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Food and Agriculture Organization of the United Nations

International Treaty on Plant Genetic Resources for Food and Agriculture

Item 13 of the Provisional Agenda

ELEVENTH SESSION OF THE GOVERNING BODY

Lima, Peru, 24–29 November 2025

Draft Assessment of the State of Implementation of Article 9 of the International Treaty

Note by the Secretary

At its Tenth Session in 2023, through Resolution 7/2023, the Governing Body took note of the annotated outline for the assessment of the state of implementation of Article 9 of the International Treaty, as requested at its Ninth Session. It also took note of the request that the assessment should set out the measures limiting he realization of Farmers' Rights.

The Governing Body further decided to reconvene the Ad Hoc Technical Expert Group on Farmers' Rights (AHTEG-FR, or Expert Group) with the mandate, among others, to "review and agree to the outline for the assessment of the state of implementation of Article 9 of the International Treaty, as contained in Annex 1 of the Resolution, considering the compilation of the submissions"; and "review the assessment of the state of implementation of Article 9 of the International Treaty, and provide conclusions for the Eleventh Session of the Governing Body".

The Draft Assessment of the State of Implementation of Article 9 of the International Treaty (Draft Assessment) was prepared by the Secretariat, based on the outline agreed upon and endorsed by the Expert Group, and incorporating the inputs and suggestions provided by Contracting Parties and stakeholders through their submissions.

The Expert Group, at its sixth meeting, further reviewed and provided additional comments and advice to the Secretariat on the Draft Assessment for its finalisation.

This document presents the comprehensive Draft Assessment of the State of Implementation of Article 9 of the International Treaty, as finalised by the Secretariat ***and will be translated into the relevant official languages and made available on the Treaty's website following the Eleventh Session of the Governing Body.***

An Executive Summary providing a concise overview of the Draft Assessment has been published as a working document, IT/GB-11/25/13.3.

DRAFT ASSESSMENT OF THE STATE OF IMPLEMENTATION OF ARTICLE 9 OF THE INTERNATIONAL TREATY

CONTENTS

ABBREVIATIONS

AAFC	Agriculture and Agri-Food Canada
ABS	access and benefit-sharing
AHTEG-FR	Ad Hoc Technical Expert Group on Farmers' Rights
ARC	Agriculture Research Centre
ARDC	Agriculture Research and Development Centre
BCP	biocultural community protocol
BSF	Benefit-sharing Fund
CBD	Convention on Biological Diversity
CGC	Crop Germplasm Committee
CIFSRF	Canadian International Food Security Research Fund
CSB	community seed bank
CSO	civil society organization
CWR	Crop Wild Relative
DSI	digital sequence information
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FCIC	Federal Crop Insurance Corporation
FFS	Farmer Field School
GI	geographical indication
GIAHS	Globally Important Agricultural Heritage Systems
GMO	genetically modified organism
ICARDA	International Center for Agricultural Research in the Dry Areas
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IPA	Indigenous Protected Area
IPR	intellectual property right
MTA	Material Transfer Agreement
NARC	National Agricultural Research Council or Centre
NAREEEAB	National Agricultural Research, Extension, Education, and Economics Advisory Board (USA)
NARO	National Agriculture and Food Research Organization
NGO	non-governmental organization
NIAHS	Nationally Important Agricultural Heritage Systems
NPGS	National Plant Germplasm System
OAPI	African Intellectual Property Organization
PAA	Food Acquisition Program (Brazil)

PBR	plant breeders' rights
PCS	Plant Cultivation System
PGR	plant genetic resources
PGRFA	plant genetic resources for food and agriculture
PGS	Participatory Guarantee System
PPB	participatory plant breeding
PVE	plant variety enhancement
PVP	Plant Variety Protection
PVPB	Plant Variety Protection Board
PVS	participatory varietal selection
SEARICE	Southeast Asia Regional Initiatives for Community Empowerment
SMTA	Standard Material Transfer Agreement
UNEP	United Nations Environment Programme
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
UPOV	International Union for the Protection of New Varieties of Plants
USC Canada	Unitarian Service Committee of Canada (SeedChange)
WIPO	World Intellectual Property Organization
WFP	Wild Food Plant

SECTION 1. EXECUTIVE SUMMARY

This executive summary presents an overview of the state of implementation of Article 9 of the International Treaty on Plant Genetic Resources for Food and Agriculture (International Treaty) and organised according to the regional groups. It reflects the diverse measures, experiences and challenges encountered across Africa, Asia, Europe, Latin America and the Caribbean, the Near East, North America and the South West Pacific. While individual countries have made progress in recognizing and supporting the implementation of Article 9 – Farmers' Rights, the nature and extent of implementation differ across and within regions, reflecting varying national contexts, priorities and capacities.

The following summary provides a concise synthesis of efforts, by regions, to recognize farmers' contributions to the conservation and development of plant genetic resources (PGR), as well as to protect traditional knowledge related to plant genetic resources for food and agriculture (PGRFA), promote benefit-sharing arising from the use of PGRFA, enhance participation in decision-making, and support the rights of farmers to save, use, exchange, and sell farm-saved seed/propagating material. It also highlights persistent challenges, emerging needs and promising practices that can inform future action by Contracting Parties and stakeholders.

Key findings

All regions have taken steps to implement Farmers' Rights, reflecting diverse legal, cultural and socioeconomic contexts. Measures include recognition of farmers' contributions, protection of traditional knowledge, benefit-sharing initiatives, participatory governance and support for farmers' seed systems. Some countries have adopted comprehensive policies, while others rely on project-based or community-led initiatives. Implementation is often ad hoc or dependent on external funding. Comprehensive Farmers' Rights legislation remains rare, with most provisions embedded in broader legal frameworks.

Recognition of farmers' and local and Indigenous communities' contribution:

Across all regions, recognition of the enormous contribution of farmers and local and Indigenous communities to conserving and developing PGR is increasingly being acknowledged, often through awards, community seed banks, seed or biodiversity fairs, agricultural heritage designations and conservation programmes.

Protection of traditional knowledge relevant to PGRFA:

Access and benefit-sharing (ABS) frameworks, biodiversity strategies, Indigenous-led conservation areas, community registers, documentation initiatives, biocultural protocols and other community-based initiatives to safeguard traditional knowledge relevant to PGRFA have been adopted in many countries. However, effective protection is often hampered by limited enforcement, resource constraints and the ongoing erosion of traditional agricultural practices.

Benefit-sharing:

Non-monetary benefits such as access to genetic resources from *ex situ* collections, access to technology and information that strengthen Farmers' Rights and support traditional knowledge relevant to PGRFA, participatory plant breeding, capacity building, support for community seed systems, market development for products derived from native varieties and landraces, and the promotion of their consumption, are the most common forms of benefit-sharing. While legal provisions for monetary benefit-sharing exist in some regions, practical implementation remains limited in some contexts.

Farmers' participation in decision-making:

Mechanisms for the full and active participation of farmers and local and Indigenous communities in policy and decision-making processes are being developed, including advisory bodies, technical committees, multistakeholder platforms and community governance structures. However, ensuring meaningful participation remains a key challenge. Besides, the participation of women farmers in policy fora remains limited in some contexts.

Farmers' rights to save, use, exchange and sell farm-saved seeds:

The rights to save, use, exchange and sell seeds are recognized to varying degrees across regions. Traditional seed-saving, using, sharing and exchanging practices continue, often through farmer-managed seed systems, but are frequently constrained by regulatory frameworks that favour formal seed systems and plant breeders' rights in some regions.

Gaps and needs:

Fragmented legal frameworks, limited institutional coordination, insufficient and often non-permanent financial and human resources, regulatory and market barriers to farmer-managed seed systems and low public awareness continue to impede progress towards the realization of Farmers' Rights. Socioeconomic inequalities, including, in some regions, gender-related barriers, unequal access to land and other constraints are further limitations.

AFRICA

African countries have introduced or applied measures to promote Farmers' Rights, although these measures remain uneven and often limited in scope and sustainability. While few countries have adopted laws and proclamations that address Farmers' Rights, most have incorporated relevant provisions into broader legislative frameworks on agriculture, biodiversity or access and benefit-sharing. However, the implementation of these provisions is frequently constrained by limited political will, weak enforcement and inadequate financial and technical resources.

Recognition of the contributions of farmers and local and Indigenous communities to the conservation and development of PGRFA is growing. Initiatives such as agricultural heritage systems, diversity fairs, participatory plant breeding and community seed banks have been supported in several countries. However, these efforts are often project-based and lack sustained institutional support, which undermines their long-term viability.

Some legal and community-level initiatives aim to protect traditional knowledge relevant to PGRFA, including through biodiversity registers, biocultural community protocols (BCPs) and provisions for ABS or seed laws. Nonetheless, many countries lack specific legal protection or enforcement mechanisms, and community-led documentation efforts often depend on donor support. Some cases of misappropriation and biopiracy have also been cited highlighting gaps in regulation and accountability.

Further efforts are needed to ensure the equitable sharing of benefits arising from the use of PGRFA. Challenges such as restrictive seed certification standards, limited and inconsistent funding and inadequate institutional coordination continue to hinder the achievement of benefit-sharing goals. Nonetheless, non-monetary benefits have been extended to farming communities in some cases, including support for on-farm conservation, capacity building and improved access to markets.

Farmers' participation in decision-making processes related to the conservation and sustainable use of PGRFA is improving, albeit slowly. Participatory governance structures and platforms for farmer engagement, such as community seed banks and federations representing farmers' interests in national policy fora, exist in some countries, but often lack legal status or influence. Gender-related inequalities, including women's limited access to land, resources and decision-making spaces, further restrict effective participation.

The rights of farmers to save, use, exchange and sell farm-saved seed are not recognized in many national laws and where they are, their practical application are often constrained by policies that prioritize formal seed systems. While some countries provide partial recognition, or create regulatory space for farmer-managed seed systems, these measures are limited in reach and effectiveness. Informal seed exchange networks continue to play a crucial role in conserving agrobiodiversity and ensuring seed access, especially in remote areas. However, these practices often operate in a legal grey area, exposing farmers to potential sanctions, particularly under seed laws that restrict the sale or exchange of uncertified varieties.

ASIA

Countries in Asia have taken a range of measures to promote the recognition and protection of Farmers' Rights, though the extent and effectiveness of these efforts vary across the region. India stands out for having adopted one of the most comprehensive laws on Farmers' Rights globally, covering the rights of farmers to save, use, exchange and sell seeds, the protection of traditional knowledge relevant to PGRFA and the provision of benefit-sharing mechanisms through a national gene fund. Elsewhere, countries have taken a more fragmented approach, integrating Farmers' Rights provisions within broader agricultural, biodiversity or ABS frameworks, with limited legal or institutional coherence.

Recognition of farmers' contributions to the conservation and sustainable use of PGRFA is promoted in several countries through national awards and recognition systems, biodiversity fairs and community and participatory initiatives. However, many of these initiatives remain project-driven and lack long-term policy or financial support, which constrains their sustainability and wider impact. Civil society organizations (CSOs) play an important role, but they face resource and institutional constraints.

Legal and community-based efforts exist to protect traditional knowledge relevant to PGRFA, including biodiversity acts, ABS legislation and community biodiversity registers. However, the erosion of traditional practices, driven by modernization, weak policy enforcement and limited awareness continues to pose challenges.

In terms of benefit-sharing, legal frameworks aligned with the International Treaty and the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity (Nagoya Protocol)[1] have been adopted in some countries, but actual benefit-sharing practices remain underdeveloped. Non-monetary benefits, such as community seed banks, participatory breeding, enhanced access to a diversity of PGRFA, capacity building and market access, have had positive local impacts but are often dependent on external funding and do not reach scale. Monetary benefit-sharing remains rare, with only a few functioning models, notably in India.

Farmer participation in decision-making processes is recognized in national strategies or institutions in some countries, but actual influence remains limited due to a lack of sustained funding, outreach and gender-inclusive approaches. Initiatives involving consultation meetings, seed fairs and local platforms exist, but often rely on civil society leadership and ad hoc participation.

The rights of farmers to save, use, exchange and sell farm-saved seed are recognized in a limited number of countries. Even when legal provisions exist, regulatory frameworks favouring formal seed systems, complex registration processes and restrictive intellectual property regimes often constrain farmers' seed practices. Informal seed exchange networks and community seed banks continue to play a vital role in maintaining agrobiodiversity at the grassroots level, but operate in a context of legal uncertainty and in some cases, farmers have faced prosecution for seed-related activities.

EUROPE

European countries have made significant efforts to advance the recognition and implementation of Farmers' Rights. Some countries have introduced legal frameworks, policies and community-driven initiatives that support farmers' contributions to maintaining PGR and safeguarding traditional knowledge.

Across the region, there is increasing awareness of the vital role farmers play in conserving agrobiodiversity. Some countries have integrated Farmers' Rights provisions into biodiversity, agricultural and rural development policies. Initiatives such as awards, recognition systems and support for seed networks highlight national efforts to acknowledge and incentivize farmers' contributions to conservation. However, such initiatives remain limited in number and scope and are often not sustained through long-term public efforts.

The protection of traditional knowledge related to PGRFA is also receiving increased attention. Countries have adopted measures to document and preserve knowledge linked to local varieties and traditional practices, often through national inventories, community biodiversity registers and cultural events.

[1] The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity is an international agreement which aims at sharing the benefits arising from the utilization of genetic resources in a fair and equitable way. See www.cbd.int/abs/default.shtml.

Nevertheless, traditional knowledge remains at risk of being marginalized, especially in the face of modern agricultural policies that prioritize standardized approaches over local adaptations, and due to the lack of processing and marketing channels.

Benefit-sharing mechanisms are progressively being integrated into national legal and policy frameworks. Non-monetary benefits – such as support for on-farm conservation, access to genetic resources and participatory breeding programmes – are being promoted in some countries. However, on-farm and *in situ* conservation efforts are frequently under-resourced and depend on voluntary initiatives without long-term institutional support. Financial incentives through agri-environmental schemes and targeted conservation programmes have been effective in some cases, but do not yet cover the breadth of farming systems or traditional varieties at risk.

Farmers' participation in decision-making processes has been institutionalized in several European countries through advisory councils, technical committees and consultation mechanisms. These platforms help to ensure that farmers' perspectives are considered in national strategies related to PGRFA. The increased organization of farmers into networks and associations has also improved their visibility and capacity to engage with policymakers. Public consultations provide another mechanism for farmers to influence policy and legal development.

The rights of farmers to save, use, exchange and sell farm-saved seeds are recognized in some countries. Simplified procedures for registering conservation, 'amateur' and other locally adapted or traditional varieties have facilitated the use and marketing of traditional seeds in some contexts. However, balancing farmers' rights with plant breeders' rights and navigating complex regulatory frameworks continue to pose challenges, particularly for small-scale and traditional farmers in some countries.

LATIN AMERICA AND THE CARIBBEAN

Latin America and the Caribbean has taken important legal, policy and grassroots measures to recognize, protect, promote and realize the rights of farmers and local and Indigenous communities.

Several countries have embedded Farmers' Rights within their constitutions and national laws, explicitly recognizing the essential role of farmers and local and Indigenous communities in conserving and sustainably using PGRFA. Legal frameworks, including municipal ordinances, often link the protection of traditional knowledge relevant to PGRFA with broader goals of food sovereignty, environmental sustainability and rural development. Farmer-centred approaches and community-based initiatives, such as agrobiodiversity fairs, seed networks, participatory plant breeding, seed houses, community seed banks and farmer-to-farmer processes, have been widely promoted.

Protection of traditional knowledge related to PGRFA has been a particular area of focus. Many countries have adopted legal measures that safeguard collective intellectual property rights, regulate access to genetic resources and ensure fair and equitable benefit-sharing with local communities.

In addition to formal legislation, efforts to document agrobiodiversity richness and revitalize sustainable, traditional practices through catalogues, cultural events, educational programmes and innovations in farmer-managed seed systems, such as participatory plant breeding, are contributing to the complementarity between ancestral knowledge, traditional knowledge and scientific knowledge.

Support for sustainable agriculture, including agroecology, has been mentioned as a way to integrate on-farm conservation with production activities. These initiatives have not only contributed to preserving traditional knowledge relevant to PGRFA, but have also strengthened the adaptive capacity of farming communities in the face of climate change. However, the erosion of such traditional knowledge due to urban migration and conventional agricultural practices complicates efforts.

In some countries, benefit-sharing mechanisms, both monetary and non-monetary, are well integrated into national strategies. Countries have developed policies that support farmers through capacity building, participatory research and access to diverse genetic materials. Initiatives such as guaranteed minimum price schemes for socio-biodiversity products, structured production chains and competitive funding for agrobiodiversity conservation have created economic opportunities for small-scale farmers. However, challenges remain in fully implementing these frameworks, particularly in ensuring sufficient and consistent funding, enhancing institutional coordination and raising awareness among farmers of their rights.

Participation of farmers in decision-making processes has been strengthened through the establishment of multistakeholder platforms, technical committees and community-based governance structures. These mechanisms have facilitated dialogue between farmers, policymakers and researchers, ensuring that farmers' voices are heard in the development of agricultural and biodiversity policies. Legal recognition of farmers' and local and Indigenous communities' roles in governance processes further underscores the region's commitment to inclusive policymaking.

The rights of farmers to save, use, exchange and sell seeds are recognized in several national laws, with community-driven seed exchange systems playing a vital role in maintaining agrobiodiversity. Nonetheless, regulatory hurdles and the need to align traditional seed systems with formal certification standards continue to pose challenges. Efforts to reform seed policies and recognize farmers' seed systems are ongoing in many countries. Misappropriation of native species of PGRFA and associated traditional knowledge have also been reported, along with the expansion of monocultures and the adoption of commercial seeds, which have led to the replacement of local varieties and the erosion of agricultural biodiversity. Gender-related barriers to realizing Farmers' Rights have also been noted, including women's limited access to financial support for activities related to conservation and the sustainable use of PGRFA and seeds.

NEAR EAST

Near East countries have made some progress in recognizing Farmers' Rights by introducing a variety of measures to support farmers' contributions to the conservation and sustainable use of PGRFA. Across the region, national policies, agricultural laws and biodiversity strategies increasingly incorporate elements that align with the International Treaty's objectives. However, implementation remains fragmented and often dependent on project-based support.

In several cases, farmers' contributions are formally recognized through awards, festivals and initiatives that celebrate the conservation of traditional varieties. Naming new crop varieties after collaborating farmers and designating agricultural heritage sites have further strengthened recognition efforts and raised public awareness of the critical role of farming communities. Nevertheless, such initiatives remain limited in coverage and continuity across the region.

The protection of traditional knowledge related to PGRFA is gaining attention. While direct legal recognition remains limited, many countries have introduced measures to document and safeguard farmers' traditional knowledge relevant to PGRFA. This includes intellectual property laws with provisions for traditional knowledge, national documentation initiatives and community-driven conservation programmes. Farmer associations and community seed networks play a crucial role in preserving and exchanging knowledge, while special efforts are being made to involve women and marginalized groups in conservation activities. However, challenges persist in ensuring comprehensive legal protection and in extending such efforts beyond isolated projects.

Benefit-sharing mechanisms are being developed through national ABS laws and policies aligned with the Nagoya Protocol. While some countries have introduced dedicated legislation, others are integrating benefit-sharing provisions into existing frameworks for biodiversity and agricultural development. Non-monetary benefits, such as support for on-farm conservation, access to diverse genetic resources and participatory research initiatives, are being promoted in several countries, contributing to improved seed systems and local adaptation strategies. Participatory approaches in agricultural innovation and research have been embraced in several countries, with farmers involved in seed selection, varietal evaluation and breeding programmes. However, participation is often limited to specific projects and lacks long-term institutional support. In addition to non-monetary measures, several countries provide monetary benefits to farmers through seed subsidies, preferential pricing and public procurement programmes. International funding, including through the Benefit-sharing Fund of the International Treaty (BSF), has also contributed to improved livelihoods and income-generating opportunities, particularly for small-scale and vulnerable farmers.

Farmers' participation in decision-making processes related to the conservation and sustainable use of PGR has been strengthened in several countries. National committees and multistakeholder platforms increasingly include farmer representatives, ensuring that their perspectives are considered in policy development. Community-based governance structures, cooperatives and farmers' associations also provide avenues for participation, particularly in seed system management and biodiversity conservation initiatives.

The rights of farmers to save, use, exchange and sell farm-saved seed are recognized to varying degrees across the region. While seed laws in many countries focus primarily on regulating formal seed markets and protecting breeders' rights, some initiatives have sought to support traditional seed systems. Programmes for seed multiplication, local variety registration and community seed exchanges are helping to preserve farmers' practices. However, comprehensive legal frameworks explicitly safeguarding these rights are generally lacking and regulatory barriers continue to pose challenges for smallholder farmers engaged in traditional seed-saving and exchange practices.

