difficulties obtaining stable and remunerative markets. Climate impacts can deepen these pressures, particularly for households whose livelihoods depend directly on land, forests, water and other natural resources and whose capacity to absorb repeated production losses is limited.

Yet smallholder farmers and their organizations are not simply experiencing these changes. Across Asia, they are already responding to them. They are rebuilding soil fertility, managing increasingly scarce water, maintaining forests and biodiversity, diversifying crops and livelihoods, reducing dependence on purchased inputs, and developing production systems that make better use of the resources available within their farms and communities. Many of these practices build on farmers' own knowledge and experience and are being developed and sustained through cooperatives, associations and other producer organizations.

Seen through international policy frameworks, these activities may be described as climate adaptation and mitigation, biodiversity conservation, sustainable land management or ecosystem restoration. They are also closely related to the objectives being pursued through the three Rio Conventions—the United Nations Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (UNCBD) and the United Nations Convention to Combat Desertification (UNCCD). Within farms, forests and rural communities, however, these objectives are much less easily separated. Managing soil fertility affects how land retains water and performs during dry periods. Maintaining forests and biodiversity can sustain food, pollination and forest-based livelihoods. Diversifying production can reduce households' dependence on a single crop, season or source of income. What may be treated as separate environmental objectives at the policy level often forms part of the same production and livelihood system at the local level.

This is the starting point of this report. Many of the actions being promoted through global discussions on climate change, biodiversity and land restoration already have practical expressions within smallholder landscapes. Farmers are not necessarily undertaking them because they are implementing a particular international commitment. They are doing so because declining soil fertility, unreliable water, changing production conditions and increasingly uncertain livelihoods require them to find ways to continue farming and managing the resources on which they depend. Their experience provides concrete examples of how environmental objectives are already being translated into practice within working landscapes.

What is particularly important is the level of resources with which some of this work is being done. The cases documented in this report include investments of less than USD 10,000 or USD 20,000 that have supported irrigation and aquaculture systems, quality planting materials, processing equipment and working capital serving groups of farmers. Other initiatives have developed over several years through combinations of project financing, organizational resources and farmers' own contributions. The cases

were not documented using common financial or impact indicators, so they cannot establish comparative returns or environmental impact per dollar invested. They do show, however, what farmer organizations have been able to establish and strengthen with relatively modest amounts of external support.

This raises an important question for the growing amount of public and international attention being directed toward financing climate action, biodiversity conservation and land restoration. The challenge is not only to mobilize more finance. It is also to understand where that finance goes, what it pays for, through which institutions it reaches farmers, and whether it strengthens the systems needed to sustain action after an individual project ends. The experiences documented in this report are particularly relevant to this question because they show that the starting point is not an absence of local action or capacity. Farmers and their organizations are already investing, adapting and organizing around these challenges, even as many continue to face significant constraints in accessing finance, infrastructure, markets, technical support and productive resources.

The report therefore examines not only the environmental practices being undertaken by farmers, but also what sits behind them. It looks at how improvements in soil, forests and other natural resources interact with the need to maintain viable livelihoods; how farmers are managing climate risks through water management, diversification and changes in production systems; how producer organizations enable activities that would be difficult for individual farmers to organize alone; and how different forms of finance have enabled some of these initiatives to develop. It also considers what happens when some of the basic conditions for resilience—including access to land and resources and the ability of farmers to organize—begin to break down.

The report brings together selected experiences of farmer and producer organizations that are members of the Asian Farmers' Association for Sustainable Rural Development (AFA) across Cambodia, India, Indonesia, Kyrgyzstan, Mongolia, Myanmar, the Philippines and Vietnam. These cases represent different production systems, landscapes and stages of organizational development. They are not intended to provide a comprehensive assessment of climate, biodiversity and land restoration action across Asia, nor were they documented using a common set of indicators that would allow their impacts to be aggregated or directly compared. Instead, they are used to examine what farmers and their organizations are already doing, what enables that work to continue and expand, and what these experiences can tell us about the design and delivery of support under the three Rio Conventions.

The question this report raises is therefore not whether smallholder farmers can participate in climate, biodiversity and land restoration action. They already are. The more important question is what becomes possible when the institutions through which they are already acting receive the type and level of investment needed to sustain and expand that work. For governments, funders and institutions working under the Rio Conventions, this means looking beyond the amount of finance mobilized and paying closer attention to where implementation is already happening, what farmers and their organizations have been able to accomplish with the resources available to them, and what is needed to build from that existing capacity.

2. Sustaining Landscapes and Livelihoods Under Changing Conditions

For smallholder farmers and forest users, restoring land and conserving biodiversity takes place within landscapes that are also expected to produce food and sustain livelihoods. Soil, forests, water and biodiversity are part of the productive base on which farming households depend. Their degradation can directly affect yields, production costs and the availability of food and income, while improving their condition can strengthen the ability of farmers to continue producing from the same landscape.

The experiences documented in this section show different ways this relationship is being managed. Farmers in India are rebuilding soil fertility while reducing their dependence on purchased agricultural inputs. Organic vegetable producers in Mongolia are combining changes in production with systems for certification, storage and marketing. Forest users in Indonesia and Vietnam depend on healthy forest ecosystems for honey production, while cooperatives in Kyrgyzstan and Vietnam are creating greater value from forest products and locally adapted plants.

The approaches are different, but they raise a common practical issue. *Restoring soil or maintaining biodiversity is difficult to sustain if the livelihood connected to that resource becomes economically unviable. At the same time, production that continually degrades soil, forests or biodiversity eventually weakens the resource base on which that livelihood depends.* The cases below show how farmer organizations are working within this relationship, connecting changes in resource management with production, income and markets.

Restoring soil while keeping farms productive

For women farmers organized through the Self-Employed Women's Association (SEWA) in India, declining soil fertility has been accompanied by another concern: the increasing cost of maintaining agricultural production. Chemical fertilizers and pesticides represent recurring expenses for farming households, while changing temperatures and irregular rainfall are placing additional pressure on production.

Nitaben Vishnubhai farms five acres in Vagadvav village in Surendranagar, Gujarat, where she grows cotton, wheat, castor and seasonal vegetables. Her production previously relied heavily on urea, DAP and chemical pesticides, based largely on recommendations from input dealers and other farmers. Over time, she observed declining soil quality while spending considerable amounts each season on external inputs.

Through SEWA's crop-based training, Nitaben learned different approaches to soil fertility, composting, pest management and water use. She gradually reduced chemical inputs and shifted fully to organic farming in 2023. She now prepares compost and other farm inputs using locally available materials, including botanical extracts and bio-amrit.

The economic change was substantial. Nitaben reported that seasonal cultivation costs that previously ranged from Rs. 50,000 to Rs. 80,000 declined to around Rs. 10,000, mainly for seeds and materials needed to prepare organic inputs. At the same time, she observed better soil moisture retention, the return of earthworms, lower pest incidence and improved crop performance under changing weather conditions.

Nandaben Rayjibhai Parmar, another SEWA member, took a more gradual approach. Rather than changing her entire production system at once, she initially applied organic practices to part of her farm and expanded after observing the results. In the organically managed area, pesticide expenses were eliminated and fertilizer costs declined. She also reported increased production and income from tomatoes, okra and rice.