NORTH AMERICA

In North America, both Canada and the United States of America have implemented a range of measures that address Farmers' Rights. Recognition of farmers' and Indigenous communities' contributions to the conservation of PGRFA is embedded in the region's legal and policy frameworks. In Canada, constitutional recognition of Indigenous rights is complemented by policies that support Indigenous-led conservation initiatives. Programmes such as Indigenous-led Conservation Support Funding and the Indigenous Agriculture and Food Systems Initiative exemplify this commitment, fostering partnerships between Indigenous communities, researchers and government institutions. Similarly, the United States of America has developed mechanisms that recognize and protect indigenous knowledge and land stewardship, through initiatives such as the Agricultural Conservation Easement Program.

Both countries actively promote the protection of traditional knowledge relevant to PGRFA. In Canada, the adoption of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) into domestic law has reinforced commitments to protect traditional knowledge, ensuring its integration into biodiversity conservation strategies. While legal mechanisms continue to evolve, national policies emphasize indigenous participation in environmental governance and the incorporation of traditional practices in resource management. In the United States of America, the protection of traditional knowledge is facilitated through federal policies and agency-level consultations with Indigenous communities, ensuring that traditional knowledge informs land management and conservation efforts.

Benefit-sharing in North America is primarily implemented through public investments in research, conservation funding and technical cooperation. Initiatives supporting participatory plant breeding, seed-saving networks and indigenous conservation leadership ensure that farmers and local communities' benefit from the sustainable use of PGRFA. While specific legal frameworks for benefit-sharing are still developing, non-monetary benefits such as access to germplasm, capacity building and collaborative research are well-established. Canada's Indigenous Support and Awareness Office, together with initiatives such as the Agricultural Living Laboratories, fosters collaboration between Indigenous communities and researchers, enhancing conservation and sustainable use practices. Community-driven seed exchange programmes and participatory breeding initiatives also play a vital role in strengthening local seed systems.

Participation of farmers and Indigenous communities in decision-making processes is facilitated through advisory committees, participatory governance structures and community-led research initiatives. In Canada, bodies such as the Advisory Committee under the Plant Breeders' Rights Act and various community-based projects ensure that farmers' perspectives are included in policy development. Similarly, in the United States of America, structures such as the Plant Variety Protection Board and Crop Germplasm Committees provide platforms for farmer engagement.

The rights to save, use, exchange and sell farm-saved seed are recognized in both countries, albeit within regulatory frameworks that balance these rights with seed quality standards and intellectual property protections. In Canada, exemptions within the Seeds Act and Plant Breeders' Rights Act recognize certain traditional practices, while maintaining standards for plant health and market integrity. The United States of America adopts a similar approach, permitting farm-saved seed use under specified conditions.

SOUTH WEST PACIFIC

In the South West Pacific, countries are progressively engaging with the promotion and protection of Farmers' Rights. Despite diverse national contexts and capacities, several initiatives reflect growing recognition of farmers' and local and Indigenous communities' roles in conserving and sustainably using PGRFA. However, legal recognition of these rights is limited across the region.

Elements of Farmers' Rights are reflected in broader environmental, biodiversity and agricultural policies. In Australia, Indigenous Protected Areas (IPAs) have been established, supporting voluntary land management by Indigenous communities that integrates traditional and scientific knowledge for *in situ* conservation of Crop Wild Relatives (CWR). Community-driven projects, such as participatory plant breeding initiatives, have also been implemented, fostering recognition of farmers' contributions and promoting on-farm genetic diversity.

Efforts to protect traditional knowledge relevant to PGRFA are evolving. Although dedicated legislation is limited, several countries embed traditional knowledge protection within broader biodiversity conservation strategies. Formal mechanisms, such as IPAs, empower communities to manage their lands and resources, ensuring that traditional practices are maintained. In parallel, community-based initiatives, often supported by international partnerships, are crucial for documenting and preserving local knowledge, particularly in the native food sector. Nonetheless, most countries lack specific legal frameworks to safeguard traditional knowledge relevant to PGRFA, and support remains fragmented.

Benefit-sharing measures in the region are developing through ABS policies. While enforceable legal frameworks are still emerging, some countries have drafted national policies that seek to operationalize benefit-sharing linked to the use of PGRFA. Participation in the International Treaty's Multilateral System facilitates access to genetic resources, with gene bank collections distributed under the Standard Material Transfer Agreement (SMTA). However, few mechanisms exist for ensuring equitable sharing of benefits with farmers and local and Indigenous communities.

On-farm and *in situ* conservation efforts receive support through national biodiversity strategies and BSF projects. Indigenous Protected Areas and National Reserve Systems empower local communities to actively engage in conservation, blending traditional stewardship with formal conservation goals. Initiatives such as the Seed Savers' Network and farmer-led conservation of wild banana species exemplify grassroots engagement. However, in several contexts, the focus of national programmes leans towards crop adaptation to environmental change, sometimes at the expense of maintaining traditional varieties and diverse seed systems, and support to farmer-led initiatives remains limited. Capacity-building and awareness-raising efforts are increasingly prioritized. Initiatives embedded within IPAs include education and training programmes that enhance local conservation capacities. Government-led workshops and extension services promote seed conservation techniques and the use of traditional varieties.

The participation of farmers in decision-making processes related to PGRFA is gradually improving, though formal mechanisms remain limited. In one country, IPAs provide a platform for community-led management decisions. Elsewhere, stakeholder consultations on seed and ABS policies present opportunities for broader engagement, yet institutional mechanisms for farmers' direct participation are still underdeveloped. Overall, few countries have established formal platforms that consistently include farmers in decision-making at national level.

The rights of farmers to save, use, exchange and sell farm-saved seed lack explicit legal protection across the region. While traditional seed-saving practices continue through informal networks, they are not formally recognized or safeguarded by national legislation. In Australia, plant breeders' rights legislation provides certain exemptions that permit farmers to condition and propagate farm-saved seed, offering partial support to traditional practices. However, comprehensive policies supporting farmers' seed systems are yet to be established and small-scale farmers often face regulatory and economic barriers, with limited institutional support for maintaining traditional varieties.

SECTION 2. BACKGROUND

2.1 The origin and conceptual foundation of Farmers' Rights

This section provides a concise overview of the origin and conceptual development of Farmers' Rights to frame the current state of implementation of Article 9 of the International Treaty. It does not aim to present a comprehensive historical account of the evolution of the concept, which has been documented in detail through various dedicated processes and studies.[2]

Farmers' Rights emerged in the international policy arena in response to recognition of the vital contributions of farmers, particularly in centres of origin and diversity, to the conservation and development of plant genetic resources for food and agriculture. These contributions, made over generations, underpin global food security, agricultural sustainability and biodiversity conservation.

The concept of Farmers' Rights was first articulated in the 1980s, evolving alongside discussions on plant breeders' rights and the equitable sharing of benefits derived from the use of PGRFA. Civil society actors and developing countries emphasized the need to acknowledge and reward farmers' roles in maintaining agrobiodiversity, especially in the context of growing intellectual property protection for breeders.[3]

Key milestones include the introduction of Farmers' Rights into international negotiations held at the Food and Agriculture Organization of the United Nations (FAO) in 1986, with subsequent landmark resolutions adopted by the FAO Conference. Resolution 4/89 provided an agreed interpretation of the International Undertaking on Plant Genetic Resources,[4] aiming for fair benefit-sharing. Resolution 5/89 explicitly recognized Farmers' Rights as rights arising from farmers' contributions to PGRFA conservation and improvement,[5] emphasizing the need for international support to ensure that these contributions continue. This resolution recognized Farmers' Rights in the International Community as trustee for present and future generations of farmers.[6]

These early resolutions outlined objectives that continue to guide Farmers' Rights: ensuring global recognition of farmers' roles, securing sufficient resources for conservation, supporting farming communities in protecting agrobiodiversity and enabling farmers to share in the benefits derived from the use of genetic resources.

The Keystone Dialogues (1988–1991) further shaped the conceptualization of Farmers' Rights. These multistakeholder discussions, chaired by Mankombu Sambasivan Swaminathan,[7] fostered consensus on key issues such as common heritage, intellectual property and benefit-sharing, paving the way for broader recognition of Farmers' Rights in global policy through their formal recognition by the FAO Conference.[8]

The 1996 Global Plan of Action (GPA) for the Conservation and Sustainable Utilization of PGRFA, adopted as part of the Leipzig Declaration, reaffirmed the need to implement Farmers' Rights, a priority further emphasized in the Second GPA adopted in 2011. These plans provide frameworks for coordinated action at national, regional and international levels, with specific measures supporting Farmers' Rights. The Report on the State of the World's PGRFA, published by FAO in 1998, further explored the implementation of Farmers' Rights, focusing on the establishment of an international fund and efforts to define their scope and components.[9]

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[2] Notably, an extensive overview of the historical developments and discussions on Farmers' Rights is available in the working document prepared for the first meeting of the Ad Hoc Technical Expert Group on Farmers' Rights (IT/GB-8/AHTEG-FR-1/18/3: *Overview of the historical developments and discussion on farmers' rights*). Further detailed information can be found in the *Educational Module on Farmers' Rights* developed under the International Treaty, as well as in academic and policy literature, including the background study: *The history of Farmers' Rights: A Guide to central documents and literature* by Regine Andersen and published by the Fridtjof Nansen Institute in 2005.

[3] The Educational Module on Farmers´ Rights

[4] Resolution 4/89

[5] Resolution 5/89

[6] C 89/24 - Interpretation of the International Undertaking on Plant Genetic Resources, appendix 2, page 9

[7] Renowned plant geneticist and agricultural scientist, and the father of green revolution in India.

[8] Farmers' Rights in the Keystone Dialogues

[9] The Educational Module on Farmers´ Rights. The second and third Reports on the State of the World's PGRFA were published in 2010 and 2025, respectively.

The culmination of these efforts was the adoption of the International Treaty on Plant Genetic Resources for Food and Agriculture (International Treaty) by the FAO Conference in 2001 (Resolution 3/2001).[10] The International Treaty, which entered into force in 2004, enshrines Farmers' Rights in Article 9, providing a comprehensive, legally recognized framework for their realization at national and international levels.

2.2 Farmers' Rights in relevant international fora

Farmers' Rights gained further attention through global environmental and sustainable development processes. Chapter 14 of Agenda 21 (1992), approved at the UN Conference on Environment and Development held in Rio de Janeiro in 1991, called for strengthening the global system for PGRFA conservation, explicitly referencing the implementation of Farmers' Rights.[11][12] Similarly, the Convention on Biological Diversity (CBD, 1992) recognized the importance of traditional knowledge through Article 8(j),[13] aligning with the principles of Farmers' Rights.

Furthermore, the United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas references the right to seeds and reinforces principles aligned with Article 9 of the International Treaty.[14]

The alignment of Farmers' Rights with these broader frameworks underscores their importance for achieving global goals related to food security, climate resilience and equitable development.

2.3 Farmers' Rights in the context of the International Treaty

Article 9 of the of the International Treaty recognizes the enormous contribution that local and Indigenous communities and farmers in all regions of the world, particularly those in centres of origin and crop diversity, have made and will continue to make for the conservation and development of plant genetic resources that constitute the basis of food and agriculture production throughout the world.

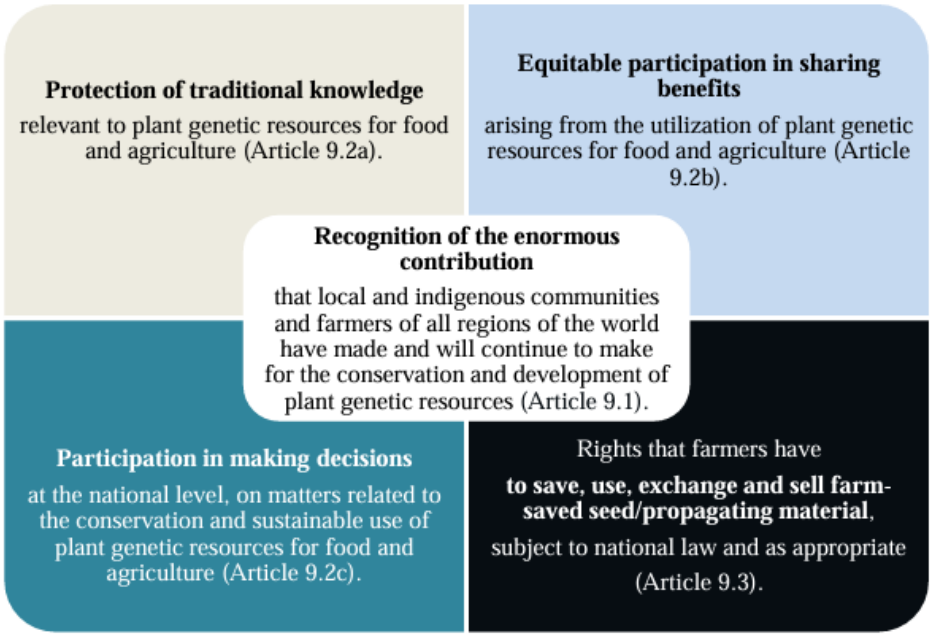
The provision calls on Contracting Parties to take measures to protect and promote Farmers' Rights, in accordance with national laws and priorities.

Key components of Farmers' Rights under the International Treaty include:

- protection of traditional knowledge relevant to PGRFA;
- equitable participation in benefit-sharing arising from the utilization of PGRFA;
- participation in decision-making, at national level, on matters related to the conservation and sustainable use of PGRFA; and
- the rights of farmers to save, use, exchange and sell farm-saved seed, subject to national law and as appropriate.

[10] FAO - C 2001/REPORT
[11] The Educational Module on Farmers´ Rights
[12] Overview_of_historical_developments_and_discussions.pdf
[13] Article 8(j) - Traditional Knowledge, Innovations and Practices
[14] United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas (UNDROP, 2018)

Figure 2.1
Key components of Farmers' Rights under Article 9 of the International Treaty



Source: Author's own elaboration.

While Article 9 provides the primary legal foundation, other provisions of the International Treaty also support Farmers' Rights. Articles 5 and 6, on conservation and sustainable use of PGRFA, and Article 13, on benefit-sharing under the Multilateral System, create complementary obligations and mechanisms. The Benefit-sharing Fund, established under Article 13, supports projects that contribute to the realization of Farmers' Rights by enhancing access to plant genetic resources, capacity building and technology transfer.

Together, these interconnected articles create a cohesive framework that recognizes farmers as key custodians of biodiversity, while advancing food security and resilience. The preamble of the International Treaty further underscores these principles, affirming that: *"the right to save, use, exchange and sell farm-saved seed and other propagating material, and to participate in decision-making regarding, and in the fair and equitable sharing of the benefits arising from, the use of plant genetic resources for food and agriculture, are fundamental to the realization of Farmers' Rights, as well as the promotion of Farmers' Rights at national and international levels".*

2.4 Intersessional work and Resolutions of the Governing Body of the International Treaty

Since the International Treaty's entry into force, its Governing Body has addressed Farmers' Rights at each of its sessions, adopting a series of resolutions to provide guidance and support to Contracting Parties.

An important milestone in the lead-up to the second session of the Governing Body was the informal international consultation on Farmers' Rights held in Lusaka in 2007. Co-hosted by the Norwegian and Zambian Ministries of Agriculture and supported by the Fridtjof Nansen Institute of Norway, the consultation brought together 27 participants from governments, non-governmental organizations (NGOs), international organizations and research institutions and other private and public institutions across 20 countries. The meeting focused on, *inter alia*, developing a shared understanding of the content and significance of Farmers' Rights, pooling resources for realizing Farmers' Rights at national level and formulating practical suggestions as to how the Governing Body could assist national implementation. The outcomes of the Lusaka consultation were submitted as an input paper to the Governing Body and helped to inform Resolution 2/2007,[15] which encouraged Contracting Parties and other relevant organizations to submit views and experiences on the implementation of Farmers' Rights as set out in Article 9 of the International Treat, fostering a culture of information sharing and mutual learning.

[15] Resolution 2/2007

Between 2007 and 2009, a range of intersessional activities further contributed to the discourse on Farmers' Rights. These included an international online consultation platform organized by the Centre for Genetic Resources (the Kingdom of the Netherlands) and the Community Technology Development Trust (Zimbabwe), accompanied by farmer workshops in Malawi, Zambia and Zimbabwe. This process generated stakeholder input on legal options for realizing Farmers' Rights. The Farmers' Rights Project also synthesized extensive research, national case studies and multistakeholder surveys in an input paper presented to the third session of the Governing Body, highlighting implementation gaps and offering strategic recommendations.[16]

At its third session, the Governing Body adopted Resolution 6/2009,[17] which recalled the importance of fully implementing Farmers' Rights, and requested the Secretariat to convene regional workshops on Farmers' Rights to discuss relevant national experiences. In response to this request, global consultations were organized during the 2009–2011 intersessional period, with the support of the Fridtjof Nansen Institute. These began with a survey of stakeholders across all regions and culminated in a global consultation conference held in Addis Ababa in November 2010.[18] The conference brought together 52 participants representing a wide range of stakeholders and countries and produced a set of recommendations addressing national implementation of Article 9, the protection of traditional knowledge, farmers' access to genetic resources and the need to ensure complementarity between formal and local seed systems. The outcomes were submitted to the Governing Body and presented at a side event during its fourth session.

The 2013–2015 biennium marked further efforts to strengthen the coherence of the International Treaty with other relevant international legal frameworks. Following the adoption of Resolution 08/2013 by the Governing Body at its fifth session,[19] the International Treaty Secretariat launched a process to examine the inter-relations between the International Treaty, the Union for the Protection of New Varieties of Plants (UPOV) and the World Intellectual Property Organization (WIPO). Submissions from governments and civil society were compiled and shared with UPOV and WIPO, and the issue was considered by the Ad Hoc Technical Advisory Committee on Sustainable Use. This marked a significant step towards clarifying how international rules on plant variety protection and intellectual property may impact the realization of Farmers' Rights, particularly in relation to the rights of small-scale farmers to save, use, exchange and sell seed.

In the same period, Farmers' Rights gained traction within broader food security and development fora. At its 41st session in 2014, the Committee on World Food Security endorsed the Principles for Responsible Investment in Agriculture and Food Systems, which recognized the role of smallholder farmers in conserving agricultural biodiversity and emphasized the importance of preserving traditional knowledge and promoting equitable benefit-sharing, echoing key provisions of Article 9 of the International Treaty.

Recognizing the need for more structured support, Resolution 5/2015 requested the Secretariat to compile information and best practices on the implementation of Farmers' Rights under Article 9 of the International Treaty,[20] and to prepare a study on the lessons learned, including policies and legislation. This led to an online consultation and,[21] notably, the Global Consultation on Farmers' Rights held in Bali, Indonesia in 2016, which provided a platform for stakeholders to discuss challenges and experiences for realizing Farmers' Rights.[22]

[16] IT/GB-3/09/Inf. 6 Add. 2, Collection of views and experiences submitted by Contracting Parties and other relevant organizations on the implementation of Article 9.
[17] Resolution 6/2009
[18] The conference was organized by the Fridtjof Nansen Institute, Norway, and hosted by the Institute of Biodiversity Conservation, Ethiopia (now Ethiopian Biodiversity Institute).
[19] Resolution 8/2013
[20] Resolution 5/2015
[21] The results are presented in the document, *Results of the online consultation to gather views and needs on the implementation of Farmers' Rights*: https://openknowledge.fao.org/server/api/core/bitstreams/6e0cf9de-6c2f-405e-9afa-e4221a9eb49b/content
[22] Proceedings of the Global Consultation on Farmers' Rights

- *The Ad Hoc Technical Expert Group on Farmers' Rights (AHTEG-FR)*

A significant step was the establishment of the Ad Hoc Technical Expert Group on Farmers' Rights (AHTEG-FR) at the seventh session of the Governing Body (Resolution 7/2017).[23] The AHTEG-FR was mandated to:

- produce an Inventory of national measures, best practices and lessons learned on the realization of Farmers' Rights, as set out in Article 9 of the International Treaty (the Inventory); and
- based on the Inventory, develop "Options for encouraging, guiding and promoting the realization of Farmers' Rights, as set out in Article 9 of the International Treaty".

At its eighth session, the Governing Body welcomed the Inventory and the establishment of its online version.[24] At its ninth session in 2022, the Governing Body welcomed the work of the AHTEG-FR and noted the *Options for encouraging, guiding and promoting the realization of Farmers' Rights, as set out in Article 9 of the International Treaty*.