These experiences are important because the benefits of soil restoration were not limited to changes in soil condition. Lower dependence on purchased inputs changed the economics of production itself. For farmers operating with limited margins, the ability to maintain or improve production while substantially reducing recurring costs can make changes in soil management more feasible to continue over time.

Managing water where production is becoming more difficult



For farmers facing increasingly dry conditions, adaptation can begin with securing enough water to continue producing. The experience of KAFLU LLC in Kyrgyzstan shows that doing this can require several investments in the production system rather than the introduction of a single technology.

KAFLU has been developing strawberry and raspberry production in an area where drought, high temperatures and limited access to irrigation affect agricultural production. The cooperative constructed a water reservoir to improve water availability, installed pumps and introduced drip irrigation to deliver water more efficiently to crops. Mulching helps retain moisture in the soil, while higher-quality planting material supports berry production under these conditions.

These measures address different parts of the same production constraint. A reservoir increases the amount of water that can be stored, but farmers still need a way to move that water to their fields and use it efficiently. Drip irrigation reduces water use, while

mulching helps retain moisture after it reaches the soil. Appropriate planting material is then needed for the crop itself to perform under local growing conditions.

The investment has allowed the cooperative to develop strawberry and raspberry production despite difficult climatic conditions. These higher-value crops also provide another source of income for members. In this case, water infrastructure is not an isolated adaptation measure. It forms part of a production system in which water storage, efficient irrigation, soil management and crop choice work together to make continued production possible.

Diversifying where dependence creates risks

Climate resilience can also depend on what happens when a farmer's main source of production or income is disrupted. Where households rely heavily on one crop or farming season, a drought, flood or

other production loss can affect a large share of their livelihood at once. Adding other productive activities does not eliminate these risks, but it can reduce the extent to which a household depends on a single source of income.

The Iradan Cooperative in Kyrgyzstan has expanded into fish production through an aquaculture system integrated with other resources available within its production area. The cooperative uses ponds supplied through mountain-fed water channels. Trees around the ponds provide shade and help stabilize the banks, while reeds growing in and around the production area can be used as supplementary fish feed. Corn is also grown for feed, reducing reliance on externally purchased inputs.



The aquaculture enterprise was supported through an investment of around USD 9,500 and provides members with an additional livelihood alongside crop and livestock production. Fish production carries its own risks and remains dependent on adequate water and suitable temperatures. Its value for diversification is therefore not that it provides a livelihood unaffected by climate change, but that members are no longer relying on exactly the same productive activity for all of their income.

The Hanjuang Cooperative in Indonesia provides another form of diversification. As discussed previously, many farmers around Ujung Kulon National Park depend on rain-fed agriculture. During increasingly harsh dry periods, staple crop production can become difficult. Wild forest honey provides another source of income during months when agricultural production is constrained and forest plants are in bloom.

This form of diversification is particularly relevant because the livelihood activities operate differently across the year. Honey does not replace farming, but it can provide income during a period when rain-fed agricultural production is more difficult. Maintaining access to different productive resources—farmland as well as forest resources—therefore gives households more than one way of sustaining their livelihoods as conditions change.

The Iradan and Hanjuang experiences show two different forms of diversification. One introduces another productive activity within the farming system; the other draws on a forest-based livelihood that becomes particularly important during difficult farming seasons. In both cases, resilience comes partly from having alternatives rather than expecting one crop or livelihood to withstand every shock.

When livelihoods depend on biodiversity

For some farmers and forest users, maintaining biodiversity is directly connected to maintaining their source of income. The Hanjuang Cooperative in Pandeglang, Indonesia, provides a clear example. Its members harvest wild forest honey from *Apis dorsata*, locally known as *odeng*, a bee species that depends on the surrounding forest for habitat and food. If the forest and wild bee population decline, the livelihood built around honey production is also affected.

Many farmers living around Ujung Kulon National Park depend on rain-fed agriculture. Longer and harsher dry seasons have made it increasingly difficult to cultivate staple crops such as rice during parts of the year. Forest honey provides an additional source of income during the dry months, when agricultural production is limited and forest plants are in bloom.



Unlike domesticated bees, *Apis dorsata* cannot be maintained through conventional beekeeping. The availability of honey therefore depends on the condition of the surrounding forest, including the trees and flowering plants that support the wild bee population. How the honey is harvested also matters. In the past, honey hunters commonly removed the entire comb from the tree. Since 2016, the Hanjuang Cooperative, working with Aliansi Petani Indonesia (API) and local communities, has promoted harvesting only part of the comb and leaving the section containing the larvae intact. This allows the colony to continue reproducing and reduces the impact of harvesting on the wild bee population.

The cooperative has worked with the Ujung Kulon National Park Office on sustainable harvesting practices and mapping honeycomb trees. API has also supported improvements in post-harvest handling, cooperative governance, financial recording, business planning and market development. In 2016, the cooperative acquired dehumidification equipment that allowed it to reduce the water content of the honey

and meet national SNI quality standards. More recently, it has introduced traceability systems that allow buyers to identify where the honey was sourced.

This creates a direct relationship between how the resource is managed and whether the livelihood can continue. Harvesting practices help protect the wild bee population on which future production depends, while improvements in processing, quality and traceability help producers obtain greater value from the honey they are able to harvest. For farmers who rely on honey when dry conditions limit agricultural production, maintaining the forest ecosystem also helps maintain an alternative source of income.

The experience also raises questions about access to forest resources within protected areas. Communities around Ujung Kulon have longstanding relationships with the forest and continue to depend on its resources for part of their livelihoods, while the protected status of the area places restrictions on how these resources can be accessed and used. Information gathered for this report also refers to community efforts to seek recognition of customary territory, although further documentation would be needed to establish the status and scope of these claims. This is important because the ability of communities to sustain forest-based livelihoods depends not only on the condition of the resource, but also on whether and under what conditions they are able to continue accessing it.

A different relationship between biodiversity and honey production can be seen around Cuc Phuong National Park in Vietnam. The Cuc Phuong Honey Production and Trading Cooperative was established in 2020 from the merger of three local beekeeping groups. It operates at the edge of Vietnam's first national park, an area of around 22,200 hectares with a diverse range of plant and animal species.

The cooperative manages around 1,800 bee swarms and draws on the diversity of flowering plants in and around the park to support honey production. Between 2020 and 2022, the number of beehives managed through the initiative doubled. The cooperative currently produces up to 14,000 litres of honey annually, provides employment to around 60 local residents and benefits approximately 120 people.

Members follow established production and quality standards, while processing is centralized through the cooperative. Support from the Viet Nam Farmers' Union (VNFU) has included machinery to improve processing efficiency and product quality, as well as support for marketing and development of the Cuc Phuong honey brand. The cooperative also identifies the conservation of local bee species and biodiversity as part of its work.

The systems in Indonesia and Vietnam are different. Hanjuang relies on harvesting from a wild bee species within a forest ecosystem, while Cuc Phuong manages bee colonies through an organized beekeeping system. In both cases, however, honey production depends on ecological conditions that producers cannot create through processing or equipment alone. The continued availability of flowering plants, suitable habitat and healthy bee populations affects whether the enterprise can continue to produce.

Agricultural biodiversity is also maintained through the seeds that farmers continue to grow, select and reproduce. In Cambodia, Farmers and Nature Net (FNN), through the SEEDS initiative, is working with CamSeed Agricultural Cooperative to preserve and promote traditional and local rice varieties by keeping them in active production. The challenge is not simply to preserve these varieties, but to create the conditions for them to remain in farmers' fields, continue circulating among farmers and thrive as part of the farming system.

The initiative is therefore building a farmer-led system through which traditional and local seeds can continue to be produced, multiplied and made available to other farmers. Seed producers maintain and produce the varieties, while the cooperative provides a structure through which seed can be managed and distributed more widely. Traditional varieties are sustained through continued cultivation. Farmers need to be able to grow, select and reproduce these seeds from one season to the next, while seed systems need to keep them available and accessible to other farmers.

The SEEDS experience brings another dimension to biodiversity management within productive landscapes. Maintaining agricultural biodiversity also means maintaining the farmer's knowledge, seed systems and organizations that allow traditional and local varieties to remain in use. Rather than separating conservation from production, the initiative creates conditions for biodiversity to remain within the farming system, where it continues to support and be shaped by farmers' production.

These experiences show that biodiversity is not separate from production within smallholder landscapes. Forests, pollinators and crop diversity form part of the productive systems farmers manage, while their continued presence also depends on how those systems are used and maintained. In the honey cases, maintaining forests, flowering plants and bee populations helps sustain production and livelihoods. In Cambodia, continued cultivation and farmer-led seed production keep traditional and local rice varieties in active use.

Reducing dependence on purchased inputs

A household's ability to manage climate shocks is also affected by what it has to spend to maintain production and meet everyday needs. When farmers depend heavily on purchased fertilizer, fuel or other external inputs, rising prices can add to the pressure created by crop losses and changing production conditions. Reducing some of these recurring costs can therefore be another part of strengthening resilience.

SEWA's Swachh Aakash or Cleaner Skies Campaign in India provides an example through household biogas. The broader campaign was developed through more than 4,500 focus group discussions with women members to understand the environmental changes they were experiencing and identify responses relevant to their farms, households and communities. The resulting activities include natural farming, renewable energy, tree planting, water management, waste reduction and cleaner mobility.

For Premilaben, a farmer and livestock keeper, the intervention was a household biogas system that uses animal waste already produced on the farm. The gas can replace part of the household's use of LPG and firewood for cooking, while the bioslurry remaining from the process can be returned to agricultural land as fertilizer.

The system therefore substitutes for two resources the household would otherwise have to obtain elsewhere. Animal waste becomes a source of household energy, while the resulting bioslurry reduces the need for purchased fertilizer. Premilaben applied bioslurry on part of her wheat farm and compared it with an area where purchased fertilizer continued to be used. According to information documented by SEWA, the bioslurry-treated plot produced 39 mann of wheat compared with 28 mann from the plot using purchased fertilizer.

The significance of the intervention lies in how it connects resources already available within the household. Livestock produces waste, the waste generates energy, and the remaining material returns

nutrients to agricultural land. The household can reduce some expenditure on cooking fuel and fertilizer without separating the climate intervention from the farming system on which the family already depends.

SEWA's wider experience also shows why the choice of intervention matters. The Cleaner Skies Campaign was not developed around a predetermined package of technologies. Consultations with women members identified the changes they were experiencing and the areas of their daily lives where different practices, technologies or resources could respond to them. This has resulted in interventions ranging from natural farming and solar irrigation to biogas, tree planting and cleaner transport. The interventions are different because the constraints they address are different.

This is important when considering what it means to finance climate resilience for smallholder farmers. Resilience may require water infrastructure in one production system, another source of livelihood in another, or ways of reducing recurring input and energy costs elsewhere. The appropriate investment depends on where the vulnerability lies and what resources farmers already have available to them.

Many of these responses also require more than individual action. Water infrastructure has to be financed and maintained, new livelihood activities require technical knowledge and markets, and technologies have to reach farmers in forms they can use. The experience of SEWA also shows the importance of having a structure through which farmers themselves can identify which interventions respond to their circumstances. The next section examines this organizational layer more closely and the functions farmer organizations perform in turning individual practices and investments into systems that can serve a wider membership.

Making sustainable production economically viable

Improving the way land and natural resources are managed does not automatically improve the livelihoods of the people managing them. Farmers and forest users may adopt more sustainable practices but still earn relatively little if they can only sell raw products to traders. This matters not only for household income. If these practices are expected to continue over time, farmers and communities also need to be able to sustain livelihoods from the landscapes and resources they are being supported to manage.

The experience of Ishker KG Cooperative in southern Kyrgyzstan shows how value addition can change this relationship. Its members work with walnuts, pistachios, rose hips, apricots and other forest products. Before receiving support through the APFP-FO4A programme, members were largely collecting and selling these products raw or undertaking only small-scale processing. Limited equipment, weak packaging and branding, and difficulties accessing stable markets restricted the value they could obtain from resources they were already using.

The cooperative invested in nut-cracking equipment and working capital and expanded its products to include peeled nuts, oils, nut pastes, flours and dried rose hips. Product testing, equipment calibration, packaging and labelling also helped the cooperative supply domestic buyers and begin accessing markets outside Kyrgyzstan.



The investment allowed members to participate in more stages of the value chain rather than relying mainly on the sale of raw forest products. This creates opportunities for more of the value generated from walnuts, pistachios and other products to remain with the cooperative and its members. For forest users, this is important because the long-term viability of the livelihood is connected both to maintaining access to these resources and to obtaining sufficient value from their sustainable use.

The Cu Nam Medicinal Plants Production and Agricultural Business Cooperative in Vietnam shows a similar relationship in a different landscape. Farmers in Quang Binh Province face recurring droughts and floods, while women in the community have limited opportunities for stable local employment. With support from the Viet Nam Farmers' Union (VNFU), the cooperative began cultivating locally adapted medicinal plants for which there was existing market demand. According to documentation provided by VNFU, areas that had previously been barren have gradually been brought into medicinal plant production using nature-friendly cultivation practices.

The cooperative also invested in what happens after harvest. Instead of selling the medicinal plants only as raw materials to traders, members process them into medicinal tea. Equipment for mixing raw materials and packaging tea bags increased processing capacity while reducing the amount of manual labor required. Tasks that previously required nine or ten people to manually mix and package tea can now be carried out with substantially less labor, while production can reach around 30 to 40 kilograms per day. The cooperative has grown to 10 official members and 42 associate members, providing local employment and additional income opportunities, particularly for women.

In Cu Nam, bringing previously underused land into medicinal plant production is therefore connected to the development of a local enterprise around what that land produces. Cultivation creates the raw material, while processing allows the cooperative to develop a higher-value product and keep more of that economic activity within the community. The livelihood opportunity does not sit separately from the way the land is being used; it is being built around continued production from that landscape.

This relationship is important for the sustainability of restoration and resource management. Farmers and forest users still need viable livelihoods from the landscapes they are restoring or managing sustainably. Where maintaining soil, forests, biodiversity and other natural resources also helps sustain production and income, farmers have a direct interest in keeping those resources productive over time. The Hanjuang experience discussed earlier makes this particularly visible: harvesting practices that protect the wild bee population also protect the possibility of future honey harvests.