- *Other key decisions of the Governing Body*

At its ninth session, the Governing Body endorsed further work, including the First Global Symposium on Farmers' Rights, held in New Delhi in 2023.[25] The symposium brought together a broad range of stakeholders to share experiences and identify priorities for future action.[26]

At the same session, the Governing Body requested the Secretariat *to make an assessment on the state of implementation of Article 9 of the International Treaty and to present criteria and an outline of the assessment at its Tenth Session and the full report at its Eleventh Session; such assessment should be based on the compliance reports and on submissions in the Inventory as well as on other relevant information.*

At its tenth session, the Governing Body, through Resolution 7/2023,[27] reconvened the AHTEG-FR with the task of reviewing the assessment and advising on how use of the Options could be promoted.

[23] Resolution 7/2017
[24] Inventory | International Treaty on Plant Genetic Resources for Food and Agriculture | Food and Agriculture Organization of the United Nations
[25] Resolution 7/2022. The Governments of Italy and Norway provided financial resources that made the organization of the Global Symposium possible.
[26] Report from the Global Symposium on Farmers' Rights
[27] Resolution 7/2023

Box 2.1
Farmers' Rights: Key developments and milestones

1980s

- Emergence of the concept of Farmers' Rights as a response to growing recognition of the critical role played by farmers in conserving and enhancing PGRFA.

1986

- Introduction of the concept of Farmers' Rights in international negotiations within FAO.

1988-1991

- Convening of the Keystone Dialogues in Madras and Oslo, advancing shared understanding among stakeholders and laying the groundwork for the formal recognition of Farmers' Rights by the FAO Conference.

1989

- Adoption of Resolution 4/89 by the FAO Conference, providing the Agreed Interpretation of the International Undertaking on Plant Genetic Resources.
- Adoption of Resolution 5/89 by the FAO Conference, explicitly recognizing Farmers' Rights as arising from farmers' contributions to the conservation and improvement of PGRFA.

1991

- Inclusion of Farmers' Rights in Chapter 14.59(a) of Agenda 21, adopted at the UN Conference on Environment and Development, calling for the strengthening of the Global System on the Conservation and Sustainable Use of PGRFA and measures to implement Farmers' Rights.

1992

- Identification of Farmers' Rights as an outstanding matter in the Nairobi Final Act of the Conference for the adoption of the agreed text of the CBD.
- Acknowledgment of the importance of traditional knowledge and the role of Indigenous and local communities in biodiversity conservation and sustainable use through Article 8(j) of the CBD, aligning with the principles of Farmers' Rights.

1999

- Highlighting of Farmers' Rights in the UN Economic and Social Council's (ECOSOC) study on the Right to Food as essential to sustainable food supplies and the realization of the right to food.

2001

- Adoption of the International Treaty on Plant Genetic Resources for Food and Agriculture by the FAO Conference (Resolution 3/2001).

2004

- Entry into force of the International Treaty, enshrining Farmers' Rights in Article 9.

2006

- Recognition of the contributions of farmers and local and Indigenous communities to PGRFA conservation by the Governing Body of the International Treaty during its First Session through a Ministerial Declaration.

2007–2009

- Adoption of Resolutions 2/2007 and 6/2009 by the Governing Body of the International Treaty, promoting the exchange of experiences and practical implementation of Farmers' Rights and inviting submissions of views and best practices.
- Informal International Consultation on Farmers' Rights held in Lusaka, providing practical suggestions for national implementation and shaping the second session of the Governing Body.
- International online consultations and stakeholder submissions compiled, offering recommendations on seed legislation, benefit-sharing and smallholder rights.

2010

- Organization of the Global Consultation Conference on Farmers' Rights in Addis Ababa, resulting in recommendations on national implementation, traditional knowledge and farmers' access to PGRFA.

2013–2015

- Initiation of dialogue between the Plant Treaty Secretariat, UPOV and WIPO on the inter-relations between international legal frameworks affecting Farmers' Rights, based on stakeholder submissions.
- Discussion of these interrelations by the Ad Hoc Technical Advisory Committee on Sustainable Use.
- Recognition of Farmers' Rights in the Committee on World Food Security's Principles for Responsible Investment in Agriculture and Food Systems.

2015

- Adoption of Resolution 5/2015 by the Governing Body of the International Treaty, requesting the Secretariat to compile information and best practices and to prepare a study on the lessons learned.

2016

- Organization of the Global Consultation on Farmers' Rights in Bali, Indonesia, providing a platform for multistakeholder dialogue on challenges and opportunities for realizing Farmers' Rights.

2017

- Establishment of the Ad Hoc Technical Expert Group on Farmers' Rights (AHTEG-FR) by the Governing Body (Resolution 7/2017), mandated to produce an Inventory of national measures, best practices and lessons learned on the realization of Farmers' Rights, and to develop Options for encouraging, guiding and promoting the realization of Farmers' Rights.

2019

- Presentation of the Inventory of national measures, best practices and lessons learned, and the Options for encouraging, guiding and promoting the realization of Farmers' Rights to the Governing Body at its eighth session.
- Welcoming by the Governing Body of the Inventory and its online platform.

2022

- Acknowledgement by the Governing Body at its ninth session of the work undertaken by the AHTEG-FR and endorsement of further work on Farmers' Rights, including organization of the First Global Symposium on Farmers' Rights and preparation of the first assessment of the state of implementation of Article 9.

2023

- Reconvening of the AHTEG-FR by the Governing Body at its tenth session to support the review of the assessment and advise on promotion of the Options.
- Convening of the First Global Symposium on Farmers' Rights in New Delhi, bringing together stakeholders to share experiences and identify priorities for promoting the implementation of Farmers' Rights.

2025

- Presentation of the Assessment of the state of implementation of Article 9 of the International Treaty to the Governing Body at its eleventh session.

Source: Author's own elaboration.

SECTION 3. INTRODUCTION

Farmers' Rights are a cornerstone of the International Treaty, recognizing the past, present and future contributions of farmers in all regions of the world to conserving, improving and making available PGRFA, which are vital for global food security, climate resilience and sustainable agriculture. Article 9 of the International Treaty encourages Contracting Parties to take measures to protect and promote Farmers' Rights, specifically regarding the protection of traditional knowledge related to PGRFA, equitable sharing of benefits arising from the utilization of PGRFA, participation in making decisions, at national level, on matters related to the conservation and sustainable use of PGRFA, and the rights that farmers have to save, use, exchange and sell farm-saved seed/propagating material, subject to national law and as appropriate.

Since the entry into force of the International Treaty in 2004, the implementation of Farmers' Rights has gained increasing attention at national, regional and global levels. Around the world, countries have introduced diverse measures to promote the implementation of these rights, reflecting their specific legal, cultural and socioeconomic contexts. While these efforts illustrate a shared commitment to the objectives of the International Treaty, the implementation of Farmers' Rights has evolved along different trajectories across regions, shaped by varying capacities, priorities and national circumstances.

In recognition of the need for a comprehensive understanding of these developments, including the current status and needs, the Governing Body of the International Treaty, at its ninth session, requested the Secretary: "subject to the availability of financial resources, to make an Assessment of the state of implementation of Article 9 of the International Treaty [...]; such Assessment should be based on the compliance reports and submissions to the Inventory as well as on other relevant information".[2]

The primary objective of the Assessment is to provide a consolidated overview of how Farmers' Rights have been recognized, protected and promoted across regions. It seeks to capture not only the measures taken, but also the experiences gained, the factors limiting progress and the emerging needs and gaps. By analysing implementation gaps and needs, the Assessment aims to support informed decision-making by the Governing Body and guide future decisions to further the realization of Farmers' Rights.

The scope of the Assessment encompasses implementation of the provisions of Article 9 and the resolutions on Farmers' Rights adopted by the Governing Body.[3] It covers the period since the International Treaty's entry into force, with a particular focus on the current status and recent developments.

Recognizing the diversity of agricultural systems, institutional and governance structures and sociocultural contexts, the Assessment adopts a regional perspective to examine implementation trends and experiences. It provides region-specific analyses for Africa, Asia, Europe, Latin America and the Caribbean, the Near East, North America and the South West Pacific, enabling the identification of both commonalities and region-specific approaches. Particular attention is paid to innovative policies and practices, community-based initiatives and multistakeholder collaboration that have contributed to the realization of Farmers' Rights.

SECTION 4. APPROACH AND METHODOLOGY

4.1 Data sources and collection methods

The Assessment of the state of implementation of Article 9 of the International Treaty was conducted meticulously, following the outline endorsed by the Expert Group (hereafter, the outline).[28] The Secretariat gathered data and information from various available resources, including:

- *National reports*

The primary sources of information for the data analysis are the National Reports on the implementation of the International Treaty (hereafter, national reports).[29] As of April 2025, the Secretariat of the International Treaty had received a total of 97 national reports from all the regions: Africa (23), Asia (11), Europe (29), Latin America and the Caribbean (16), Near East (12), North America (2) and South West Pacific (4).

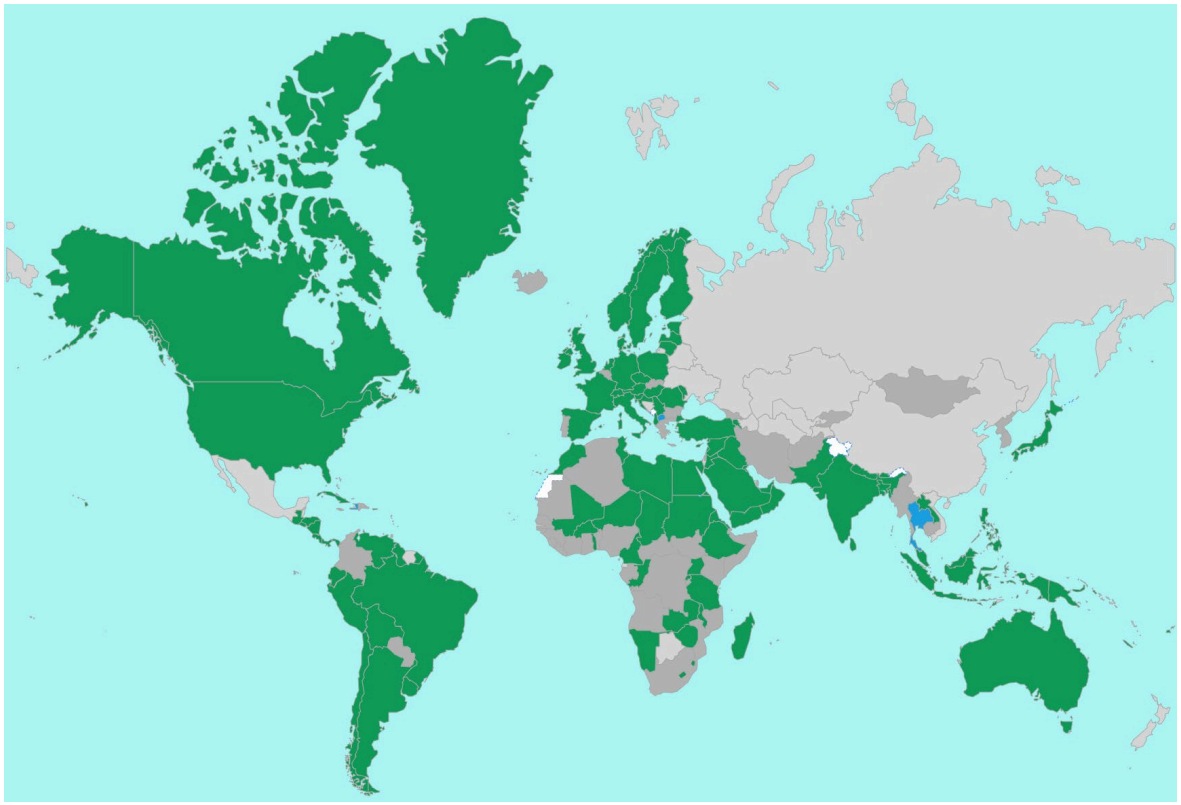
For each of the main articles of the International Treaty, the national reports comprise mandatory questions (e.g. yes/no and multiple-choice questions) and optional questions, for which respondents are requested to either substantiate their answers or to provide additional details. For the purpose of this assessment, the data collection process focused primarily on answers to the following questions:

- Question 19 on Farmers' Rights (Article 9)
- Questions 1, 2 and 3 on the general obligations (Article 4)
- Questions 8 and 9 on on-farm and *in situ* conservation of PGRFA (Article 5)
- Question 14 on sustainable use of PGRFA (Article 6)
- National commitments and international cooperation (Article 7)
- General remarks on implementation of the International Treaty

[28] IT/GB-11/AHTEG-FR-5/24/Report, Appendix 2.

[29] These are the country reports on implementation of the International Treaty received from Contracting Parties pursuant to Section V.1 of the Procedures and operational mechanisms to promote compliance and address issues of non-compliance (Resolution 9/2013), for which an updated Standard Reporting Format was adopted by the Governing Body in 2019 (Resolution 7/2019).

Figure 4.1
Map of Contracting Parties that submitted a report (shown in green)



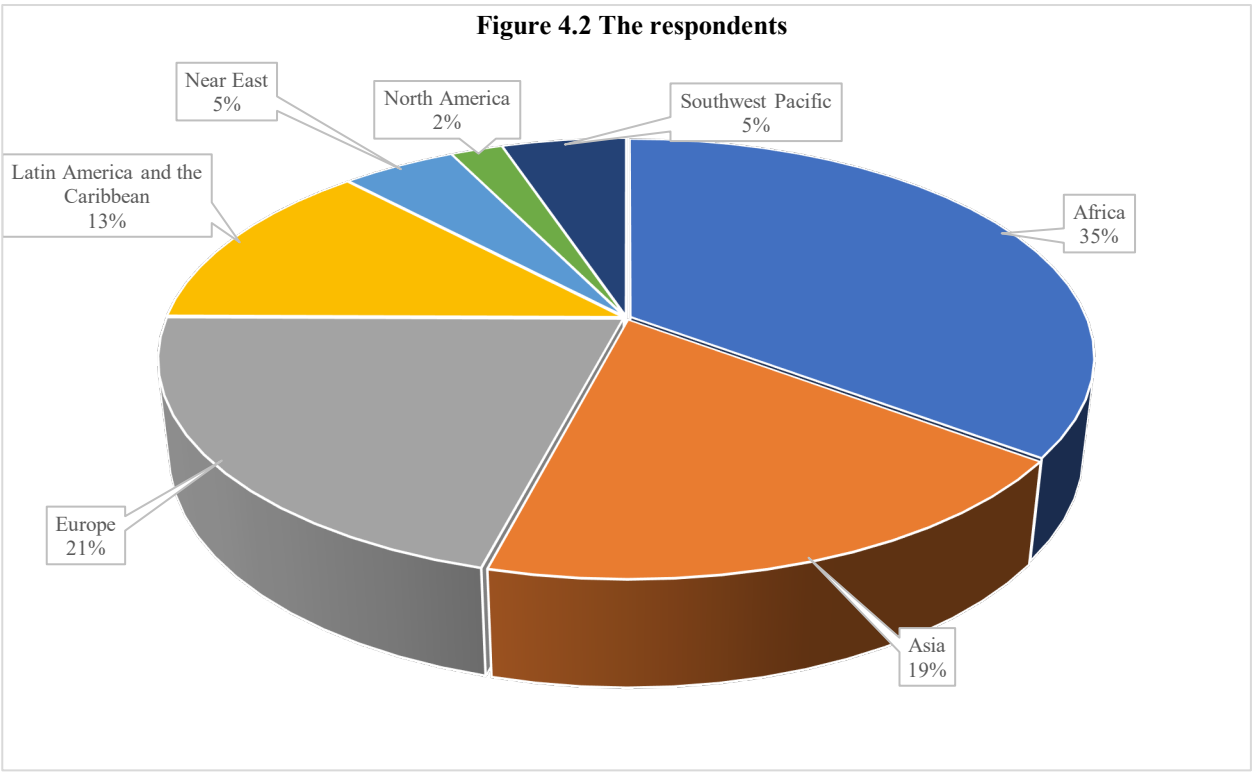
Note: The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of FAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers and boundaries. Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. The final boundary between the Sudan and South Sudan has not yet been determined.

Source: Adapted from a map produced by the UN Geospatial Service.

- *Multistakeholder survey responses*

The results of the multistakeholder survey conducted by the Secretariat from 12 December 2024 to 31 January 2025 provided valuable complementary information. The multistakeholder survey was conducted online and made available in English, French and Spanish. It generated 233 responses from 91 countries, including four non-Contracting Parties, across seven regions: Africa (82), Asia (40), Europe (48), Latin America and the Caribbean (28), Near East (14), North America (5) and South West Pacific (12). The survey gathered responses from United Nations bodies, CGIAR Research Centers, farmers' organizations, Indigenous Peoples' and local communities' organizations, CSOs, academia, and the public and private sectors, operating at various levels. The respondents were made up as follows: 30 percent – individuals in their personal capacity; 26 percent – representatives of institutions; 25 percent – responses on behalf of groups or institutions; and 19 percent – responses from the national focal points of the International Treaty.

Figure 4.2 The respondents



Source: Author's own elaboration

The multistakeholder survey was designed to engage all Contracting Parties and interested stakeholders in gathering comprehensive information regarding the state of implementation of Article 9 of the International Treaty. In particular, it aimed to supplement the data and information from national reports and other sources. The questionnaire was structured around the provisions of Article 9 and included supplementary questions, so that all the necessary information stipulated in the outline could be gathered,[30] such as:

a) measures, experiences and lessons learned from the implementation of Farmers' Rights;

b) measures (or factors) limiting the implementation of Farmers' Rights;

c) supplementary information related to the implementation of Farmers' Rights;

d) gaps and needs with regard to the implementation of Farmers' Rights; and

e) prospects and plans for further implementation of Farmers' Rights.[31]

- *The Inventory*

The *Inventory of national measures, best practices, and lessons learned from the realization of Farmers' Rights, as set out in Article 9 of the International Treaty* (the Inventory) is an online catalogue of national measures and practices provided by the Contracting Parties and interested stakeholders. As of April 2025, there were 233 measures and practices available. Several of these measures are also described in the national reports.

- *Proceedings of the Global Symposium on Farmers' Rights held in 2023*

This Global Symposium on Farmers' Rights was organized by the Secretariat of the International Treaty and hosted by the Government of India. The Global Symposium aimed to provide a forum to share knowledge and experiences regarding innovative approaches, effective policies, best practices, and lessons learned in the implementation of Farmers' Rights, as set out in Article 9 of the International Treaty. It was designed to contribute to a better understanding, by Contracting Parties and interested stakeholders, of the challenges and

[30] Appendix 2 of the IT/GB-11/AHTEG-FR-5/24/Report .
[31] The activities are inspired by the outcomes of the Global Symposium on Farmers' Rights held in India, and based on the suggested activities on how the use of the *Options* can be promoted.

opportunities for the effective implementation of Farmers' Rights and to gather insights and ideas for future work to promote the implementation of Farmers' Rights, as set out Article 9 of the International Treaty. National measures, practices, experiences, and lessons learned regarding the implementation of Article 9, as presented during the Symposium, along with proposals for future activities, have been integrated into the relevant sections.[32]

4.2 Data analysis

The data collected from the national reports and the multistakeholder survey were organized into separate tables in MS Excel by country and combined by region into seven separate databases for each of the seven regions: Africa, Asia, Europe, Latin America and the Caribbean, Near East, North America and South West Pacific, in preparation for data analysis.

Answers to all mandatory questions of the national reports and the multistakeholder survey (e.g. yes/no, multiple choice and ranking) were filtered in MS Excel to calculate numbers and percentages and the results are presented in bar charts and/or in the narratives.

Free-text responses to questions of the national reports and the multistakeholder survey were ordered thematically and presented in tabular format (as supplementary tables). Syntheses of the responses are presented in the narratives.

The information from the Inventory and the Proceedings of the Global Symposium was used to support the analysis of data collected from the national reports and the multistakeholder survey, as presented in the Assessment. Measures and practices were integrated and cross-checked whenever they were referenced in the narratives. The Inventory and the Proceedings also served as a key source for the development of text boxes throughout the Assessment, as well as for deriving examples of programmes and initiatives that promote and support the implementation of Article 9 at regional and global levels.

Section 5.6.2 'Realization of Farmers' Rights' contained in the *Third Report on the State of the World's Plant Genetic Resources for Food and Agriculture* (FAO, 2025) was reviewed as a supplementary source. Since that section presents findings at the global level, it contributed little original information to the present region-focused assessment. Instead, it was used primarily as an external benchmark to verify the internal consistency and completeness of the data generated from the primary sources described above.