Processing and market development can strengthen this relationship by increasing the value that farmers and communities are able to derive from sustainably managed resources. Greater economic value does not automatically result in better resource management, and the cases documented here do not provide enough evidence to conclude that additional income is consistently reinvested directly in restoration. They do show, however, that when livelihoods remain viable, farmers and their organizations are in a stronger position to continue the practices, labor and collective systems needed to manage those resources over time.

Supporting restoration may therefore require investment not only in what happens on the land, but also in the livelihood and productive systems connected to it. The objective is not simply to generate additional income from restored or sustainably managed landscapes. It is to create conditions in which maintaining the landscape and sustaining the livelihood can reinforce one another, giving farmers and communities both a reason and greater capacity to continue managing the resources on which their production depends.

3. The Organization Behind the Landscape

Many of the activities described in the previous section begin with decisions made by farmers: how to manage soil, use water, harvest forest resources, diversify production or reduce dependence on purchased inputs. But the cases also involve functions that extend beyond what an individual farmer can reasonably organize alone. Quality planting material has to reach many producers. Common standards have to be maintained. Products from different farms have to be aggregated, processed and marketed. Shared equipment and infrastructure need to be managed. Technical institutions, buyers, government agencies and financing partners need a counterpart through which they can work with producers.

This is where farmer organizations become important. Their role in these cases is not simply to gather farmers together or provide a channel through which projects can distribute support. They organize parts of the production and livelihood system that require collective action. The form this takes differs considerably across the cases, but four functions appear repeatedly: *connecting farmers to knowledge and technical systems, maintaining common standards, organizing activities beyond the farm gate, and providing continuity as initiatives develop over time.*

Building knowledge and capacity within farmer organizations

Farmer organizations can create spaces where farmers' own knowledge and experience are combined with research and technical support. The value of this exchange is not simply that farmers gain access to expertise from outside their communities. It can also strengthen their own capacity to test, adapt, produce and share knowledge and resources within their organizations.



JAMTANI's work on potato seed production in Indonesia provides one example. Potato farmers faced high costs and limited access to quality planting material, creating a continuing dependence on seed obtained from outside their communities. JAMTANI worked with farmers and researchers from Universitas Pendidikan Indonesia and Padjajaran University Bandung to assist with soil health assessment, as well as with a certification agency to ensure high quality potato seed tolerant from virus, pest, and diseases.

Tissue culture is used to produce disease-free planting material, but the system does not end with laboratory production. The planting material has to be multiplied through successive generations before it can reach more farmers. Farmer seed breeders participate directly in this process, while JAMTANI supports training, certification, storage and distribution. This allows farmers themselves to take on part of the production and multiplication of planting material needed within the wider farming community.

The organizational role is important because it changes how knowledge and planting materials move. Research institutions contribute particular technical capacities, but farmers and their organization remain involved in adapting and carrying the system forward. Knowledge does not move only in one direction from researchers to farmers. Farmers' experience with local growing conditions, production and seed multiplication also contributes to how the system develops and operates.

This creates a different relationship from one in which farmers remain primarily recipients of externally produced technologies or inputs. By developing farmer seed breeders and organizing multiplication, certification, storage and distribution, JAMTANI is building capacity within the farmer network itself. The organization becomes a space where farmers' knowledge and external technical support can be brought together while strengthening farmers' ability to produce and circulate planting material within their own networks.

Technical and scientific institutions can provide useful knowledge and specialized capacities, but this does not have to displace farmers' own knowledge or create continued dependence on external expertise. Farmer organizations can instead provide a structure through which different forms of knowledge interact, while strengthening farmers' capacity to experiment, adapt and maintain practices within their own production systems.

Making collective standards possible

Some practices only produce their intended result when they are maintained across many producers. This becomes particularly important when farmers are selling collectively or when the environmental characteristics of a product depend on how members produce or harvest it.

Selenge's organic production system in Mongolia illustrates this function. Around 200 organic vegetable farmers are organized through 12 cooperatives. Maintaining organic production across that membership requires more than individual commitments to reduce chemical inputs. The Participatory Guarantee System gives farmers a role in reviewing production practices, while soil and water testing provides additional information on production conditions. The organization creates a mechanism through which a common production standard can be applied and maintained across different farms.

The same organizational function is visible in Hanjuang, although the practice being maintained is different. Sustainable forest honey production depends on collectors following harvesting methods that protect the larvae-bearing section of the honeycomb. Quality requirements continue after harvest through moisture control, processing standards and traceability.

The importance of the organization here is not simply that it trains members. It creates a way for an agreed practice to become a collective practice. This matters when environmental programmes seek to move beyond individual demonstration farms. Reaching more producers is one challenge but maintaining the integrity of the practice as participation expands is another.

Organizing what happens beyond production

The previous chapter showed repeatedly that changing what happens on the farm or in the forest is only part of the livelihood system. Farmers still need somewhere to store products, equipment to process them, sufficient volume to reach buyers and organizations capable of managing these activities.

These are precisely the functions that many of the cooperatives in this report have begun to organize collectively. Selenge combines organic production with storage, processing, product development and collective marketing. Ishker KG allows forest users to move from primarily selling raw walnuts, pistachios and other products into processed products such as oils, pastes and flours. Cu Nam manages processing equipment through which medicinal plants grown by members can be turned into packaged tea products. Hanjuang manages equipment and quality systems that allow forest honey to meet formal market standards.

The significance of these examples is not the processing equipment itself. A nut-cracking machine, tea-packaging equipment or honey dehumidifier has limited value without an organization that can decide how it will be used, maintain it, coordinate production among members, manage finances and connect the resulting products to markets.

This changes what an investment in sustainable production may need to include. If financing reaches only the farm-level activity but not the collective functions needed after production, farmers may improve how they produce while remaining constrained in what they can do with the resulting product. The organization provides a way to invest in parts of the value chain that are difficult or inefficient for individual farmers to manage separately.

Providing a structure that can continue to develop

The cases also show that these systems are rarely built through one intervention. Organizations accumulate capacities over time, often through different projects, partnerships and investments.

Hanjuang's development illustrates this clearly. API began organizing farmers around Ujung Kulon National Park in 2013, while honey collectors formally established the cooperative in 2015. Sustainable harvesting training and processing equipment followed, with later support extending into mapping, financial management, business planning, traceability and market development. More recent financing therefore entered an organization that already had members, experience and earlier investments on which to build.

JAMTANI's seed system similarly depends on capacities that extend beyond a single grant: relationships with research institutions, trained seed breeders, certification processes and facilities for storing and distributing seed. SEWA's climate initiatives draw on an organization with an established membership and local structures through which consultations, training and different forms of support can be organized.

This continuity is important because the development of a farming system, natural resource enterprise or cooperative rarely follows the timetable of a single project. One investment may establish equipment, another may strengthen production or quality systems, and later support may address working capital or markets. An organization that remains in place provides a structure through which these investments can accumulate rather than repeatedly starting from the beginning.

Continuity should not be assumed simply because an organization exists. Farmer organizations differ considerably in governance, technical capacity, financial management and business experience. Some of the organizations documented in this report already manage enterprises, staff, equipment and formal financing, while others remain at an earlier stage of development. The relevant question is therefore not whether every farmer organization is ready to manage the same level of responsibility, but what capacities already exist and what additional support is needed for the organization to take on a larger role.