4.3 Presentation of the Assessment

The Assessment of the state of implementation of Article 9 of the International Treaty is presented in Section 5. It is organized by region, covering Africa, Asia, Europe, Latin America and the Caribbean, Near East, North America and South West Pacific. For each region, the analysis follows a uniform structure to ensure consistency. Each regional section begins with a brief introduction, followed by a structured presentation of the outcomes of the analysis, organized around the provisions of Article 9 (with experiences and lessons learned under the relevant provision, when such information is available), as follows:

- Recognition of the enormous contribution of farmers and local and Indigenous communities to PGRFA conservation and development (Article 9.1)
- The protection of traditional knowledge relevant to PGRFA (Article 9.2a)
- The right of farmers to participate in benefit-sharing (Article 9.2b)
- The right of farmers to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of PGRFA (Article 9.2c)
- The rights of farmers to save, use, exchange and sell farm-saved seed, subject to national law and as appropriate (Article 9.3)
- Gaps and needs with regard to the realization of Farmers' Rights

Examples of measures implemented for each provision of Article 9 are provided for all the regions, when available.

[32] The proceedings of the Global Symposium on Farmers' Rights

Additionally, examples of programmes and initiatives promoting and supporting the implementation of Farmers' Rights in various regions, including those with international or global reach, are included. These examples are drawn from information and responses collected through the multistakeholder survey and the Inventory.

The prospects and plans for further implementation of Article 9 as gathered from the multistakeholder study are summarized in Section 6.

4.4 Limitations and challenges encountered in the preparation of the Assessment

The robustness of the present assessment is tempered by three inter-related constraints.

First, the quantity of information available by region for analysis varied markedly. While some regions submitted a near-complete set of national reports and an ample number of replies to the multistakeholder survey, others provided only a handful of information from their country reports or survey responses.

Second, even where national reports were available, many lacked detailed or up-to-date descriptions of legislative, institutional or programmatic measures relevant to Article 9 of the International Treaty. The incomplete coverage introduces potential bias and inevitably limits the granularity of the findings.

Finally, a persistent challenge lies in the limited understanding – among both government and non-government respondents – of the scope of Farmers' Rights. Numerous initiatives that, in substance, promote and protect Article 9 were not identified as such by national focal points and therefore went unreported in the official submissions. This conceptual gap is likely to have led to systematic underestimation of the volume and diversity of activities promoting the realization of Farmers' Rights, particularly in domains such as seed exchange, participatory breeding and community seed banking, including missing the possible link to other sectors of relevance to PGRFA.

Together, these limitations underscore the importance of continued capacity building and awareness-raising to improve the quality and consistency of future analysis. They also point to the potential value of refining future provisioning of information resources.

SECTION 5. THE STATE OF IMPLEMENTATION OF FARMERS' RIGHTS

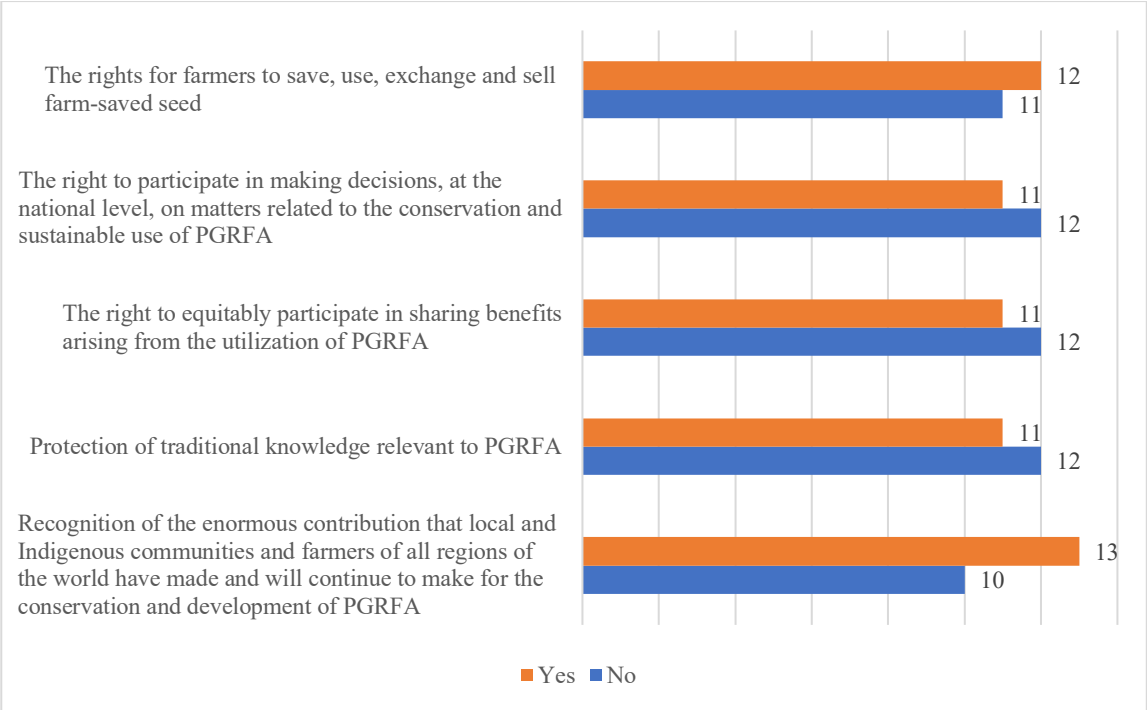
5.1 AFRICA

There are 50 countries in Africa, including 44 that are Contracting Parties to the International Treaty and 1 that has signed it. By April 2025, a total of 23 countries from this region had submitted a national compliance report to the Secretariat of the International Treaty.[33]

The following information summarizes the information found in the 23 national reports submitted to the Secretariat of the International Treaty, supplemented by information gathered from the multistakeholder survey (82 responses from 26 countries)[34] conducted by the Secretariat and submissions from the Inventory (40 submissions from 18 countries).[35] Responses to both the survey and the Inventory were provided by government institutions, CSOs, academic and research institutions, farmers' organizations, Indigenous Peoples and local communities and CGIAR Research Centers.

Among the 23 countries from Africa that submitted a national compliance report, a total of 15 report having taken some measures to protect and promote Farmers' Rights (about 65 percent),[36] including those shown in Figure 5.1:

Figure 5.1
Number of reporting countries from Africa (n = 23) that have taken measures in relation to:



Source: Author's own elaboration

Among the 23 reporting countries from Africa, three – Burkina Faso, Ethiopia and Zambia – have adopted laws or proclamations that articulate Farmers' Rights in specific articles or a dedicated implementing decree.

[33] Burkina Faso, Cameroon, Chad, Eritrea, Eswatini, Ethiopia, Lesotho, Madagascar, Malawi, Mali, Mauritius, Morocco, Namibia, Niger, Republic of the Congo, Rwanda, Seychelles, Tanzania (United Republic of), Togo, Tunisia, Uganda, Zambia, Zimbabwe.
[34] Responses from Benin, Burkina Faso, Burundi, Cameroon, Chad, Democratic Republic of the Congo, Gabon, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mali, Morocco, Niger, Nigeria, Republic of the Congo, Rwanda, Senegal, South Africa, Tunisia, Uganda, Tanzania (United Republic of), Zambia, Zimbabwe.
[35] The Inventory lists measures and practices that promote Farmers' Rights, as set out in Article 9 of the International Treaty, and are implemented at local, provincial or national levels. These may be limited to specific communities or provinces and do not necessarily represent the national situation. The examples are from the African Union and countries such as Benin, Burkina Faso, Ethiopia, Kenya, Madagascar, Malawi, Mali, Morocco, Mozambique, Niger, Nigeria, Senegal, South Africa, Tanzania (United Republic of), Uganda, Zambia, and Zimbabwe.
[36] Burkina Faso, Eritrea, Ethiopia, Lesotho, Madagascar, Malawi, Morocco, Namibia, Niger, Republic of the Congo, Rwanda, Tanzania (United Republic of), Uganda, Zambia, Zimbabwe.

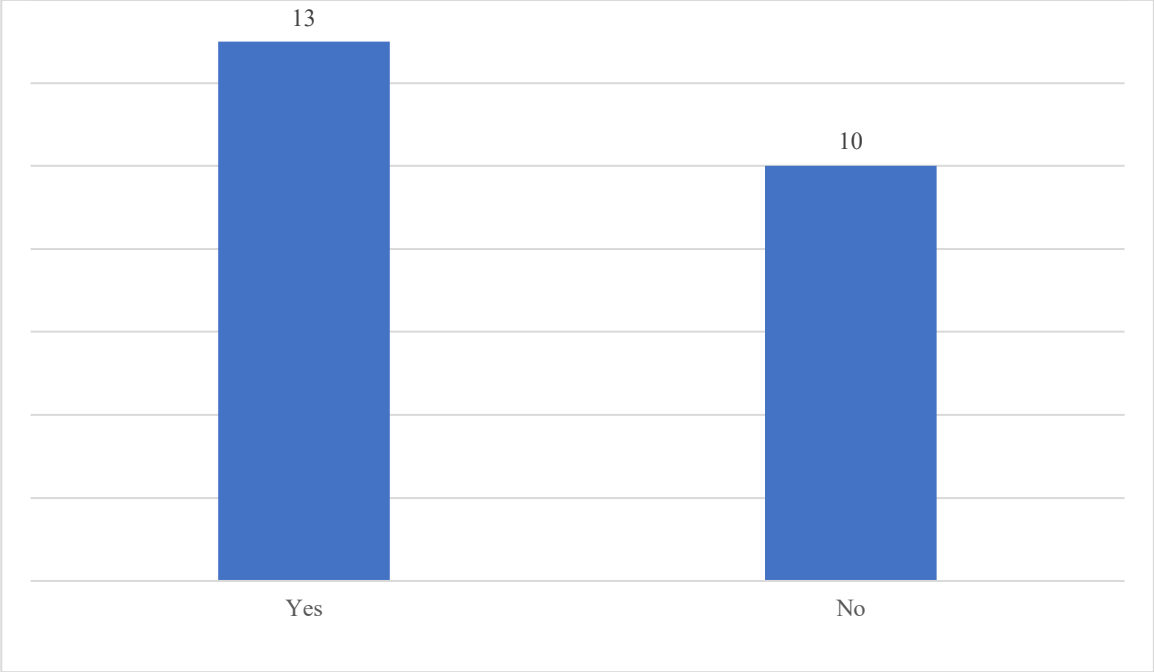
For example, Burkina Faso has drafted a decree on the rights of farmers and local communities to implement its Act on access to PGRFA and the sharing of benefits resulting from their use. The need to adopt an enabling legal and policy framework dedicated to the protection and promotion of Farmers' Rights is acknowledged by at least 13 reporting countries from the region.[37]

PROVISIONS OF ARTICLE 9

5.1.1 Recognition of the enormous contribution of farmers and local and Indigenous communities to PGRFA conservation and development (Article 9.1)

A total of 13 reporting countries from Africa have taken measures to recognize the contribution of farmers and local and Indigenous communities to PGRFA conservation and development.[38]

Figure 5.2
Number of reporting countries from Africa (n = 23) that have taken measures to recognize the enormous contribution of farmers and local and Indigenous communities to PGRFA conservation and development



Source: Author's own elaboration

In Tunisia, two sites, including farming systems and hanging gardens, have been recognized by FAO as Globally Important Agricultural Heritage Systems (GIAHS). While reflecting the close links between cultivated fields, the natural ecosystem and local flora and fauna, these sites contribute to the protection of traditional knowledge and biodiversity conservation. Their recognition as GIAHS reflects the longstanding commitment of local communities to look after these sites and protect their heritage for future generations. In Uganda, farmer groups have received recognition through their participation in national and international diversity shows, agricultural shows, cross-site and cross-country visits, enhancing their visibility and appreciation.

According to the information gathered from the multistakeholder survey and the Inventory, the measures introduced or applied to promote recognition of farmers and local and Indigenous communities' contributions to PGRFA conservation and development are implemented at national and local levels. These measures are mainly executed through technical cooperation programmes in 18 countries.[39] The primary focus of these initiatives is to assist farmers and farming communities in enhancing agricultural production, sustaining local

[37] Cameroon, Chad, Eritrea, Eswatini, Lesotho, Madagascar, Malawi, Namibia, Niger, Republic of the Congo, Tanzania (United Republic of), Uganda, Zimbabwe.
[38] Burkina Faso, Eritrea, Ethiopia, Lesotho, Madagascar, Malawi, Morocco, Namibia, Niger, Republic of the Congo, Tanzania (United Republic of), Uganda, Zambia.
[39] Programmes lead by the CGIAR Research Centers, i.e. ICRISAT, ICARDA, Africa Rice Center, CYMMIT, ICRAF and projects initiated by national governmental organizations, and NGOs operating at local, national and interregional levels.

crop diversity, managing agricultural biodiversity for food security, improving livelihoods and increasing resilience to climate challenges. Project activities encompass support to community-based agricultural biodiversity management,[40] establishment of community seed banks (CSBs),[41] value chain development,[42] creation of knowledge-sharing platforms,[43] Farmer Field Schools (FFS), seed fairs,[44] participatory plant breeding (PPB),[45] varietal development and selection,[46] improvement of seed delivery systems,[47] facilitation of access to quality seeds,[48] access to germplasm materials,[49] policy analysis and advocacy for Farmers' Rights,[50] and the provision of other technical assistance aimed at strengthening the capacities of farmers and farmers' organizations.[51]

Experiences and lessons learned

Based on the information gathered through the multistakeholder survey and the Inventory, the following is a summary of experiences and lessons learned shared by respondents and contributors regarding measures introduced to recognize the contributions made by local and Indigenous communities and farmers in the conservation and development of PGRFA:

- Respondents from eight countries reported that partnering with institutions, farmers and local communities is crucial for researching, developing and improving crop varieties suited to specific environments and preferences.[52]
- Respondents from Burkina Faso, Madagascar, Niger and Zambia stressed the importance of supportive legal frameworks for the recognition of Farmers' Rights and farmers' varieties, which remains limited and legally unsupported.
- Respondents from six countries stated that support has been provided to farmers for gaining access to a diverse range of genetic materials, improving their knowledge and skills in seed saving and multiplication, recovering lost varieties and raising awareness about local crop diversity; however such support is ad hoc and always in the context of project activities.[53]
- Respondents from 12 countries indicated that investing in capacity building, including raising awareness of the value of PGRFA, developing value chains and enhancing farmers' knowledge and skills in sustainable agricultural practices, plays a crucial role in mitigating the impacts of climate change, fostering resilience within farming communities and contributing to livelihood development, while improving crop productivity and diversity.[54]
- Respondents from Ghana, Kenya, the United Republic of Tanzania and Zimbabwe mentioned that supporting community-based initiatives, farmer-led or farmer-managed seed systems and related activities (such as CSBs), seed lots, PPB, participatory varietal selection (PVS), seed fairs and other activities, are practical measures that are helping farmers to connect with and support each other in sustaining local crop diversity and livelihoods and thus realizing Farmers' Rights.[55]
- According to respondents from Burkina Faso, Madagascar and Senegal, a legal framework specific to Farmers' Rights is essential, in addition to national strategies or action plans. Policies should

[40] Ethiopia, Malawi, South Africa, Uganda, Zambia.
[41] Ethiopia, Kenya, Malawi, South Africa, Uganda, Zambia, Zimbabwe.
[42] Tanzania (United Republic of).
[43] Zimbabwe.
[44] Zambia, Zimbabwe.
[45] Burkina Faso, Kenya, Malawi, Uganda, Zambia.
[46] Zambia, Zimbabwe.
[47] Kenya, Zimbabwe.
[48] Uganda, Zambia, selected pilot countries in the region.
[49] Burkina Faso, Kenya, Niger, Nigeria, Senegal, Uganda.
[50] Benin, Burkina Faso, Niger, Madagascar, Malawi, Mali, Zimbabwe.
[51] Kenya, Malawi, Morocco, South Africa, Uganda, Zambia, Zimbabwe.
[52] Ghana, Kenya, Niger, Nigeria, Rwanda, Zambia, Zimbabwe.
[53] Ghana, Mali, Niger, Rwanda, Uganda, Zimbabwe.
[54] Gabon, Ghana, Kenya, Malawi, Morocco, Nigeria, Rwanda, South Africa, Tanzania (United Republic of), Uganda, Zambia, Zimbabwe.
[55] Mali, Malawi, Zambia, Zimbabwe (presentation at the Global Symposium on Farmers' Rights, 2023)

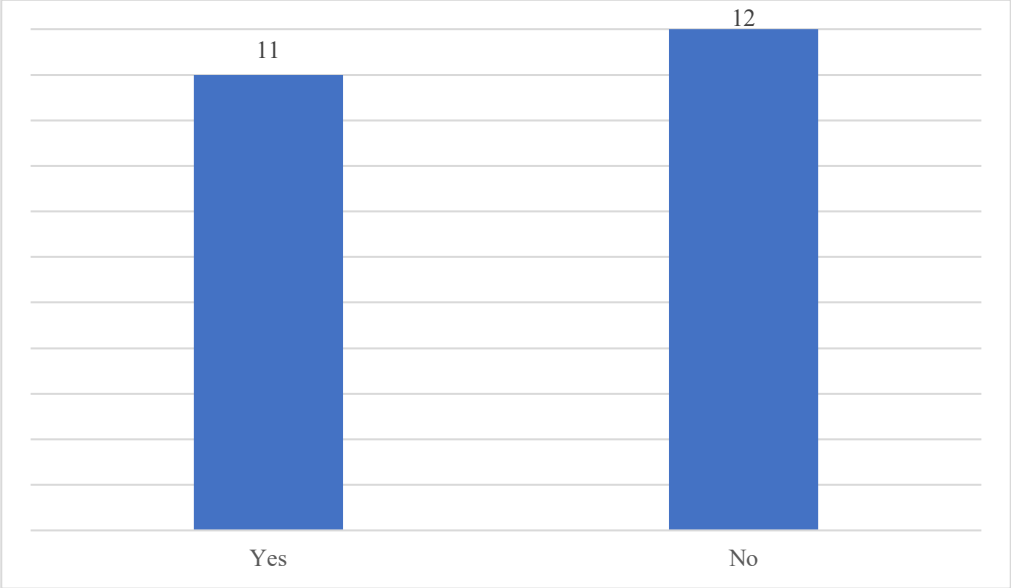
enable farmers to save, use, exchange and sell seeds, which is important for conserving and sustainably using PGRFA.

- A respondent from Lesotho indicated that farmers appreciate it when their efforts are recognized and supported by the central government.
- A respondent from Madagascar stated that initiatives and programmes for the promotion of Farmers' Rights need to be intensified and integrated into national programmes and strategies, with sustained financial resources.
- Respondents from Kenya, Mali, Zambia and Zimbabwe reported that platforms such as seed and food fairs are important for farmers and communities to share knowledge, improve crop production and save, use, exchange and sell farm-saved seed/propagating material.
- Respondents from six countries noted the role of CSOs in creating awareness and advocacy for the rights of farmers related to PGRFA, and empowering farmers through training and capacity-building activities.[56]
- A respondent from Madagascar reported having national strategies and/or legal frameworks in place, but stated that they were not operationalized or implemented due to lack of financial resources and communication.

5.1.2 The protection of traditional knowledge relevant to PGRFA (Article 9.2a)

A total of 11 reporting countries from Africa[57] have taken measures to protect traditional knowledge relevant to PGRFA.

Figure 5.3
Number of reporting countries from Africa (n = 23) that have taken measures to protect traditional knowledge relevant to PGRFA



Source: Author's own elaboration

Such measures have either been adopted as standalone instruments or as part of broader agricultural or environmental laws and strategies. For example, in Ethiopia, Zambia and Zimbabwe, laws and proclamations that specifically address the protection of traditional knowledge relevant to PGRFA provide mechanisms to secure community rights as linked to cultural and biological diversity. Elsewhere, in Eswatini and Madagascar, provisions to safeguard traditional knowledge and cultural heritage relevant to PGRFA are integrated within laws on ABS. In Chad, Lesotho, Mali and Niger, agricultural and seed laws also establish

[56] Ghana, Niger, South Africa, Tanzania (United Republic of), Zambia, Zimbabwe.
[57] Burkina Faso, Eritrea, Ethiopia, Lesotho, Madagascar, Malawi, Morocco, Republic of the Congo, Tanzania (United Republic of), Uganda, Zambia.

traditional varieties as part of the national heritage that should be protected in the interests of local communities. In Morocco, the protection of appellations of origin and geographical indications (GIs) further supports the preservation of the traditional knowledge embodied in local products.[58]

Complementing this, three countries – Eswatini, Namibia and Uganda – have adopted biodiversity strategies and forest policies that explicitly address traditional knowledge systems and provide for the preservation of traditional knowledge relevant to PGRFA, including through the development of variety registers at national and community levels in the case of Uganda. Similar measures, such as community biodiversity registries and biocultural community protocols, have also been introduced in Benin and Madagascar.[59]

Besides legal and policy measures, various community-oriented initiatives aimed at strengthening traditional knowledge systems have been developed. In at least ten reporting countries from the region,[60] CSBs have become central mechanisms for not only conserving and exchanging seeds, but also for reinforcing traditional agricultural practices and thereby preserving traditional knowledge.[61]

Other approaches to protecting traditional knowledge relevant to PGRFA include promoting the recognition of traditional agricultural systems, biodiversity sites and culturally significant sites and their associated knowledge systems. They also involve encouraging the exchange of traditional knowledge, innovations and practices through activities such as cross-visits, seed fairs, local markets and collaboration between farmers and researchers/scientists. In addition, they include efforts to raise awareness among farmers and other relevant stakeholders about the importance and value of traditional knowledge for the conservation and sustainable use of PGRFA.[62]

Experiences and lessons learned in protecting traditional knowledge relevant to PGRFA

The responses, as well as the submissions in the Inventory within the region, provided valuable experience and lessons on safeguarding traditional knowledge relevant to PGRFA. These experiences are summarized as follows, in no particular order:

- Respondents from Kenya, Namibia and the United Republic of Tanzania highlighted the value of traditional knowledge for conserving and sustainably using PGRFA, which can help communities to improve their livelihoods and value local products.
- Respondents from Lesotho and South Africa stated that farmers have a wealth of knowledge on managing and sustaining PGRFA, and they are generally willing to share traditional knowledge relevant to PGRFA, but they may withhold information if researchers/outsiders probe into the use values of these resources.
- Respondents from Lesotho, Zambia and Zimbabwe described seed fairs as a motivating way of helping farmers to improve crop productivity, while also serving as a social platform for knowledge and seed exchange.
- The respondent from Namibia noted that platforms are needed to facilitate the sharing of knowledge.
- Respondents from Malawi, Uganda and Zimbabwe reported that, despite the importance of Farmers' Rights to national food and nutrition security, their policy and legal frameworks do not protect traditional knowledge relevant to PGRFA.
- Respondents from Kenya and Zimbabwe highlighted the crucial role of community-based resource management and documentation initiatives for maintaining and disseminating traditional knowledge relevant to PGRFA.
- Respondents from the Democratic Republic of the Congo, Malawi and Zambia identified the lack of financial resources and technical capacity from national governments as limitations to the implementation of legal and policy frameworks to protect knowledge relevant to PGRFA.

[58] Also in other countries from the region. At the regional level, the African Union adopted the Continental Strategy for Geographical Indications in Africa in 2017.
[59] Inventory and Multistakeholder Survey responses.
[60] Burkina Faso, Eswatini, Ethiopia, Malawi, Mali, Namibia, Tanzania (United Republic of), Uganda, Zambia, Zimbabwe.
[61] Ethiopia, Kenya, Malawi, Mali, Uganda, Zambia, Zimbabwe.
[62] Inventory,Multistakeholder Survey responses, Proceedings of the Global Symposium on Farmers' Rights, 2023.

- Respondents from South Africa mentioned capacity building, training, and advocacy campaigns organized by civil society organizations that focus on seed saving, participatory plant breeding and the importance of traditional knowledge.
- Respondents from Ghana and South Africa indicated that national research institutions and other organizations are promoting modern conservation techniques, while respecting traditional methods and enhancing understanding of the nutritional value of indigenous crops.
- Respondents from Kenya, Madagascar, Rwanda, Togo and Zimbabwe mentioned that policies and legal frameworks aimed at protecting traditional knowledge have been adopted. The respondent from Rwanda indicated that the Government requires written permission from relevant authorities and knowledge holders to access traditional knowledge. The respondent from Kenya reported that "the Constitution acknowledges the rights of communities to their cultural heritage and traditional knowledge. The Kenya Environmental Management and Coordination Act and the Seeds and Plant Varieties Act contain provisions that can be interpreted as protecting traditional knowledge related to agriculture and biodiversity. Additionally, the "Protection of Traditional Knowledge and Cultural Expressions Act (2016)" states that "the owners and holders of traditional knowledge authorize or prevent others from exploiting their knowledge." Communities are thus empowered to create rules for usage, prevent misuse, and seek legal recourse to stop unauthorized use."
- Respondents from Algeria and the United Republic of Tanzania identified documenting and cataloguing, such as recording indigenous crop cultivation systems, seed varieties and crop management techniques, as vital activities to preserve traditional knowledge relevant to PGRFA.

Box 5.1

Developing community biodiversity registries and biocultural community protocols

Between 2015 and 2018, community biodiversity registers and biocultural community protocols (BCPs) were developed in Madagascar as part of a project aimed at supporting implementation of the Nagoya Protocol and the International Treaty. The project was initiated and managed by Bioversity International, a CGIAR Research Center, covering both Benin and Madagascar, with financial backing from the Darwin Initiative, a UK government fund. In Madagascar, the work was carried out under the direction of the Ministries of Agriculture and Environment, and in partnership with Natural Justice, a regional NGO. For Benin, the *Institut National des Recherches Agricoles du Benin* and various NGOs participated.

Initially, community biodiversity registers were established through local community involvement to catalogue crop, forage and agroforestry diversity in agricultural systems. These registers may be utilized for documenting traditional knowledge associated with PGRFA, monitoring or identifying materials potentially suited for exchange with external parties and other farmers. Next, BCPs were developed with the aim of enabling local communities to benefit from national commitments to the International Treaty and Nagoya Protocol by creating mechanisms to manage access to genetic resources within their territories. These protocols provide frameworks for communities to define rights and obligations under customary, state and international law for interactions with external stakeholders, including governments, corporations, researchers and NGOs, establishing conditions for access to traditional knowledge and resources. Community biodiversity registers and BCPs serve to promote and protect traditional knowledge systems concerning PGRFA and establish procedures for access and benefit-sharing, supporting the realization of Farmers' Rights, as outlined in Articles 9.2a, 9.2b, and 9.2c.

By the conclusion of the project, the BCPs for two Malagasy communities had been adopted by the relevant municipal authorities (December 2017) and the Regional Directorate for the Environment, Ecology and Forests. One outcome was increased clarity regarding the connection between farmers' rights and BCPs, with BCPs identified as a mechanism for implementing these rights. For example, in Analavory, the community's BCP included provisions affirming farmers' rights to conserve PGRFA, linked to their commitment to maintain the community biodiversity register and enhance traditional conservation practices. The BCP also addressed farmers' rights to exchange, use and access PGRFA, specifying related procedures through an agreed-upon community organization. Furthermore, the BCP described farmers' responsibilities regarding the conservation and sustainable use of genetic resources and related traditional knowledge.

In summary, BCPs are intended to clarify community decision-making processes for regulating access to genetic resources within their areas. They also outline community arrangements for the access and use of plant genetic resources under the Multilateral System of the International Treaty (Multilateral System), as well as community-to-community exchanges of PGRFA. This methodology aims to maintain genetic diversity in agricultural systems in response to climate change and market changes. It further contributes to defining ways to involve local communities

and farmers more effectively in access and benefit-sharing decisions. Madagascar has recently adopted interim legal frameworks to support the implementation of both the Nagoya Protocol and the International Treaty regarding ABS.

Sources: Extracted from the Inventory, submission from Benin and Madagascar. FAO. 2025. Accessed 28 May 2025. https://glis.fao.org/glis/csures/inv-list.

Multistakeholder survey responses describing cases of misappropriation of traditional knowledge and actions undertaken

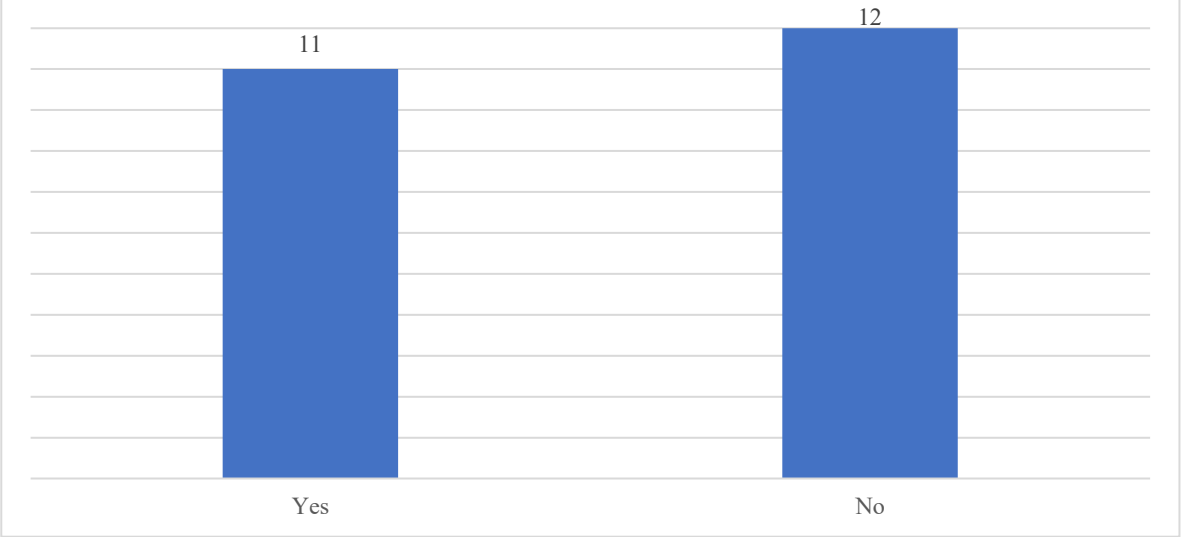
- A respondent from Niger indicated that a seed company applied for a Plant Breeders' Rights Certificate for a traditional variety of onion known as 'Galmi violet'. The application was initially denied due to concerns about misappropriation. The breeder later reapplied under a different name, 'Damari Violet' and the certificate was granted.
- In Niger, during the 2010s, a seed company attempted to patent Galmi violet, an established onion variety originating from Galmi. CSOs responded by initiating legal proceedings, which ultimately led to the patent being revoked.
- A respondent from Senegal reported that a specific variety of sorghum in Chad is used to prepare porridge for the nutritional recovery of malnourished children. Research has recognized this and seeks to include the variety in the official catalogue, which may affect the rights of farmers regarding its use. Currently, no measures have been implemented.
- A respondent from Kenya mentioned biopiracy and unfair benefit-sharing involving indigenous seeds and plant varieties. It was said that these cases undermine the rights of farmers and Indigenous communities, erode trust and discourage the sharing of traditional knowledge. The respondent cited a case regarding *Kikuyu* and *Maasai* grasses that was taken to court by the Government and the farmers' organization, and the farmers won. A respondent from Mali reported research programmes that collect knowledge and seeds from peasant communities without any formal protocol or agreement to refrain from claiming intellectual property rights over the seeds or their genetic components. The respondent also expressed concern about research activities that may pose a risk of contaminating local cowpea varieties with bacillus thuringiensis (Bt) genetically modified organism (GMO) cowpea.
- A respondent from Burkina Faso mentioned that farmers' knowledge is used for varietal creation without citing them. There is no mechanism for the fair and equitable sharing of benefits derived from the use of farmers' varieties and traditional knowledge relevant to PGRFA.

5.1.3 The right of farmers to participate in benefit-sharing (Article 9.2b)

A total of 11 reporting countries from Africa have taken measures in relation to the right of farmers to equitably participate in sharing benefits arising from the utilization of PGRFA.[63]

[63] Burkina Faso, Eritrea, Ethiopia, Lesotho, Madagascar, Malawi, Morocco, Namibia, Niger, Republic of the Congo, Uganda.

Figure 5.4
Number of reporting countries from Africa (n = 23) that have taken measures to protect the right of farmers to participate in benefit-sharing



Source: Author's own elaboration

5.1.3.1 Legal and policy frameworks on access and benefit-sharing

At least eight reporting countries in Africa have adopted legal and policy frameworks explicitly related to ABS, either as a dedicated legislation, regulation or proclamation,[64] and/or as part of a broader environmental or seed legislation or policy.[65] ABS measures adopted by African countries typically reference both genetic resources and associated traditional knowledge, detail procedural frameworks and requirements for obtaining prior informed consent from local and Indigenous communities and outline fair and equitable benefit-sharing mechanisms. Such frameworks may include, for instance, standard contracts and biocultural protocols, as in Benin and Madagascar. In Eswatini and Malawi, ABS guidelines have been developed, enabling local communities to outline their conditions regarding access to their genetic resources and associated traditional knowledge. However, several countries also indicate the need for revising existing seed and biodiversity laws to better incorporate the provisions of the Nagoya Protocol and the International Treaty,[66] or for adopting ABS measures where such measures are not yet in place.[67]

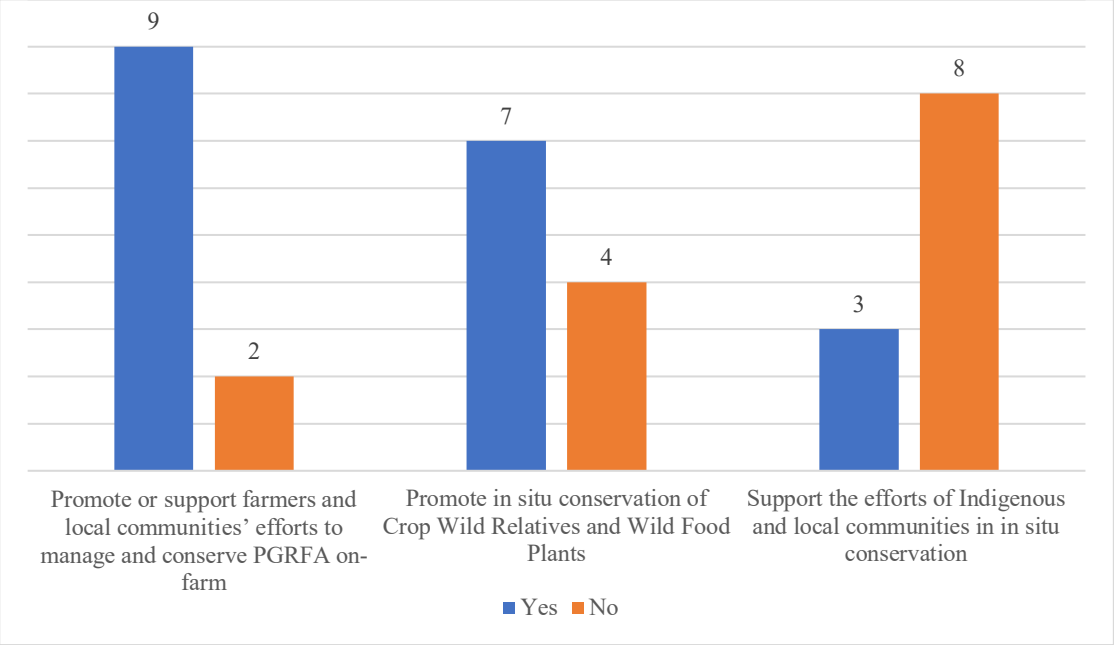
5.1.3.2 Non-monetary benefits

A. Supporting farmers and local communities' efforts to manage and conserve PGRFA on-farm and *in situ*

A total of 16 reporting countries from this region have promoted or supported farmers and local communities' efforts to manage and conserve PGRFA on-farm through a variety of measures and processes.[68] Additionally, whereas 14 reporting countries from Africa have promoted *in situ* conservation of Crop Wild Relatives and Wild Food Plants (WFP),[69] only 8 countries have specifically supported the efforts of Indigenous and local communities in *in situ* conservation.[70]

[64] Burkina Faso, Ethiopia, Madagascar, Namibia, Republic of the Congo, Rwanda, Seychelles, Zimbabwe.
[65] Mali, Niger, Uganda, Zimbabwe.
[66] Ethiopia, Madagascar, Seychelles, Uganda, Zimbabwe.
[67] Eswatini, Togo.
[68] Burkina Faso, Eritrea, Eswatini, Ethiopia, Lesotho, Malawi, Mali, Morocco, Namibia, Niger, Seychelles, Tanzania (United Republic of), Tunisia, Uganda, Zambia, Zimbabwe.
[69] Cameroon, Chad, Eritrea, Lesotho, Madagascar, Malawi, Mali, Mauritius, Namibia, Niger, Tanzania (United Republic of), Tunisia, Uganda, Zambia.
[70] Eritrea, Lesotho, Malawi, Mali, Niger, Tanzania (United Republic of), Tunisia, Zambia.

Figure 5.5
Number of reporting countries from Africa (n = 23) that have taken measures to:



Source: Author's own elaboration

Legal, policy and administrative measures have been adopted by a dozen countries to promote the conservation of PGRFA, recognizing their importance for food security, biodiversity conservation and climate adaptation.[71] In at least seven reporting countries, national agricultural and environmental legislation emphasizes conservation approaches.[72] Conservation objectives are also integrated into agricultural and environmental policies in Eritrea, Eswatini and the Republic of the Congo, and within the national poverty reduction strategy and action plan in Eswatini. Additionally, national strategies and action plans specifically focused on PGRFA, such as in Madagascar, Malawi, Namibia and Zimbabwe, and/or more generally related to agriculture or biodiversity, as found in Lesotho, Madagascar and Mauritius, also encompass conservation efforts. In Zimbabwe, standalone legislation specifically focused on conservation and use of PGRFA is currently being developed.

Submissions to the Inventory and responses from the multistakeholder survey provided information on the support given to farmers and local communities in managing and conserving PGRFA on-farm through training and capacity building, access to and transfer of technologies, access to PGRFA and information, financial assistance and other technical support, including the following activities in several countries:[73]

- Four countries (Lesotho, Malawi, Namibia and Zimbabwe) indicated that support to farmers is provided through training and capacity building for farmers in seed selection, maintenance and conservation techniques, as well as providing access to materials in gene banks. Capacity-building activities are provided through extension approaches such as Farmers Field Schools, participatory varietal selection, plant variety enhancement (PVE) and other participatory mechanisms designed to engage farmers in research and development.
- Ten countries mentioned collaborative efforts with national and international research institutions, promoting access to germplasm materials, PVS, seed multiplication and market linkages to enhance agricultural production.[74]

[71] Chad, Eritrea, Eswatini, Ethiopia, Madagascar, Malawi, Mali, Namibia, Niger, Republic of the Congo, Uganda, Zambia, Zimbabwe.
[72] Chad, Ethiopia, Mali, Namibia, Niger, Uganda, Zambia.
[73] List of countries with submissions in the Inventory and Multistakeholders Respondents: Algeria, Benin, Burkina Faso, Burundi, Cameroon, Chad, Democratic Republic of the Congo, Ethiopia, Gabon, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mali, Morocco, Mozambique, Niger, Nigeria, Rwanda, Senegal, South Africa, Tanzania (United Republic of), Tunisia, Uganda, Zambia, Zimbabwe.
[74] Burkina Faso, Cameroon, Ethiopia, Kenya, Malawi, Mali, Morocco, Senegal, Uganda, Zambia.

- Ten countries cited community-based initiatives/farmer-led seed systems, such as the establishment of CSBs, seed lots, seed huts and seed fairs, as platforms for farmers to market their seeds and interact with each other. The establishment of CSBs allows farmers to produce seeds individually or collectively, market their seeds and continue the sustainable use of local crops.[75]
- In Madagascar, awareness-raising initiatives are designed to inform and educate rural farmers, enhance their capabilities, facilitate the introduction of wild relatives of crop plants into farming systems by strengthened agroforestry practices and promote local crop diversification.[76] Such initiatives are integrated within the framework of agricultural programmes/projects.
- Eight countries reported that many local initiatives are backed by CSOs, NGOs and international organizations, often with limited government support. These efforts include training and capacity building, helping farmers to access gene bank materials, market support, technical know-how, recognition and support to local knowledge exchange and promotion of agroecological approaches.[77]
- In Madagascar, *in situ* and on-farm conservation strategies are integrated within the framework of national agricultural programmes and projects, alongside the conservation of protected areas.