Investing through organizations, not only reaching farmers through them

This distinction has implications for how farmer organizations are treated within climate, biodiversity and restoration programmes. An organization can be used primarily as a way to identify beneficiaries, convene farmers for training or distribute inputs. But the experiences in this report show a different role. Farmer organizations are themselves part of the infrastructure through which implementation happens.

JAMTANI's seed system depends on coordination among researchers, seed breeders and farmers. Selenge's organic production depends on common standards and systems for verification. Hanjuang's sustainable harvesting depends on collective rules that continue from the forest through processing and traceability. The processing investments discussed in the previous chapter depend on cooperatives capable of managing shared assets and connecting production to markets.

These functions remain largely invisible if programmes look only at the activity being financed. A grant may appear to finance irrigation equipment, processing machinery, planting material or training. What determines whether that investment continues to function, however, can depend on the organization around it: who manages the asset, who maintains the standard, how members participate, how products reach markets and how the next investment is identified.

This is why strengthening farmer organizations should not be treated only as an administrative cost around an environmental investment. Organizational capacity is part of what allows that investment to operate across many farmers and continue beyond an individual project. Governance, financial management, technical capacity, membership systems and enterprise development may therefore need investment alongside the physical activity itself.

The SEEDS initiative in Cambodia provides a practical example. Alongside investment in traditional and local seed production, FNN is strengthening CamSeed's own financial and management systems. An initial review identified gaps in producer records, procurement and sales documentation, stock management and financial policies, leading to the development of standardized systems for production, inventory, sales, and financial recording. These are not separate from the work of maintaining a farmer-led seed system. They are part of the capacity the cooperative needs to organize production across its members, manage seed and finance, and sustain the system over time.

The cases do not show that farmer organizations can replace all other actors. Research institutions remain important for technical development, government agencies for regulation and public services, buyers for market access, and financing institutions for capital. The role of the farmer organization is different: it provides a structure through which producers can engage with these actors collectively and through which different forms of support can be connected to the production systems and landscapes farmers are already managing.

This leads directly to the question of finance. If farmer organizations are expected to manage shared investments, maintain production systems, develop enterprises and coordinate activities across their membership, financing needs to support both the activity and the organization that makes it work. The next section examines what relatively modest investments have enabled in the cases documented here, why different organizations require different forms of finance, and what prevents some of them from accessing the capital they need.

4. Financing Farmer-Led Action

Farmers and their organizations are already investing in changes that strengthen production, livelihoods and the landscapes on which they depend. Many of these changes, however, require resources beyond what individual farmers or organizations can finance on their own. Water infrastructure, processing equipment, quality planting materials, storage facilities and working capital require upfront investment. Organizations also need resources to develop the technical, management and market systems that allow these investments to function.

The financing question is therefore not only how much money reaches smallholder farmers. It is also what that money enables them to do, what costs it can cover, and whether the form and terms of financing reflect the realities of agricultural production. The experiences documented here show that relatively modest amounts of finance can address important constraints when they build on activities and organizations that already exist. They also show why financing needs to extend beyond physical assets and why the risks associated with agriculture need to be reflected in how finance is designed.

What relatively small investments can unlock

Several initiatives documented in this report were developed with investments that are small compared with the scale of financing commonly discussed under climate, biodiversity and restoration agendas. Their significance becomes clearer when looking at what those investments made possible.

In Indonesia, JAMTANI received approximately USD 19,858 to strengthen its potato seed system. The financing supported equipment, facilities, training and the development of farmer seed breeders. Rather than simply purchasing planting material for distribution, the investment contributed to a system through which quality seed can be multiplied, certified, stored and distributed through the farmer network.

In Kyrgyzstan, an investment of approximately USD 9,500 supported Iradan Cooperative's development of aquaculture as an additional livelihood. The financing allowed the cooperative to establish fish production using water and other resources already available within its farming system. In Mongolia, Selenge Tavan Khairkhan Cooperative received USD 17,699 in working capital for its organic production and value-chain activities, supporting an existing system that connects farmers with aggregation, processing, product development and markets.

These amounts do not establish that smaller investments are necessarily more cost-effective than larger programmes. The cases were not documented using comparable financial and impact indicators, and the report cannot calculate environmental or livelihood returns per dollar invested. They do show, however, that relatively modest amounts of finance can unlock important parts of a production or livelihood system when farmers, organizations and productive activities are already in place.

What matters is therefore not only the amount invested, but the constraint that the financing is able to remove. An organization may already have farmers producing a viable product but lack the equipment to process it. It may have production and markets but insufficient working capital to operate at a larger scale. Farmers may have the knowledge and land needed to produce but lack access to quality planting material or reliable water. In these situations, finance does not have to create an entirely new activity. It can allow something farmers and their organizations are already doing to develop further.

This also helps explain why financing only the most visible physical asset can be insufficient. Hanjuang's experience with forest honey provides a useful example. Processing equipment allowed the cooperative

to improve honey quality, but the enterprise also depends on sustainable harvesting practices, quality control, financial management, traceability and market development. Similarly, irrigation infrastructure requires systems for using and maintaining water efficiently, while processing equipment requires sufficient production, management capacity, working capital and markets.

Some of these less visible costs determine whether the physical investment remains useful after the initial financing ends. Training, organizational development, technical support, quality systems and market development may therefore be as important as the equipment itself. What needs to be financed will differ

The SEEDS initiative in Cambodia shows how different financing needs can exist within the same farmer-led system. Support for FNN and CamSeed combines investment in farmer and organizational capacity with co-financing for shared drying infrastructure and a revolving fund for seed production and purchasing. Each addresses a different constraint: the cooperative needs the capacity to manage the system, producers need resources to continue producing seed, and CamSeed needs capital and infrastructure to purchase, handle and distribute what they produce. No single form of financing addresses all of these needs.

The form of finance also needs to match what it is being used for. Grants can be important for testing new activities, training farmers, strengthening organizations or supporting biodiversity management and other functions that may not generate direct income. Working capital becomes important when an established enterprise needs to purchase products from members, maintain inventory or respond to larger orders. Credit may be appropriate for investments that can generate sufficient and predictable income to support repayment. Moving from grants to loans should therefore not be treated as a measure of progress. Different financing instruments serve different purposes and should be used accordingly.

Financing resilience also means sharing risk

Providing farmers and cooperatives with access to capital can allow them to make investments they could not otherwise afford. But borrowing also creates an obligation to repay, while the income used for repayment often depends on agricultural production that remains exposed to drought, excessive rainfall, typhoons and other climate-related shocks. A farmer or cooperative can make a sound investment and manage it well and still suffer losses because of conditions beyond their control.

This creates a particular challenge for financing climate resilience. Farmers may be encouraged to borrow to invest in more resilient and productive farms, but when climate shocks cause those investments to fail, they are often left carrying both the production loss and the debt. Expanding access to finance without addressing this risk can make farmers more financially vulnerable rather than more resilient. Financing mechanisms need to share that risk rather than simply transfer it to farmers.

AgriCOOPh Federation in the Philippines provides one example of how a farmer organization is trying to address this within its financing arrangements. The Federation integrates CLIMBS Weather Protect Insurance into agricultural and agribusiness loans to provide protection against specified weather-related events, including excessive rainfall, typhoons and drought. AgriCOOPh reports that PHP 7.5 million of its loan portfolio has been covered by the weather insurance, with coverage increasing over time.