- *Facilitation of farmers' access to a diversity of PGRFA*

Community seed banks have emerged as a critical measure in at least 12 African countries to facilitate farmers' access to and exchange of germplasm, including traditional varieties and neglected and underutilized species.[78] For instance, in Uganda, a total of 43 CSBs and seed stores have been established across the national territory with support from NGOs, government and development partners. In Zimbabwe, over 20 CSBs located in different areas of the country support the saving, exchange and use of local indigenous germplasm. In Ethiopia, a programme of landrace conservation supports farming communities in their efforts to maintain plant diversity and produce food for their families. Around 30 CSBs and 24 crop conservation associations have been established in different regional states of the country, resulting in the restoration of more than 34 field and horticultural crop species from more than 61 varieties. These initiatives, mostly initiated by CSOs, NGOs and farmers themselves, are often supplemented by seed fairs, seed huts, diversity fairs or community-based seed production schemes to promote the dissemination and adoption of diverse varieties, as observed in seven countries,[79] although such fairs sometimes face sustainability challenges due to financial and logistical constraints, as in Eswatini.

- *Institutional and research support*

In addition to playing a key role in sourcing funding and distributing germplasm, sometimes from other countries, government institutions in Namibia, Uganda and Zimbabwe, notably national gene banks, agricultural extension services and research directorates, actively support farmers through targeted research and conservation programmes. In Malawi, Namibia and Uganda, on-farm conservation has been integrated into broader agricultural programmes, including the establishment of demonstration plots, diversity blocks and conservation agriculture projects to promote sustainable agricultural practices. Additionally, specialized research programmes in the United Republic of Tanzania focus on the conservation and sustainable use of underutilized and neglected crop species. In Tunisia, the implementation of a project funded by the Global Environmental Facility aims to promote the diversification of livelihoods in traditional oases, which are important centres of agricultural production and home to approximately 10 percent of the total population, through the distribution of new date palm and fruit varieties.

Box 5.2
Strengthening agricultural resilience and empowering farmers and local communities through CSBs

Community seed banks, seed houses, seed clubs, seed-saver networks and similar community-based initiatives are considered by farmers to be one of the most impactful measures for realizing Farmers' Rights. Such banks serve as repositories for local seed varieties, ensuring their conservation and availability to farmers. They provide good-quality

[75] Burundi, Cameroon, Lesotho, Mali, Namibia, Niger, Nigeria, South Africa, Uganda, Zimbabwe.
[76] Togo.
[77] Kenya, Madagascar, Mali, Niger, South Africa, Tanzania (United Republic of), Zambia, Zimbabwe.
[78] Burkina Faso, Eswatini, Ethiopia, Kenya, Lesotho, Malawi, Mali, Mauritius, Namibia, South Africa, Tanzania (United Republic of), Uganda, Zambia, Zimbabwe.
[79] Kenya, Lesotho, Malawi, Tanzania (United Republic of), Togo, Uganda, Zimbabwe.

seeds of a range of locally adapted crops and varieties that may not otherwise be easily accessible, catering to the preferences of farmers. It is important to note that women and men farmers often have differing preferences and needs regarding the crops and varieties they wish to grow. In this context, the role of CSBs, seed houses or seed lots is vital for the well-being of farming communities.

The CSB in Ejere, Ethiopia, attracts many visitors each year – both from within the country and beyond – who want to learn about its achievements and successes. Through the conservation and participatory improvement of local crop diversity, the CSB has significantly enhanced seed and food security, nutrition and livelihoods in the area. Launched in 1990 by USC Canada in collaboration with the then Plant Genetic Resources Centre in Ethiopia, the project was later taken over by the NGO Ethio-organic Seed Action, with support from Norway's Development Fund. Its objective is to promote sustainable climate change adaptation among farming communities by enhancing their capacity to sustainably manage, develop and utilize local agrobiodiversity as an adaptive mechanism to climate change. Key components of the programme include the reintroduction of traditional crops, conservation efforts, PVS to adapt promising crops to changing environmental conditions, quality seed production and distribution, seed fairs, training in advanced organic production methods and income-generating activities. The success of the CSB can be attributed to effective awareness-raising, competent supervision, thorough research prior to project planning, sufficient financial support over an extended period, and democratic and transparent organization with strong governance.

Smallholder farmers in Ethiopia face numerous challenges, with rapid climate change being one of the most serious. This has resulted in unpredictable seasonal fluctuations, droughts and previously unknown pests and diseases. Over the past decades, the Government has promoted high-yielding commercial varieties to boost food production for an ever-increasing population. However, these seeds and their associated external inputs, such as fertilizers and chemicals, have become increasingly expensive, with rising prices over time. Moreover, the production risks are high, as these improved varieties are often more susceptible to climate change, pests and diseases. The risk of losing crop harvests is significant, and even when farmers succeed, the economic benefits are diminishing due to escalating production costs. While about 10 to 15 years ago, authorities and extension services heavily promoted improved varieties, they have since recognized the real challenges farmers face, resulting in strong recognition of the Ejere CSB among local authorities. The CSB provides seeds of crops that are locally adapted to climate change and environmental challenges, offering high nutritional value and producing palatable straw for cattle. The yields for some varieties are relatively high, often making them more economical to grow due to lower input costs.

The CSB also serves as a platform for capacity building and joint action towards poverty alleviation, through improved seed and food security and enhanced livelihoods. The Ejere CSB is conserving 142 varieties of 15 local crops and has developed 9 new enhanced durum wheat varieties through PVS based on local varieties. It produces seeds of these varieties for its members, who in turn share seeds with their neighbours and relatives, ensuring that most people in the area can access them. Ejere is a region that is the origin of various crops, including wheat, barley and tef, and historically it had exceptional crop diversity, though much of it has since been lost due to the challenges described. Through the ongoing project, this diversity has been reintroduced and/or restored in Ejere, and continues to be maintained, adapted and developed to meet the needs of farmers and for nutritional purposes. The initiative has been remarkably successful in restoring diversity for the benefit of the community, significantly contributing to seed and food security and improved livelihoods among target farmers. As a result, farmers can now diversify their dietary sources, achieve better nutrition, meet household needs and enable their children to attend school for longer periods. The CSB functions as a platform for the conservation and sustainable use of crop genetic resources, as well as for securing food, improving livelihoods and empowering the community.

To scale out these achievements, Ethiopia was granted a project during the fourth cycle of the BSF to create a national platform for CSBs. The project aimed to support existing CSBs and networks of nearly 30 CSBs in various agroecological zones and to strengthen the informal seed system, which meets more than 90 percent of the country’s national seed demand. This initiative involved the participation of farmers, CSB leaders and both governmental and non-governmental organizations working on CSBs, including Ethio-organic Seed Action, MELCA-Ethiopia, ETHIOWET LAND and the then Bioversity International (now the Alliance of Bioversity International and CIAT).

As part of the project, training and experience-sharing workshops were organized in different regions of the country and at various CSBs. A total of 254 participants from different CSBs, along with 31 experts from cooperating stakeholders, local administrations and other organizations, were trained. Farmers’ varieties of 11 crop species were provided as seed capital for 5 newly established CSBs. These landraces are at risk of being lost at local level in farmers’ fields. The project purchased 2 007 kg of these seeds and distributed them through the community seed banks to crop-conserving farmers. Additionally, training was given on digital data collection for characterization activities to staff at the Crop and Horticulture Directorate of the Ethiopian Biodiversity Institute by the Institute’s Information and Communication Technology Directorate. A participatory on-farm farmer evaluation of essential traits for adaptation and resilience to climate change was conducted. From this evaluation, 101 landraces of different crop species, such as barley, durum wheat and oats – collected from the same locality over the past three decades and conserved in the gene bank at Addis Ababa – were selected and planted at the Awzet CSB.

In Kenya, the Seed Savers Association is a grassroot, not-for-profit organization focused on empowering Indigenous farming communities, comprising women, youth and men. Its structured approach aims to enable these communities to take effective leadership in agricultural biodiversity conservation, promote food sovereignty, protect Farmers' Rights and support sustainable agriculture. In its 12 years of existence, more than 60 000 small-scale farmers have been trained and empowered in crop diversification using locally available seeds and soil fertility amendments, developing biodiversity registries, documenting traditional knowledge, and raising awareness about farmer-managed seed systems established 100 community seed banks in different villages of Kenya, where each seed bank covers at least 600 people in a village. Through the various capacity-building activities for the farmers, they have saved more than 300 varieties of seeds that might have been lost. In addition, they have improved the food supply to more than 20 000 households, thereby reducing food insecurity while improving health through the consumption of more nutritious diets. Through these efforts, the association has reached more than 59 000 small-scale farmers, empowering them through training and by organizing local seed and food fairs and encouraging the revival of local crop cultivation. It has also established important connections with national gene banks, ensuring the preservation and back-up of vital seeds.

The outcomes of this work are significant: numerous farming villages have set up their own community seed banks. They have documented over 80 varieties and cultivars, including the nutritional analysis of 10 underutilized and high-value local varieties, all compiled into a comprehensive booklet. More than 100 varieties have been preserved in CSBs, enhancing diversity on farms and improving nutrition for the communities involved.

Community seed banks represent a fundamental tool for realizing Farmers' Rights. With different approaches across the regions, each CSB reflects unique experiences and insights, but overall many cases show that such initiatives can truly empower local communities and enable them to have the seeds they prefer for cultivation and at the same time conserve their local crop diversity. Numerous examples of CSBs can be found in countries in Africa, Asia, Latin America and the Caribbean, the Near East and Europe.

Sources: Extracted from the Inventory, submission from Ethiopia. FAO. 2025. Accessed 28 May 2025. https://glis.fao.org/glis/csures/inv-list; BSF Portfolio (BSF-Fourth Cycle, Ethiopia), Kenya, www.fao.org/plant-treaty/areas-of-work/benefit-sharing-fund/projects-funded-new/en/

- *Farmers' participation in agricultural innovation and research*

Farmers' active participation in agricultural research and innovation processes is explicitly encouraged by several countries for crop improvement, diversification and soil management, often supported by government and civil society partnerships.[80] For instance, in the Seychelles, the annual research programme includes the conservation of starchy crops and on-farm trials involving farmers and the Ministry of Agriculture. Participatory variety selection and farmer-managed seed development not only engage farmers directly in crop improvement, but also enhance the relevance of agricultural innovation to local conditions. In Eswatini, on-farm participatory characterization and the selection of 25 accessions of maize, sorghum, beans and cowpea have each been conducted in collaboration with a local NGO. In Lesotho, farmers' traditional knowledge and varieties have been integrated into scientific research, which have in turn created economic opportunities for farmers through purchase agreements for their varieties. Such participatory approaches contribute to the empowerment of farming communities and the conservation of genetic diversity on-farm.

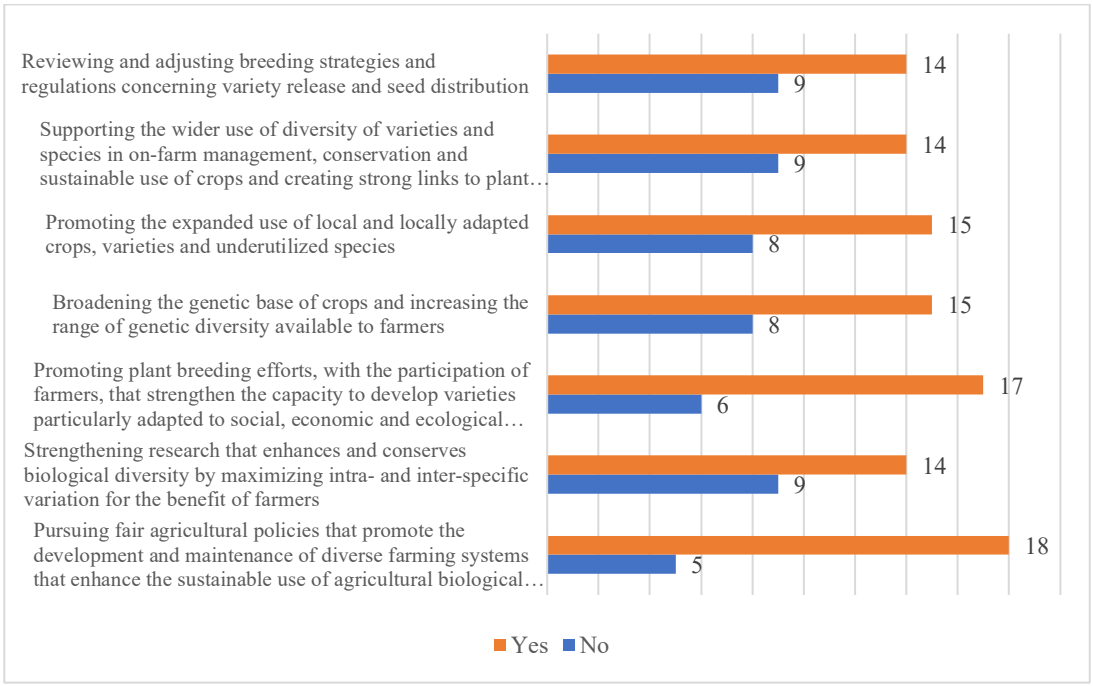
- *Participatory* in situ *conservation*

In Madagascar and Tunisia, *in situ* conservation of Crop Wild Relatives and Wild Food Plants is promoted and supported through community-based natural resource management, or through partnership agreements between the national gene bank, CSOs, NGOs, research institutions and farmers' cooperatives. These participatory initiatives seek to directly involve local communities and households in *in situ* conservation efforts.

B. Supporting the participation of farmers in sustainable use of PGRFA

Twenty reporting countries from Africa have taken policy and legal measures that promote the sustainable use of PGRFA.[81] Figure 5.6 provides examples of these measures and the extent to which they have been put in place.

Figure 5.6
Number of reporting countries from Africa (n = 23) with policy and legal measures in place for:



Source: Author's own elaboration

[80] Burkina Faso, Cameroon, Eswatini, Lesotho, Mali, Malawi, Namibia, Niger, Senegal, Seychelles, Uganda, Zambia.
[81] Burkina Faso, Cameroon, Chad, Eritrea, Ethiopia, Lesotho, Madagascar, Malawi, Mali, Morocco, Namibia, Niger, Republic of the Congo, Rwanda, Seychelles, Tanzania (United Republic of), Tunisia, Uganda, Zambia, Zimbabwe.

Various legal and policy frameworks have been developed to guide and support the sustainable use of PGRFA. Key measures include seed and PVP laws, policies and proclamations adopted by at least nine reporting countries to support participatory research, variety selection and farmer-driven breeding initiatives.[82] Additionally, 16 reporting countries have adopted or drafted national strategies and action plans specifically focused on PGRFA,[83] and/or broader biodiversity or environmental strategies and action plans, seed sector strategies, food security policies and agricultural development policies and programmes that promote ecosystem-based farming, agroecology, organic agriculture and mixed cropping systems.[84] These policies, strategies and action plans typically emphasize the sustainable utilization of local and traditional crop varieties and the diversification of farming systems, while supporting farmers' active involvement in the selection and multiplication of varieties adapted to local conditions for enhancing climate resilience, food security and sustainability in agricultural systems. At least nine countries link these efforts to forest and wildlife conservation, climate change or poverty reduction strategies and action plans, thereby acknowledging the multifunctional role of PGRFA.[85] However, implementation of these various measures, strategies and action plans remains uneven in several countries due to limited financial resources, institutional capacity and political will.[86]

- *Participatory research/plant breeding*

Participatory research and plant breeding are actively promoted in at least seven reporting countries.[87] These efforts involve collaboration between farmers and researchers in varietal selection and crop improvement processes that target important crops, including maize, rice, beans, wheat, sorghum, cassava, sweet potato, sesame, groundnut, coffee and cashew. In Burkina Faso and Uganda, participatory plant breeding is linked to climate adaptation goals and food security initiatives. In Lesotho, Malawi and Uganda, multistakeholder research initiatives prioritize farmer-preferred traits and integrate traditional knowledge into research and breeding programmes. The client-oriented research development and extension management approach and the Farmer Field School approach have emerged in the United Republic of Tanzania and Zimbabwe, respectively, as innovative ways of strengthening farmers' participation in agricultural research.[88]

While usually planned in national strategies, programmes and action plans, international partnerships and projects implemented under the BSF of the International Treaty have further enabled such activities in Burkina Faso, Ethiopia, Malawi and the United Republic of Tanzania by providing financial and technical support. In Uganda and the United Republic of Tanzania, strategic plans have called for enhancing the involvement of local communities, particularly women and youth, in research processes, although implementation challenges persist due to limited funding and institutional coordination.

- *Promoting the expanded use of local and locally adapted crops, varieties and underutilized species*

At least 14 reporting countries have adopted measures aimed at promoting the use of traditional and locally adapted varieties and underutilized species.[89] National catalogues,[90] CSBs,[91] farmer-led seed multiplication schemes,[92] awareness campaigns,[93] and the development of value chains focused on such crops[94] are among the tools employed to encourage the use of traditional crops and underutilized species. These efforts are often supported by policies emphasizing the need to map, register and make accessible such varieties, though the scope of recognition for farmer varieties remains limited in some legal systems.[95]

[82] Chad, Eritrea, Madagascar, Mali, Namibia, Rwanda, Tanzania (United Republic of), Uganda, Zambia.
[83] Madagascar, Malawi (draft finalized), Namibia, Zimbabwe.
[84] Burkina Faso, Eritrea, Ethiopia, Eswatini, Lesotho, Madagascar, Malawi, Mali, Mauritius, Namibia, Niger, Rwanda, Uganda, Zambia, Zimbabwe.
[85] Eritrea, Eswatini, Lesotho, Malawi, Namibia, Tanzania (United Republic of), Togo, Uganda, Zambia.
[86] Burkina Faso, Democratic Republic of the Congo, Malawi, Madagascar, Zambia, Zimbabwe.
[87] Burkina Faso, Ethiopia, Lesotho, Malawi, Tanzania (United Republic of), Uganda, Zambia.
[88] Responses to the multistakeholder survey and submissions in the Inventory shared the same information.
[89] Burkina Faso, Eswatini, Ethiopia, Lesotho, Madagascar, Malawi, Mali, Morocco, Namibia, Tunisia, Uganda, Tanzania (United Republic of), Zambia, Zimbabwe.
[90] Madagascar, Morocco, Namibia.
[91] Burkina Faso, Eswatini, Ethiopia, Malawi, Mali, Namibia, Uganda, Tanzania (United Republic of), Zambia, Zimbabwe.
[92] Lesotho, Malawi, Tanzania (United Republic of), Zimbabwe.
[93] Lesotho, Madagascar, Tunisia.
[94] Zimbabwe.
[95] Burkina Faso, Madagascar, Niger, Uganda, Tanzania (United Republic of), Zimbabwe.

In Madagascar, Malawi, the United Republic of Tanzania and Zimbabwe, government programmes have actively promoted traditional grains and legumes, often as part of broader strategies to diversify food systems and enhance nutrition. Examples include the development of nutritional studies and recipes incorporating PGRFA and national strategies that seek to increase the production and commercialization of neglected or underutilized crops, such as millet, sorghum and indigenous legumes. The promotion of indigenous crops is also supported through the registration of local varieties and the development of protected appellations in Morocco, Niger, Tunisia and the United Republic of Tanzania. However, in Cameroon and Uganda, the integration of these species into formal seed systems and markets is hampered by restrictive certification rules or lack of funding for registration and distinctness, uniformity and stability testing.

- *Market access and value-addition initiatives*

Efforts to improve market access for PGRFA products and to support value addition have been observed in the region through various national strategies. Four reporting countries, including Tunisia, Uganda, the United Republic of Tanzania and Zimbabwe, have launched crop-specific commercialization strategies aimed at developing value chains for underutilized and indigenous crops, thereby incentivizing farmers to maintain diverse agricultural systems. For example, in Zimbabwe, the Government has developed a Traditional Grains Strategy and a Legume Commercialization Strategy to promote the production and commercialization of neglected crops such as traditional grains (sorghum and millet) and legume crops (cowpea, groundnut, beans and sunflower). In Tunisia, the project Market Access for Agri-Food and Local Products, funded by the State Secretariat for Economic Affairs of the Swiss Confederation and implemented in 2013 by the United Nations Industrial Development Organization, aimed to improve the performance, market access and socioeconomic conditions within three value chains, including harissa (a chili product), figs and prickly pears.

In Morocco, certification schemes such as appellations of origin have been introduced to enhance market differentiation and value.[96] Madagascar and Uganda have supported the formation of farmer groups and cooperatives to enhance bargaining power and visibility in markets. In Namibia, the creation of an Economic Botany section under the National Botanical Research Institute also aims to promote value addition and sustainable use of the country’s indigenous plant resources.

One initiative is focused on enhancing farmers' access to quality seeds by developing market-oriented, pluralistic and dynamic seed sectors in Africa. This approach is aimed at creating demand-driven and inclusive interventions tailored to specific crops, value chains and seed systems. It involves promoting seed entrepreneurship, increasing access to public domain varieties, aligning global commitments with national realities and supporting seed sector development under the Comprehensive Africa Agriculture Development Programme and the African Union Agriculture, Seed and Biotechnology Programme. The community of practice provided a structure for experimenting, sharing and learning, enhancing collaboration and promoting synergy. There are various initiatives that focus on promoting access to seed indexes and forming partnerships aimed at increasing access to and use of quality seeds, which serve as a foundation for improving agricultural productivity piloted or supported in countries in West and Central Africa.[97]

C. Training, capacity building and awareness raising

Across Africa, various structured training, capacity-building and awareness-raising initiatives have been implemented by a range of stakeholders, including governments, gene banks, agricultural research institutions, regulatory authorities, CSOs, NGOs and international partners. Notable initiatives have involved extensive farmer training in areas such as on-farm management, seed production techniques, integrated pest and disease management, the establishment and management of CSBs and FFS, post-harvest handling, genetic enhancement and marketing.[98] For example, educational programmes and workshops, demonstration plots, field days, cross-site and cross-country visits and participation in agricultural shows have supported the development of capacities, promoted best practices and raised awareness about the importance of on-farm conservation and the value of local varieties and associated traditional knowledge among farmers, local

[96] At regional level, the Continental Strategy for Geographical Indications in Africa was adopted in 2017. Market development for products protected through a geographical indication is among the six outcomes of the Strategy.
[97] Integrated Seed Sector Development in Africa (ISSD-Africa) programme.
[98] Eritrea, Eswatini, Ethiopia, Madagascar, Namibia, Uganda, Zimbabwe.

communities and civil society in at least five reporting countries.[99] In Namibia, specific training in best practices for conservation agriculture has been provided to ensure the effective management of PGRFA on-farm. In Uganda, more than 10 000 farmers have received training in various aspects of on-farm management.

These educational initiatives, combined with farmer-to-farmer germplasm exchanges and participatory approaches in conservation practices and plant breeding, have contributed to enhancing farmers' capacities in at least 11 reporting countries.[100] Moreover, in five reporting countries,[101] capacity-building efforts have included international exposure through participation in seed fairs, diversity shows, agricultural exhibitions and cross-country exchanges, facilitating the sharing of experiences and best practices among farmers and stakeholders from diverse regions.

Community-based organizations and farmers' groups have also benefited from specialized training and institutional strengthening. In Eswatini, Ethiopia, Namibia and Uganda, activities have included registering farmer groups as official community-based organizations and enhancing their visibility and credibility, which subsequently attracts additional support from governmental and non-governmental partners.

Additionally, in Burkina Faso, Eswatini, Lesotho and Mali, awareness-raising efforts have included the organization of and participation in public education campaigns, local, regional and national agricultural shows, seed diversity fairs and field days.

5.1.3.3 Monetary benefits

In Madagascar and Uganda, the legal and policy frameworks incorporate provisions that aim to provide direct financial support or enable benefit-sharing from the use of PGRFA through the establishment of dedicated funds to sustain varietal development, conservation and quality control activities. For instance, Madagascar has set up a fund that supports the seed sector by allocating financial resources to ensure quality control and certification, providing monetary support that ultimately benefits farmers. In Uganda, the PVP Act provides for the establishment of a community gene fund to support the conservation and sustainable use of PGRFA, although this fund is yet to be fully operationalized. Financial mechanisms that channel benefit-sharing funds into projects aimed at supporting PPB and local seed conservation have also been introduced in Ethiopia.

Experiences and lessons learned

Multistakeholder survey responses about experiences and lessons learned in promoting the rights of farmers to participate in equitable sharing of benefits arising from the use of PGRFA were as follows:

- Respondents from Burkina Faso, Ethiopia, Madagascar and Nigeria reported that farmers participate in non-monetary benefits as recipients of projects, capacity building and training in on-farm and *in situ* management and conservation of PGRFA.
- A respondent from Kenya highlighted that raising awareness of key government officials and administrators about the significance of PGRFA is essential for shaping policies that incorporate ABS laws into national legislation.
- A respondent from Malawi stated that establishing ownership and origin helps to prevent disputes or counterclaims. Also, on-farm conservation with farmers has been pivotal in restoring lost diversity and increasing diversity in smallholder farms through PVS; however, limited resources prevent scaling out the conservation work.
- A respondent from Zambia indicated that farmers and local NGOs contribute to supporting Farmers' Rights through their activities, despite the obstacles presented by restrictive seed certification standards and privatization mechanisms, which limit their geographical scope and overall impact. The lack of robust legal protection for Farmers' Rights further hinders such efforts, meaning that

[99] Eswatini, Malawi, Namibia, Uganda, Zimbabwe.
[100] Burkina Faso, Eswatini, Ethiopia, Lesotho, Malawi, Namibia, Seychelles, Tanzania (United Republic of), Uganda, Zambia, Zimbabwe.
[101] Eswatini, Lesotho, Malawi, Namibia, Uganda.

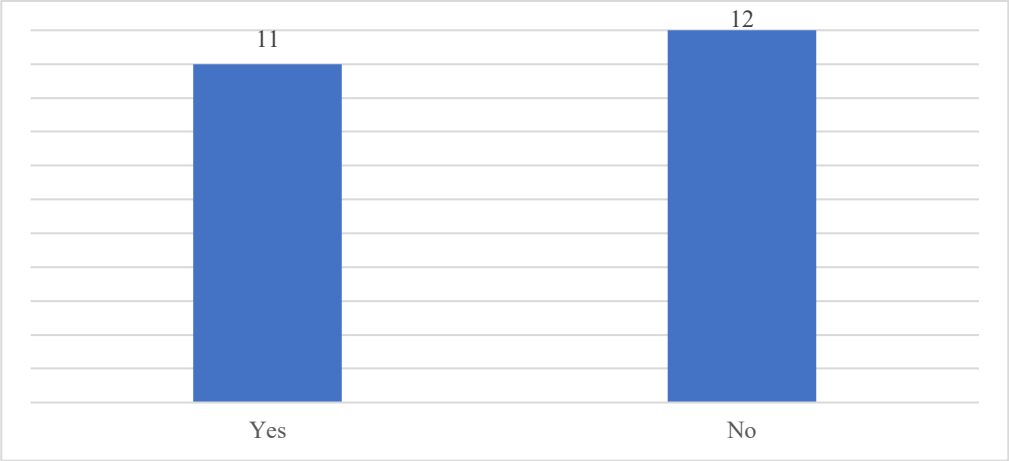
support for these remains underdeveloped, despite their demonstrated successes and the opportunities it offers.

- A respondent from South Africa discussed the challenges associated with ABS agreements related to indigenous teas such as rooibos and honeybush. These difficulties include determining how benefits should be shared and identifying which institutions can fairly represent the holders of traditional knowledge.
- A respondent from Uganda stated that farmers possess valuable knowledge regarding PGRFA, which is essential for developing and enhancing crop varieties capable of adapting to climate change.
- A respondent from South Africa cited the ABS regarding indigenous teas such as rooibos and honeybush, which have faced persistent challenges in determining equitable benefit-sharing arrangements and identifying appropriate institutions to represent Indigenous knowledge holders. Although ABS agreements have been reached, these negotiations continue to provoke disagreements among representatives of different Indigenous communities.

5.1.4 The right of farmers to participate in making decisions, at national level, on matters related to the conservation and sustainable use of PGRFA (Article 9.2c)

A total of 11 reporting countries from Africa[102] have taken measures to protect and promote the right of farmers to participate in making decisions, at national level, on matters related to the conservation and sustainable use of PGRFA.

Figure 5.7
Number of reporting countries from Africa (n = 23) that have taken measures to protect and promote the right of farmers to participate in decision-making



Source: Author's own elaboration

- Institutional mechanisms for farmers' participation

In the region, various institutional mechanisms have been established or are under way to facilitate the involvement of farmers in decision-making processes related to PGRFA conservation and development. National seed policies and biodiversity strategies in Madagascar, Namibia and Uganda have created dedicated structures or institutional bodies aimed at enhancing farmers' and local and Indigenous communities' role in the governance and management of genetic resources, including through community gene funds and committees for benefit-sharing. In Morocco, interprofessional federations of farmer representatives have been created for all the country's strategic agricultural sectors. These federations participate in the Steering Committees, which define the contract-programmes for the agricultural production sectors at the national level.

[102] Burkina Faso, Eritrea, Ethiopia, Lesotho, Malawi, Morocco, Namibia, Republic of the Congo, Tanzania (United Republic of), Uganda, Zambia.

- *Participatory governance structures*

In at least 11 reporting countries from Africa, participatory governance structures such as CSBs and local conservation associations have emerged as critical platforms enabling farmers and communities to engage meaningfully in resource governance while contributing to policy dialogues and strategic planning at local and national levels.[103] Efforts to enhance farmer participation in governance through structured registration and recognition of community-based organizations in Eswatini, Ethiopia, Namibia and Uganda have been beneficial in securing more robust and sustained community engagement, resulting in greater farmer empowerment and a stronger ability for them to participate in decision-making processes.

- *Community-based decision-making*

In Madagascar, community biodiversity registers and biocultural protocols have been developed with farmer groups and beneficiary communities, empowering communities to define and assert their terms of engagement when interacting with external actors such as researchers, companies or government authorities. Such mechanisms have been formally integrated into the regional and national administrative framework, thereby enhancing their legitimacy and enforceability, while ensuring that local governance of genetic resources is reflective of community priorities and knowledge systems. However, the formal legal recognition of community-based decision-making instruments remains limited, which inhibits their broader adoption and long-term sustainability.

Experiences and lessons learned

The following is a summary of the experiences and lessons learned, as provided by the multistakeholder survey responses:

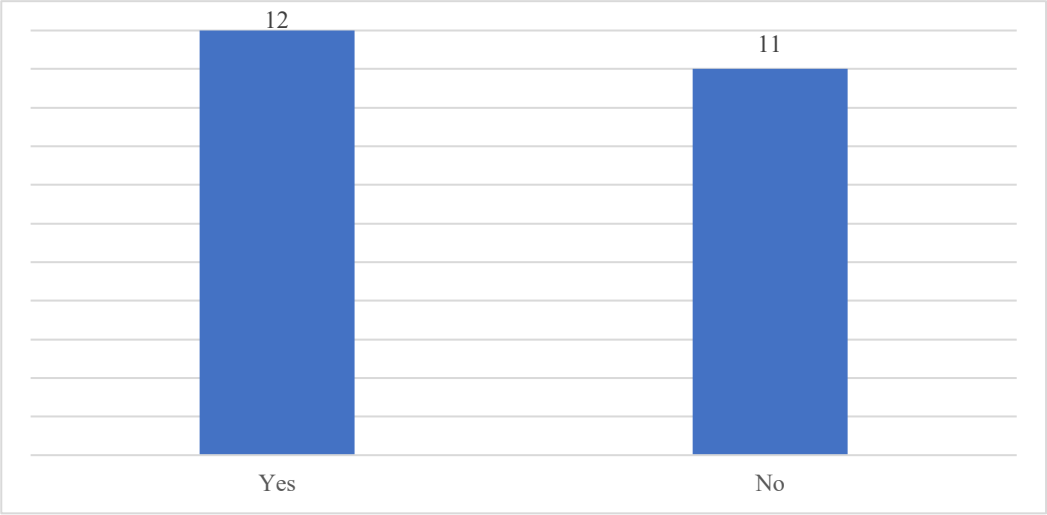
- Respondents from Cameroon, Lesotho, Mali, Uganda and Zimbabwe stressed the importance of empowering farmers through their participation in various fora, keeping farmers informed about developments and decisions made and enabling them to advocate for their rights related to PGRFA, share their knowledge and address issues with a broader audience. This participation allows farmers to influence decisions based on their perspectives and learn about global, regional and national outlooks. Additionally, farmers can exchange experiences with peers from different regions, which they subsequently share with their local communities.
- A respondent from South Africa mentioned that farmers have participated in public hearings concerning UPOV-aligned laws. Civil society organizations facilitated their involvement by making technical documents more accessible through information materials and workshops, and by advocating for public consultations. Despite these efforts, the Plant Breeders' Rights Act was enacted which provides exemptions to plant breeders' rights and plant improvement requirements, which may permit farmers to sell, exchange and save seed. The Government has expressed interest in developing a separate policy that would support farmer-led seed systems and Farmers' Rights, though such a policy has not yet been initiated.
- A respondent from Malawi reported that despite ongoing policy discussions, current laws often favour powerful seed industry players, thereby hindering the realization of Farmers' Rights.
- A respondent from Ghana underscored the need to provide continuous feedback and support to encourage the participation of under-represented groups, such as women farmers and farmers with disabilities, in discussions related to PGRFA.
- Respondents from Madagascar indicated that there are no measures in place to protect Farmers' Rights, or if there are, the measures are not adequate.
- A respondent from the Democratic Republic of the Congo stressed the importance of promoting awareness about the conservation and sustainable management of PGRFA among farmers; however, the respondent added that financial resources are needed.

[103] Burkina Faso, Ethiopia, Eswatini, Lesotho, Malawi, Mali, Namibia, Tanzania (United Republic of), Uganda, Zambia, Zimbabwe.

5.1.5 The rights of farmers to save, use, exchange and sell farm-saved seed, subject to national law and as appropriate (Article 9.3)

A total of 12 reporting countries from the region have taken measures to protect the rights of farmers to save, use, exchange and sell farm-saved seed.[104]

Figure 5.8
Number of reporting countries from Africa (n = 23) that have taken measures to protect the rights of farmers to save, use, exchange and sell farm-saved seed



Source: Author's own elaboration

- *Legal frameworks governing farm-saved seeds*

Four reporting African countries, including Chad, Ethiopia, Rwanda and Uganda have adopted seed and PVP laws, regulations and proclamations that recognize and protect farmers' rights to save, use, exchange and sell farm-saved seeds. In Uganda and the United Republic of Tanzania, farmer-managed seed systems are supported through the creation of a regulatory space for Quality Declared Seed or other flexible certification pathways. For instance, in Uganda, the seeds and plants regulations provide for a seed class that allows the participation of farmer groups in seed production to improve accessibility of quality seed by communities which may be located at too great a distance from the production seed sector. However, the implementation of these provisions is hindered in Ethiopia, Rwanda and Uganda due to limited capacities and competing regulatory interests.

Several countries are revising –[105] or recognize the need to revise –[106] national laws and policies to explicitly support the exchange and use of farm-saved seeds among farmers, aligning their domestic frameworks with the International Treaty. However, ongoing legislative revisions sometimes present risks to smallholder farmers by imposing stringent controls that favour formal seed systems, as in the United Republic of Tanzania, potentially undermining traditional seed exchange practices.

In addition, five countries report that they still prioritize the formal sector and lack legislative frameworks to protect and promote these rights.[107] In effect, at the regional level, the plant variety rights system implemented by the African Intellectual Property Organization (OAPI), in its 17 member States,[108] only allows farmers to save and use seeds on their own farms, but not to exchange and sell farm-saved seed/propagating material.[109] Similarly, the Arusha Protocol for the Protection of New Varieties of Plants of the African Regional Intellectual Property Organization, which has been ratified by Cabo Verde, Ghana,

[104] Burkina Faso, Eritrea, Ethiopia, Lesotho, Malawi, Namibia, Niger, Republic of the Congo, Rwanda, Tanzania (United Republic of), Uganda, Zimbabwe.
[105] Cameroon, Eritrea, Lesotho, Namibia, Tunisia.
[106] Burkina Faso, Eswatini, Madagascar, Mali, Tanzania (United Republic of), Zambia.
[107] Burkina Faso, Eswatini, Madagascar, Malawi, Zambia.
[108] Member States of the OAPI (17 countries): Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Equatorial Guinea, Gabon, Guinea, Guinea-Bissau, Mali, Mauritania, Niger, Senegal, Togo.
[109] Article 33 of the Bangui Agreement, Act of 14 December 2015.

Rwanda and São Tomé and Príncipe, only allows the saving and use of farm seeds. In addition, Regulation C/REG.4/05/08 on harmonization of the rules governing quality control, certification and marketing of plant seeds and seedlings in the ECOWAS region excludes farm-saved seeds from its scope and stipulates that only approved varieties listed in national or regional catalogues may be multiplied for certification, thereby implicitly excluding the sale of farm-saved seeds.

- *Institutional support and participatory initiatives*

Complementing legal measures, national strategies and action plans have been developed in five reporting countries to support the production of community or traditional seeds.[110]

- *Traditional farmer seed exchange platforms*

In Lesotho, Malawi, Mali, the United Republic of Tanzania and Zimbabwe, community-based initiatives such as seed fairs, seed huts, diversity fairs and other seed production schemes provide the main avenue for farmers to save, use, exchange and sell farm-saved seeds, while contributing to the dissemination and adoption of diverse varieties. These mechanisms provide a localized and accessible alternative to formal seed systems, although there is legal uncertainty surrounding such practices. For instance, in the United Republic of Tanzania, 95 percent of seed management is carried out by farmers, the rest being supplied by certified seeds sold on the market, which are generally more expensive and not easily available to many farmers in remote areas.

Experiences and lessons learned

The respondents in the region described their experiences and lessons learned, which are summarized as follows:

- A respondent from Kenya stated that policies are in place to assist farmers in the conservation and sustainable use of seeds.
- A respondent from Lesotho indicated that farmers are happy that their materials can compete with improved varieties in local and national markets.
- A respondent from Zimbabwe described FFS as an important extension approach. However, he also underscored the importance of technical support, collaboration with research institutions and capacity building of farmers and stakeholders at all levels on various PGRFA conservation and management practices. Accordingly, the FFS approach is a vehicle for farmers' capacity building, economic empowerment, knowledge-sharing and technology transfer. Participatory varietal selection and PVE in FFS are critical elements in creating sustainable community-based and farmer-managed seed systems.
- Respondents from seven countries described seed fairs as a platform for farmers to exchange and sell farm-saved seeds.[111]
- A respondent from Ghana noted that stakeholder consultations at different levels are essential for promoting and managing the expression of Farmers' Rights.
- A respondent from Burkina Faso mentioned that state support to farmer-led seed systems is limited and that implementation and technical support are mostly through projects.
- Respondents from Madagascar stated that, although no policy or legal measures are in place, selling and exchanges still occur at seed fairs, agricultural fairs and through other informal channels.

Cases where farmers have been taken to court, fined or otherwise sanctioned for saving, exchanging and/or selling seed/propagating material of varieties protected with plant breeder's rights or patents

[110] Lesotho, Madagascar, Niger, Uganda, Zimbabwe.
[111] Cameroon, Lesotho, Madagascar, Malawi, Mali, Zambia, Zimbabwe.

- A respondent from the United Republic of Tanzania mentioned that, although the sale of uncertified seeds is not criminalized, farmers are regularly confronted and prohibited by seed regulatory authorities from selling their seeds unless they are certified.
- A respondent from Niger indicated that the seed law adopted in 2014 provides for penalties, including imprisonment ranging from two months to two years and fines of between 20 000 and 1 000 000 CFA francs for those involved in the production, introduction or marketing of traditional seed varieties.
- A respondent from Zambia cited that, although specific details are unclear, farmers have reported being threatened with fines, and a proposed law would increase jail sentences to up to 10 years if enacted.

5.1.6 Gaps and needs with regard to the realization of Farmers' Rights

Table 5.1 displays the results of the multistakeholder survey about gaps and needs. The majority of respondents indicated having gaps and needs in the implementation of Farmers' Rights, while others indicated "no" or were "unsure".

Table 5.1
Multistakeholder responses on the gaps and needs with regard to the realization of Farmers' Rights

Gaps and needs	Number of responses		
	Yes	No	Not sure
Lack of national policy and legal measures to protect and promote the provisions of Article 9	39	7	5
Weak enforcement of existing relevant policy and legal measures that can protect and promote the provisions of Article 9	37	2	6
Lack of or inadequate support from public institutions	35	4	7
Lack of coordination between and among sectors	35	4	7
Conflicts between national/subnational and international policies	24	12	10

Source: Author's own elaboration

Additional responses offered by the respondents who answered on the gaps and needs with regard to the realization of Farmers' Rights:

- *Legal and policy frameworks*

- Across the region, legal and policy frameworks governing Farmers' Rights, seed laws and ABS are frequently incomplete, outdated or stalled in the legislative process due to delays in drafting regulations or limited political will, creating uncertainty for farmers and other stakeholders about their rights and obligations.[112]
- In several cases, seed laws restrict the sale or formal registration of traditional varieties, effectively constraining farmer-managed seed systems and affecting implementation of Article 9 of the International Treaty.[113]
- Even where broad biodiversity or agricultural policies provide for the recognition of traditional varieties or ABS measures, subsidiary regulations needed to operationalize benefit-sharing, variety catalogues, community-based registers, biocultural protocols or community gene funds remain pending or unenforced.[114]

[112] Burkina Faso, Cameroon, Eritrea, Ethiopia, Eswatini, Ghana, Lesotho, Madagascar, Namibia, Republic of the Congo, Rwanda, South Africa, Togo.
[113] Burkina Faso, Eswatini, Madagascar, Malawi, Zambia.
[114] Madagascar, Namibia, Uganda.