The significance of this arrangement is not simply the availability of an insurance product. It recognizes that climate risk affects both sides of an agricultural investment. A weather-related loss can reduce a farmer's capacity to recover and repay, while the same loss increases the risk carried by the institution

providing the finance. Insurance provides one way of distributing part of that risk rather than leaving the consequences entirely with the farmer or cooperative.

This has broader implications for how climate and agricultural finance is designed. Making more credit available to smallholder farmers is not necessarily the same as making them more resilient. The terms of financing, repayment requirements and mechanisms for dealing with losses all affect what happens to the borrower when a climate shock occurs. Grants, guarantees, insurance and other risk-sharing mechanisms can play different roles depending on the investment and the risks involved.

Financing farmer-led climate action therefore requires attention not only to what farmers need money for, but also to what risks they are being asked to take in order to access that money. Where climate shocks are becoming more frequent or severe, shifting the full financial consequences of those shocks onto farmers can work against the resilience that the investment is intended to support.

Financing organizations at different levels of capacity

Directing more finance through farmer organizations raises a legitimate question about their capacity to manage it. The organizations documented in this report differ considerably in size, experience, governance and financial systems. Some already manage grants and working capital, procure and maintain shared equipment, operate processing facilities, coordinate production across members and engage with banks, buyers and government institutions. Others remain at an earlier stage and require continued support in governance, accounting, technical management or enterprise development.

This variation should influence how financing is designed rather than determine whether farmer organizations can access it at all. The relevant question is what level and type of financing an organization can responsibly manage, what systems are already in place, and what additional capacity would allow it to take on larger or more complex investments over time.

Existing organizations also provide infrastructure on which financing programmes can build. Membership structures, local leadership, communication channels, governance arrangements and relationships with communities do not have to be created each time a new project begins. These systems still require resources to operate and strengthen, but they provide a foundation through which investments can be managed collectively and connected to the productive activities of members.

This is why organizational capacity should not be treated only as an administrative cost around an environmental investment. Governance, financial management, technical capacity and enterprise development can determine whether an organization is able to manage an investment, maintain it and eventually take on larger responsibilities. Financing the activity while leaving these capacities unsupported can limit what the investment is able to achieve.

The cases therefore point to a broader question for climate, biodiversity and restoration finance. Increasing the total amount of finance available will matter little to smallholder farmers if the financing cannot reach the level where they are already implementing action, cannot pay for the functions their organizations actually need, or places risks and requirements on them that they cannot reasonably carry.

The objective is not simply to move more money through farmer organizations. It is to make finance usable for the kinds of systems farmers and their organizations are already building. This means matching the size and form of financing to the stage of the activity, financing the organizational and

technical systems around physical investments, and sharing risks that would otherwise fall disproportionately on farmers and cooperatives.

The cases documented here show what can become possible when relatively modest resources reach functioning farmer organizations. They also show the limits of finance on its own. Investments in production and resilience depend on farmers being able to remain on their land, access productive resources, maintain their organizations and continue operating through periods of disruption. The next chapter examines what happens when some of these underlying conditions begin to break down.

5. When the Conditions for Resilience Break Down

The cases in the previous chapters show what farmers and their organizations can do when they have the ability to invest, organize and make decisions about their production and resources. They can adapt farming practices, diversify livelihoods, manage shared infrastructure and mobilize finance. The experience from Myanmar illustrated in this section shows why these capacities matter, but also where their limits lie.

Since the military coup in 2021, farmers in Myanmar have been operating under increasingly difficult conditions. Armed conflict and political instability have been accompanied by economic decline, rising agricultural input costs, unstable markets and increasingly severe climate-related disasters. These pressures interact with one another. A farmer dealing with flooding or drought is also dealing with higher production costs, limited access to finance and markets, and a wider environment in which public services and external support may be difficult to access.

This layered situation changes what resilience requires. Improving a farming practice or introducing a new technology may help address one production constraint, but it cannot compensate for the loss of the wider conditions farmers need to continue producing. Farmers need access to land and water, sufficient resources to cultivate, functioning markets and the ability to organize and act collectively. When several of these conditions deteriorate at the same time, the capacity to adapt becomes much more constrained.

Farmers are still investing in their own resilience

The experience of members of the Agriculture and Farmers Federation of Myanmar (AFFM) shows that difficult conditions have not stopped farmers from taking collective action. In one flood-prone farming area, AFFM members and other local farmers have been dealing with recurrent flooding that threatens agricultural land during the rainy season. Changing rainfall patterns and increasingly intense rainfall have added to the risk of inundation and crop losses.

Farmers responded by organizing collectively and mobilizing their own resources to construct an embankment of more than one mile. Rather than relying entirely on external assistance, they contributed resources, coordinated the work and shared responsibility for building infrastructure intended to reduce the entry of river water into agricultural areas. The initiative demonstrates considerable local capacity to identify a shared climate risk and organize a practical response despite the wider political and economic conditions in which farmers are operating.

The significance of the initiative is not only the infrastructure itself. Flooding is a landscape-level problem that individual farmers cannot effectively address parcel by parcel. Protecting agricultural land required

farmers to act collectively across a wider area. AFFM and its members provided an organizational structure through which that response could be discussed, resources mobilized and action coordinated.

This provides another example of the organizational capacity discussed earlier in this report. But the Myanmar experience also exposes an important limit to what farmer-led action can achieve without sufficient external support. The embankment requires additional financing and technical assistance to reinforce it and improve its durability. As rainfall and flooding become more severe, infrastructure built largely through farmers' own resources may not be sufficient to provide the level of protection that will be needed over time.

Resilience is weakened when farmers cannot maintain production

The challenge does not end once farmland is protected from flooding. Farmers also need sufficient resources to cultivate it.

AFFM reports that rising production costs and limited access to finance are already reducing the amount of land some farmers are able to cultivate. Farmers who previously cultivated around 20 acres, for example, may now be able to cultivate only around 15 acres. Essential agricultural inputs have also become increasingly difficult to afford, raising concerns among farmers about declining yields and income in subsequent seasons.

This illustrates why a single resilience investment cannot be considered separately from the wider production system. An embankment may protect farmland from flooding, but that protection has limited livelihood value if farmers subsequently lack the resources needed to cultivate the land. Conversely, providing agricultural inputs or finance without addressing recurrent flooding leaves production exposed to repeated losses.

The issue is therefore not simply that farmers need more interventions. It is that different constraints can undermine one another. Protecting land, maintaining production, accessing finance and recovering from shocks are connected. When one of these fails, investments made elsewhere in the system can lose part of their value.

This is particularly important when considering farmer-led adaptation. The AFFM experience shows that farmers can contribute their own labor, resources, knowledge and organization to address climate risks. But local capacity should not become an argument for transferring the full responsibility for adaptation to communities. The fact that farmers are able to build an embankment themselves does not mean that they should also be expected to finance its reinforcement, absorb repeated production losses and carry rising cultivation costs without adequate public or external support.

Some conditions cannot be replaced by finance or technical support

The wider situation in Myanmar also places a more fundamental limit on the argument developed throughout this report. Farmer organizations can strengthen the ability of their members to act collectively, and appropriate finance can help them invest in production and resilience. Neither can fully compensate when farmers lose secure access to land, are displaced, cannot safely organize or operate, or when conflict and political instability severely disrupt production and markets.

Under these conditions, resilience cannot be understood only as the capacity of farmers to adapt their practices or recover repeatedly from shocks. There is a point at which the pressures surrounding a

farming household or organization exceed what changes in production, diversification or local self-help can reasonably address.

This distinction is important because discussions of resilience can sometimes place considerable emphasis on what communities themselves can do. The Myanmar experience shows both the strength and the limits of that capacity. Farmers continue to produce, organize and mobilize resources under extremely difficult circumstances. Their collective response to flooding demonstrates that local knowledge and organization remain important even when formal support systems are weak. At the same time, the need to reinforce the infrastructure and the growing difficulty farmers face in financing cultivation show that community action cannot substitute indefinitely for the resources and enabling conditions needed to sustain agriculture.

For climate, biodiversity and restoration investments, this sets an important boundary around the arguments made in the previous chapters. Farmer knowledge matters. Strong organizations matter. Appropriate finance matters. But these investments depend on farmers having the basic conditions to use them: continued access to land and productive resources, the ability to maintain production, sufficient security to organize collectively, and institutions and markets with which their organizations can engage.

The lesson from Myanmar is therefore not that farmer-led resilience fails under difficult conditions. The AFFM experience demonstrates the opposite: farmers continue to find ways to act even with very limited resources and support. The more important lesson is that this capacity has limits and should not be taken for granted. Supporting farmer-led action also requires protecting and investing in the conditions that allow farmers to remain producers, maintain their organizations and continue managing the landscapes on which their livelihoods depend.

6. What Farmer-Led Action Means for the Rio Conventions

The experiences documented in this report show how climate resilience, biodiversity conservation and land restoration come together within the same farms and landscapes. Improving soil health can strengthen water retention and reduce dependence on purchased inputs. Maintaining forests, pollinators and traditional crop varieties can sustain the resources on which production depends. Investments in water can allow farmers to continue producing under increasingly dry conditions while creating opportunities to diversify.

These connections matter for implementation of the Rio Conventions. The UNFCCC, UNCBD and UNCCD have distinct mandates, commitments and national processes, but their implementation reaches many of the same farms, forests and rural landscapes. The cases in this report point to several practical implications for how this implementation is designed and financed. Programs can build from what farmers are already doing within their landscapes, work through the organizations that already support and organize this action, and direct finance toward the wider systems that allow these initiatives to continue and expand.

Start with the landscape, not the Convention category

Farmers do not manage climate resilience, biodiversity and land restoration as separate activities. They make decisions about the same soil, water, crops, forests and other resources from which they produce

food and sustain their livelihoods. A change made in response to one problem can therefore contribute to several objectives.

The cases throughout this report illustrate these connections. Improvements in soil management can restore fertility while helping retain moisture and reducing expenditure on external inputs. Sustainable harvesting can protect the biodiversity on which a forest-based livelihood depends. Traditional and local crop varieties can be maintained through farmer-led seed systems that keep them in active production. Water storage and efficient irrigation can help farmers respond to scarcity while supporting more diverse production.

This suggests a different starting point for implementation. Rather than beginning with a Convention objective and looking for an activity that fits within it, programmes can begin by understanding the landscape, the pressures farmers and other smallholders are facing and the practices and systems they are already developing in response. From there, they can identify where additional investment can strengthen these activities and the different environmental objectives to which they contribute.

This does not remove the need for governments to pursue and account for specific commitments under the UNFCCC, UNCBD and UNCCD. It does mean that implementation on the ground can be designed around how farms and landscapes actually function, rather than reproducing institutional boundaries that are much less distinct in farmers' everyday management of natural resources.

Build implementation around farmer organizations

The cases also show that many of the institutions needed to organize action at the local level already exist. Farmer organizations bring together producers, organize knowledge and technical support, maintain collective standards, manage shared infrastructure and enterprises, and connect farmers with government agencies, research institutions, markets and finance.

These functions make farmer organizations more than channels for reaching individual beneficiaries. They provide much of the institutional structure through which investments operate across many farmers and continue beyond a single project. Shared irrigation requires collective management and systems for operation and maintenance. Farmer-led seed systems depend on production, multiplication and distribution across producers. Sustainable harvesting requires common practices and quality systems, while processing and marketing depend on aggregation, financial management and relationships with buyers.

Working through farmer organizations should give them a meaningful role in determining how programmes are designed and implemented. Farmer organizations are often positioned near the end of the financing chain, receiving training, equipment, activities or small grants after priorities, budgets and implementation arrangements have already been determined. This leaves relatively little space for organizations and their members to decide where investment is most needed.

The cases show that these needs differ considerably between organizations. One may need water infrastructure, while another needs quality planting material, processing capacity, working capital, technical support or stronger systems for managing production across its membership. Organizations working directly with their members are well placed to identify these constraints and determine where additional resources can make a practical difference.

Giving farmer organizations greater responsibility for setting priorities and managing investments would allow financing to respond more closely to these differences. The level and complexity of financing can reflect the capacity of each organization and increase as its governance, financial management and technical systems develop. This creates a pathway through which organizations can progressively manage larger resources and take greater responsibility for implementation, rather than creating parallel structures around them each time a new programme begins.

Invest in the capacity needed to manage and sustain action

Greater responsibility over financing also requires investment in the organizations themselves. Farmer organizations differ considerably in their governance, financial management, technical capacity, membership systems, staff and internal controls. These capacities affect how effectively they can manage resources and translate them into investments across their membership.

The cases show how closely organizational capacity is connected to the performance of the activities being financed. Shared infrastructure requires systems for operation and maintenance, while collective production depends on coordination among members. Farmer-led seed systems require records, procurement, inventory and distribution. Processing and marketing require financial management, quality control and relationships with buyers. Strengthening these functions can determine whether physical investments continue to serve farmers after the initial financing ends.

Organizational development also creates capacity that can support subsequent investments. An organization that strengthens its governance, financial systems or technical capacity through one initiative is better positioned to manage future financing, expand services to its members and take on more complex responsibilities. Investments in these areas can therefore be planned alongside investments in infrastructure, production and environmental activities as part of building the institutions through which farmer-led action is sustained.

Finance the wider systems that keep environmental action going

Sustaining environmental action often requires investment beyond the activity most directly associated with climate resilience, biodiversity conservation or land restoration. Farmers may know how to restore soil, conserve biodiversity or manage water more sustainably, but continuing these practices can depend on whether the productive, organizational and financial systems around them are able to function.

The cases illustrate how these systems are connected. Sustainable forest-based livelihoods may require processing and market access that allow producers to obtain sufficient value from sustainably managed resources. Organic production may depend on certification, aggregation and access to markets. Farmer-led seed systems need multiplication, storage, distribution and financing that keeps seed moving between producers and other farmers. Water infrastructure requires resources for operation and maintenance. Collective enterprises may require technical support and working capital to purchase products from members, maintain inventory and respond to larger orders.

These investments may not produce an environmental outcome directly, but they can determine whether the activities that do produce those outcomes remain viable over time. Processing equipment does not itself restore land or conserve biodiversity, and working capital does not directly increase resilience to drought. Their contribution comes from allowing farmers and their organizations to maintain the production and livelihood systems through which environmental outcomes are achieved.

Financing arrangements need enough flexibility to respond to these different requirements. Activities that generate sufficient and predictable revenue may be able to use working capital or credit, while farmer training, experimentation, biodiversity management and organizational development may require grants or public financing because they do not necessarily generate direct financial returns. Several forms of support may also be needed within the same initiative as it develops.

The risks associated with these investments also need to be reflected in financing arrangements. Farmers investing in production remain exposed to drought, floods, typhoons and other climate shocks that can reduce or eliminate the income from which an investment is expected to be repaid. Guarantees, insurance and other forms of risk sharing can help distribute these risks rather than leaving farmers and their organizations to absorb losses that are beyond their control.

Providing farmer organizations with greater flexibility over how resources are used would allow them to address these constraints as they emerge. It would also make it possible to finance the combination of activities that an initiative needs to function, rather than separating environmental activities from the productive and organizational systems that sustain them.

Use larger, long-term and direct financing to build on what farmer organizations have already established

Many of the initiatives documented in this report have developed through relatively modest investments. Farmer organizations have used these resources to improve irrigation, strengthen seed systems, expand processing, develop markets, organize technical support and build their own capacity. These experiences provide an existing base for larger and longer-term investment, while also showing the value of financing that gives farmer organizations greater responsibility over how resources are used.

Greater direct access to climate and environmental finance can allow farmer organizations to build on these existing systems according to the priorities of their members. Additional finance can allow organizations to reach more members, extend infrastructure, increase working capital, strengthen farmer-to-farmer knowledge systems, expand processing capacity and develop the staff and systems required to manage larger investments. The priorities will differ between organizations because their landscapes, members and activities also differ.

Longer-term financing is equally important because many of these systems develop over time. Enterprises need to establish markets and relationships with buyers. Seed systems require repeated cycles of production, multiplication and distribution. Organizational systems strengthen through experience managing resources and working across a growing membership. Investments made over several years can build on one another, allowing infrastructure, technical knowledge, enterprises and organizational capacity to develop together.

Direct financing also changes the role farmer organizations play in these investments. When resources reach organizations after priorities and activities have already been determined elsewhere, their role is largely limited to implementing decisions made by others. Greater direct access gives organizations more space to identify priorities with their members, allocate resources according to the conditions they face and adjust investments as those conditions change. It also allows the capacity built through managing finance to remain within the organization and support future investments.

The relatively small amounts documented in some of the cases should be understood in relation to what farmer organizations have already been able to establish with them. Farmers and their organizations have

contributed their own knowledge, labor, resources and organizational capacity, while external support has helped them address particular constraints and expand their activities. Larger, longer-term and more direct financing can build on these existing systems rather than requiring organizations to begin again with each new project.

For the Rio Conventions, this provides a practical basis for strengthening implementation within the landscapes where climate resilience, biodiversity conservation and land restoration are already closely connected. Farmer and other smallholder producer organizations are managing many of the activities through which these objectives are pursued, while also maintaining the collective systems that allow farmers to participate and continue the work over time.

Greater direct access to climate and environmental finance would allow these organizations to take more responsibility for determining priorities, managing investments and addressing the constraints faced by their members. Financing mechanisms can support this by working with organizations at different levels of capacity, investing in organizational development alongside activities, accommodating different forms of finance and allowing resources to support the wider systems on which farmer-led action depends. As organizations strengthen their capacity, the scale and responsibility of the financing they manage can grow with them.

The cases documented in this report show an existing foundation for this approach. Farmers, fishers, pastoralists, herders, and forest-users and their organizations are already managing land, water, biodiversity and production systems in ways that contribute to climate resilience, biodiversity conservation and land restoration. Larger, longer-term and direct financing would allow them to strengthen what they have established, extend these efforts across their membership and take a greater role in implementing the commitments that affect the landscapes they manage.

Resources

Agriculture and Farmers Federation of Myanmar. (2026). *Situation report: Farmers and agricultural workers in Myanmar* [Unpublished organizational report].

Asian Farmers' Association for Sustainable Rural Development. (n.d.). *JAMTANI's potato seed breeding initiative*. <https://asianfarmers.org/indonesia-jamtani-potato-seed-breeding-initiative/>

Asian Farmers' Association for Sustainable Rural Development. (n.d.). *Selenge Tavan Khairkhan Cooperative leads Mongolia's organic farming movement*. <https://asianfarmers.org/mongolia-namac-selenge-tavan-khairkhan-cooperative/>

Asian Farmers' Association for Sustainable Rural Development. (n.d.). *Selenge farmers advance organic agriculture*. <https://asianfarmers.org/mongolia-namac-selenge-farmers-advance-organic-agriculture/>

Asian Farmers' Association for Sustainable Rural Development. (n.d.). *From the forest to the market: How honey is sustaining farmers' livelihoods*. <https://asianfarmers.org/indonesia-api-from-the-forest-to-the-market-how-honey-is-sustaining-farmers-livelihoods/>

Asian Farmers' Association for Sustainable Rural Development. (n.d.). *Harvesting wild Dorsata honey, protecting the forest in Ujung Kulon*. <https://asianfarmers.org/indonesia-api-harvesting-wild-dorsata-honey-protecting-the-forest-in-ujung-kulon/>

Asian Farmers' Association for Sustainable Rural Development. (n.d.). *Women farmers turn medicinal plants into livelihoods*. <https://asianfarmers.org/vietnam-vnfu-women-farmers-turn-medicinal-plants-into-livelihoods/>

Asian Farmers' Association for Sustainable Rural Development. (n.d.). *Visit to Cuc Phuong Honey Production and Trading Cooperative*. <https://asianfarmers.org/vietnam-vnfu-visit-to-cuc-phuong-honey-production-and-trading-cooperative/>

Asian Farmers' Association for Sustainable Rural Development. (n.d.). *From Small Ponds to Reliable Markets: Strengthening Rural Aquaculture through IRADAN LTD*. <https://asianfarmers.org/kyrgyzstan-nuwua-from-small-ponds-to-reliable-markets-strengthening-rural-aquaculture-through-iradan-ltd/>

Convention on Biological Diversity. (1992). *Convention on Biological Diversity: Text and annexes*. Secretariat of the Convention on Biological Diversity. <https://www.cbd.int/doc/legal/cbd-en.pdf>

Convention on Biological Diversity. (2022). *Kunming-Montreal Global Biodiversity Framework*. Secretariat of the Convention on Biological Diversity. <https://www.cbd.int/gbf>

Green Climate Fund. (2025). *GCF in brief: Locally led climate action*. <https://www.greenclimate.fund/document/locally-led-climate-action>

Self-Employed Women's Association. (2025). *Swachh Aakash: Women building cleaner skies through everyday climate action* [Unpublished organizational report].

United Nations Convention to Combat Desertification. (1994). *United Nations Convention to Combat Desertification in those countries experiencing serious drought and/or desertification, particularly in Africa*. <https://www.unccd.int/text-convention-including-annex-i-iv>

United Nations Framework Convention on Climate Change. (1992). *United Nations Framework Convention on Climate Change*. <https://unfccc.int/documents/649617>