- *Institutional coordination*

- Weak horizontal and vertical links among ministries, research institutes and conservation agencies hamper coherent action, while specialized facilities such as national gene banks and characterization laboratories are missing or under-resourced in several countries.[115]
- Where institutional mandates do exist, overlapping responsibilities for access and benefit-sharing, seed certification and environmental management create duplication and delays in decision-making.[116]

- *Obstacles to supporting farmers' efforts in* in situ *and* on-farm *conservation and sustainable use*

- Despite significant efforts to conserve genetic resources through CSBs and on-farm diversity plots, African countries experience several barriers that hinder effective conservation.[117]
- Notably, many conservation initiatives suffer from inadequate infrastructure, insufficient technical expertise, limited long-term funding and lack of a framework to guide the operation of CSBs, reducing their viability and sustainability.[118]
- In addition, challenges in the systematic inventory, characterization and documentation of plant genetic resources persist, often linked to technical resource limitations.[119]
- Many farmers rely predominantly on informal seed systems, but policy frameworks tend to privilege formal seed systems, restricting farmers' access to traditional, locally adapted varieties.[120]
- Regulatory emphasis on certified seed and distinct-uniform-stable testing raises barriers for farmer-preferred varieties, especially where testing fees or laboratory capacity are insufficient, delaying variety release and discouraging local innovation.[121]
- Draft or revised seed acts increasingly acknowledge quality-declared seed and PVS, but sometimes still exclude traditional varieties or restrict farmer exchange and sale to limited classes or registered varieties, leaving informal networks legally insecure and reducing the incentives for farmers to maintain local genetic diversity.[122]
- Market incentives for underutilized crops remain weak, constraining diversification efforts, even when agronomic promotion programmes exist.[123]

- *Financial and human resources to support activities that protect and promote Farmers' Rights*

- Financial and human resource constraints pose substantial limitations across virtually all aspects of PGRFA management in almost all countries in Africa. Funding shortages impact conservation and use programmes, capacity-building efforts and the operationalization of CSBs and biodiversity conservation initiatives.
- Reliance on externally financed projects introduces discontinuity when grants end, undermining the sustainability of CSBs and on-farm conservation groups.[124]
- Human resource constraints, including limited technical expertise, inadequate training opportunities and staff shortages, exacerbate these challenges.[125]

- *Awareness-raising*

[115] Chad, Eritrea, Eswatini, Republic of the Congo.
[116] Cameroon, Tanzania (United Republic of), Uganda.
[117] Burkina Faso, Eswatini, Ethiopia, Madagascar, Namibia, Uganda, Zimbabwe.
[118] Cameroon, Chad, Eswatini, Ethiopia, Madagascar, Republic of the Congo, Uganda, Zimbabwe.
[119] Ethiopia, Uganda, Zimbabwe.
[120] Burkina Faso, Eswatini, Madagascar, Malawi, Zambia.
[121] Cameroon, Tanzania (United Republic of), Uganda.
[122] Burkina Faso, Eswatini, Madagascar, Malawi, Namibia, Tanzania (United Republic of), Uganda, Zambia.
[123] Morocco, Niger, Zimbabwe.
[124] Burkina Faso, Ethiopia, Madagascar.
[125] Eswatini, Lesotho, Madagascar, Malawi, Namibia, Uganda.

- Limited understanding of the International Treaty, benefit-sharing principles and Farmers' Rights persists among officials, researchers and rural communities, slowing the uptake of supportive measures.[126]
- Insufficient dissemination of information on Farmers' Rights, ABS, conservation methods and sustainable agricultural practices often leads to limited community engagement and inadequate adoption of beneficial measures.[127]
- Public outreach tools – such as diversity fairs, agricultural exhibits and school curricula – are employed intermittently and often curtailed by transport or budget constraints.[128]
- Measures and practices to promote the realization of Farmers' Rights, such as community seed banks, seed fairs, community-based biodiversity registries and biocultural protocols, are not recognized at regional level and remain limited to the village and communal level.[129]
- The absence of effective communication strategies reduces the impact of awareness-raising campaigns, limiting their reach and potential to facilitate behavioural change at the grassroots level.[130]

5.1.7 Measures or factors limiting the realization of Farmers' Rights

Within the region, 67 percent of the 82 respondents reported having encountered measures or factors that limit the realization of Farmers' Rights. The following section provides a summary of these limitations, as indicated by the respondents or drawn from submissions to the Inventory.[131] The stated limitations are as follows:

Lack of enabling legal and policy frameworks at local and national levels

- There is a lack of a specific legal framework on Farmers' Rights, as well as of political will and awareness among both farmers and other actors involved.[132]
- Restrictive seed laws and regulations do not consider the rights of farmers to PGRFA.[133]
- The biased policy and market environment towards the commercial seed sector, underpinned by privatization and strong intellectual property rights, fundamentally undermines efforts to promote the realization of Farmers' Rights.[134]
- Existing national seed policies promote the formal seed system, and exclude farmers' varieties from certification and sale.[135]
- Prevailing community regulations and laws favouring formal seed systems limit the rights of farmers to utilize traditional cultivars or farmers' varieties.[136]
- There is a lack of internal measures to implement international obligations, despite the signing and ratifying of international instruments.[137]

[126] Madagascar, Namibia, Niger, Tanzania (United Republic of).
[127] Madagascar, Niger, Republic of the Congo, Tanzania (United Republic of), Uganda.
[128] Eswatini, Lesotho, Malawi.
[129] Madagascar
[130] Namibia, Tanzania (United Republic of).
[131] Burkina Faso, Chad, Madagascar, Niger, Senegal, Zambia, Zimbabwe.
[132] Chad, Madagascar, Niger, Senegal.
[133] Burkina Faso, Chad, Niger.
[134] South Africa, Zambia.
[135] Niger.
[136] Burkina Faso, South Africa.
[137] Senegal.

Lack of sustainable funding resources

- There is limited access to resources to support farmers' participation in decision-making fora and for the implementation of activities for the conservation and sustainable use of PGRFA at national to local levels.[138]
- Government institutions or civil society organizations fund projects and activities, but mostly on an ad hoc basis.

Lack of awareness and understanding of Farmers' Rights and the importance of PGR

- The lack of understanding among farmers, policymakers and other actors about Farmers' Rights, the role of farmers in the conservation and sustainable use of PGRFA and the importance of local crops for food security and nutrition awareness results in insufficient political will.[139]

- Absence of women in decision-making related to PGRFA and gender-related factors that may limit the realization of Farmers' Rights

- Respondents noted that there is general recognition of the crucial role that women play in the management of seeds on farms and in agriculture, often making decisions that prioritize food security over commercial sales. Women are described as custodians of agrobiodiversity, with the work of selecting, saving and keeping good seeds being predominantly in their hands. However, responses gathered about the existence of gender-related factors that may limit the realization of Farmers' Rights highlight gender inequality in agriculture. According to the responses, there are customary norms that restrict women's effective participation in decision-making processes related to PGRFA, or limit their rights to land, food and agricultural production, including a lack of or limited access to financial resources, which hinders the crucial role of women in managing the seeds they produce.[140]

[138] Zimbabwe.
[139] Madagascar.
[140] Burundi, Democratic Republic of the Congo, Kenya, Malawi, Mali, Namibia, Senegal, South Africa, Uganda, Zimbabwe.

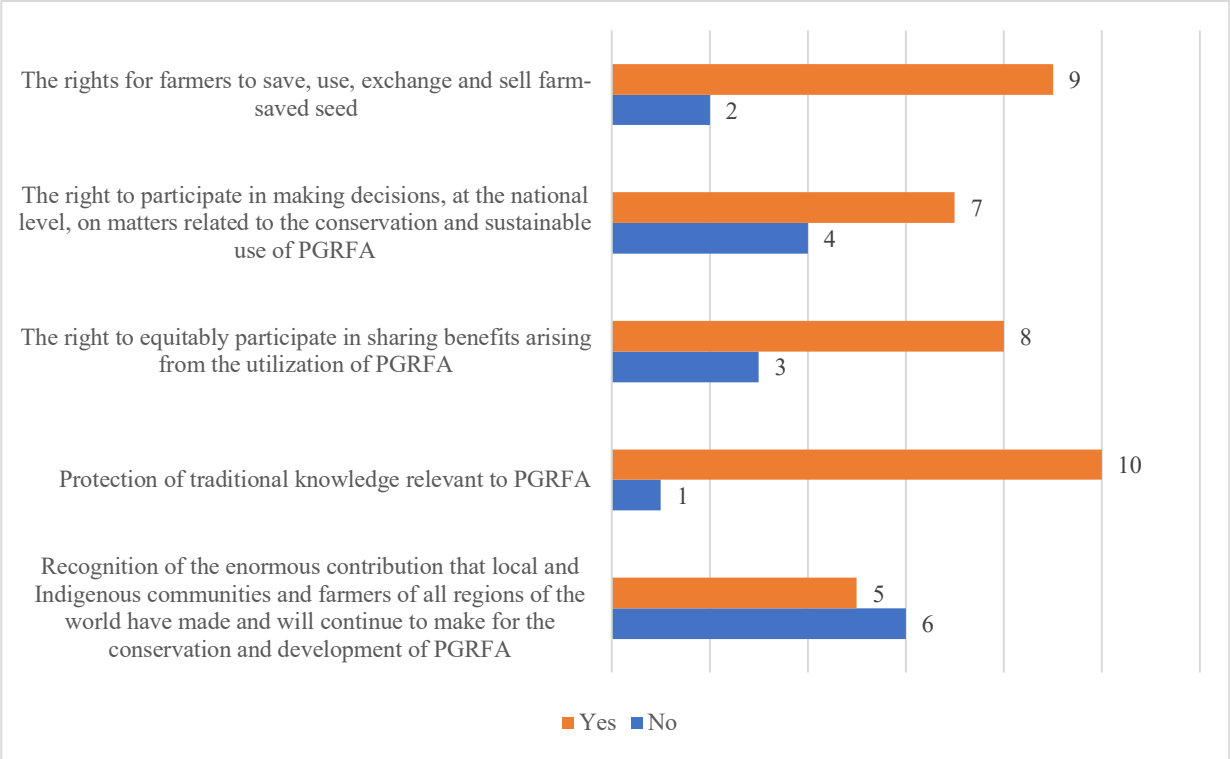
5.2 ASIA

There are 25 countries in Asia, including 17 that are Contracting Parties to the International Treaty and 1 that has signed, but not yet ratified it. By April 2025, a total of 11 countries from this region had submitted a national compliance report to the Secretariat of the International Treaty.[141]

The following summarizes the information found in the 11 national reports submitted to the Secretariat of the International Treaty, supplemented by information gathered from the multistakeholder survey (40 responses from 13 countries including 1 from a non-Contracting Party),[142] conducted by the Secretariat and the submissions from the Inventory (24 submissions from 8 countries).[143]

All 11 countries from Asia that submitted a national compliance report have taken measures to protect and promote Farmers' Rights, including with measures illustrated in Figure 5.9.

Figure 5.9
Number of reporting countries from Asia (n = 11) that have taken measures in relation to:



Source: Author's own elaboration

In this region, India has adopted a comprehensive, standalone law on Farmers' Rights: the Protection of Plant Varieties and Farmers' Rights Act – one of the first in the world. The law addresses the recognition of farmers' contribution to the conservation and use of PGRFA, their right to save, use, exchange and sell farm-saved seed, the protection of agricultural traditional knowledge and the establishment of benefit-sharing mechanisms and of a National Gene Fund. It is considered to be one of the most explicit and detailed legislations on Farmers' Rights anywhere in the world.

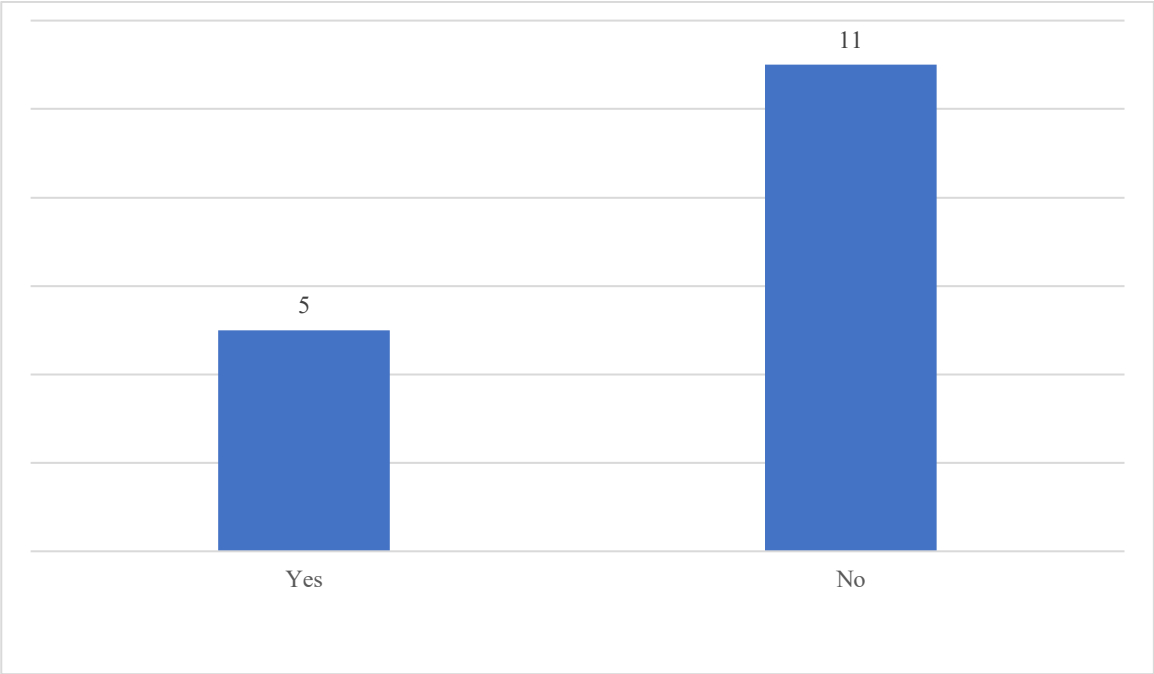
[141] Bangladesh, Bhutan, India, Indonesia, Japan, Lao PDR, Malaysia, Nepal, Pakistan, Philippines, Sri Lanka.
[142] Bangladesh, Bhutan, Cambodia, China,. India, Indonesia, Japan, Lao PDR, Malaysia, Nepal, Pakistan, Philippines, Sri Lanka.
[143] Bhutan, India, Indonesia, Japan, Lao PDR, Nepal, Philippines, Viet Nam.

PROVISIONS OF ARTICLE 9

5.2.1 Recognition of the enormous contribution of farmers and local and Indigenous communities to PGRFA conservation and development (Article 9.1)

Five reporting countries from Asia have taken measures to recognize the contribution of farmers and local and Indigenous communities to PGRFA conservation and development.[144]

Figure 5.10
Number of reporting countries from Asia (n = 11) that have taken measures to recognize the enormous contribution of farmers and local and Indigenous communities to PGRFA conservation and development



Source: Author's own elaboration

A few countries, including Bangladesh, Bhutan and the Philippines, have adopted biodiversity and agricultural policies that acknowledge and support the role of local and Indigenous communities in conserving and developing PGRFA. In addition, recognition systems for farmers, farming communities or farmers' organizations have been established in at least five reporting countries.[145] In Indonesia, genetic resources congresses are organized at national level every two years, during which farmers' awards are given to recognize their contributions to PGRFA conservation. Bhutan, India and Nepal organize recognition and awards events during biodiversity fairs, held on important national days.

These recognition systems are implemented through national initiatives, programmes and project activities that support farmers and farming communities in developing, managing, conserving and sustainably using PGRFA, primarily at national and local levels. The majority of the recognition systems for farmers and farming communities are established through legal or administrative measures, such as ministerial or interministerial administrative memoranda accompanied by implementing guidelines. The recognition system provides awards, plaques, cash prizes and sometimes incentives to recipients. The aim is to raise public awareness of the importance of conserving and sustainably using PGRFA and to encourage awardees and farmers to continue their efforts.

[144] Bangladesh, Bhutan, India, Nepal, Philippines.
[145] Bhutan, India, Indonesia, Nepal, Philippines.

Box 5.3
Realizing Farmers' Rights by acknowledging the enormous contributions of farmers, Indigenous Peoples and local communities to conserving and managing crop genetic diversity in the field

Around the world, measures have been developed by many countries to recognize and reward the invaluable contributions of farmers, Indigenous Peoples and local communities to conserving and managing crop diversity. This recognition takes many forms, including prizes, awards and the designation of agricultural and cultural heritage sites and biodiversity conservation areas. Awards are built upon clearly defined objectives and criteria that highlight specific achievements in conserving, developing and managing crop genetic resources. They manifest the expertise of farmers in conserving, developing and managing crop genetic resources. Accompanied by plaques, prizes and in-kind incentives, such recognitions are a way to promote, protect and realize Farmers' Rights.

A noteworthy example is India's Protection of Plant Varieties and Farmers' Rights Act of 2001 (PPV&FR), which serves as a pioneering measure to recognize and award individual farmers and farming communities. This act encompasses three awards: (1) the Plant Genome Saviour Community Award; (2) the Plant Genome Saviour Farmer Reward; and (3) the Plant Genome Saviour Farmer Recognition. From 2019 to 2022, the Government of India made a total of 163 recognitions. The measure not only recognizes and honours farmers and communities, but also supports the preservation of agricultural biodiversity, traditional knowledge and the cultural heritage tied to farming, thereby empowering farmers to continue cultivating locally adapted varieties.

The Biodiversity Act of Bhutan (2003) acknowledges and honours farmers by awarding them during biodiversity fairs on important national days. The awards underscore and promote the vital role of farmers in conserving local varieties and/or landraces. The awards or recognition aim to enshrine the fundamental value of genetic resources, not only for economic and environmental reasons, but also for preserving culture and traditions.

In Indonesia, since 2014, the National Commission on Genetic Resources has been making awards to farmers for their work in conserving local biodiversity. This stimulates farmers' enthusiasm for conservation activities, particularly for cultivating endangered and underutilized crops. Another initiative started in 2017, in East Java, to encourage and acknowledge farmers' participation in the conservation and use of local germplasm, including breeding activities. The award is for a farmer-breeder who has a high number of local varieties registered or developed. As a result, farmers' participation in collecting, conserving and using germplasm for breeding activities has increased.

The Government of Nepal, along with CSOs, has increasingly recognized the significant contributions of farmers and local and Indigenous communities to the management of agricultural biodiversity. More and more farmers have been recipients of awards such as the 'Innovative Farmer', the 'Farmer Breeder Excellence Award' and the 'Agrobiodiversity Champion Award'. Furthermore, in 2018, the Seed Quality Control Centre and the National Seed Board adopted a simplified format to accommodate the registration of farmers' varieties, following collaboration with National Agricultural Research Council (NARC), National Genebank, Local Initiatives for Biodiversity, Bioversity International, farmers' organizations and donors, who helped to simplify the application process.

Sources: Extracted from the Inventory, submission from India, Bhutan, Indonesia, Nepal. FAO. 2025. Accessed 28 May 2025. https://glis.fao.org/glis/csures/inv-list; https://libird.org/second-national-agrobiodiversity-week-2024/

Experiences and lessons learned

Based on the available information from the multistakeholder survey and the Inventory, the following is a summary of the experiences and lessons learned regarding measures introduced to recognize the contribution made by local and Indigenous communities and farmers to the conservation and development of PGRFA:

- In India, the PPV&FR Authority, under the provision of section 45 of the PPV&FR Act, 2001 Rule 70 (2) (a) PPV&FR Rules, 2003, has instituted awards, rewards and recognitions from the Gene Fund. These awards have created awareness among farmers and farming communities about the importance of the conservation and sustainable use of PGRFA. According to the respondent, many farmers have also commercialized their protected varieties, which has helped them not only to improve their livelihoods, but has also contributed to the sustainable use and conservation of their varieties.[146]
- Respondents cited several measures that were introduced/applied to recognize the contributions of local and Indigenous communities and farmers to the conservation and development of PGRFA. These initiatives included awarding individuals or farming communities, implementing geographical indications for specific crop products and providing technical support and capacity building.[147]

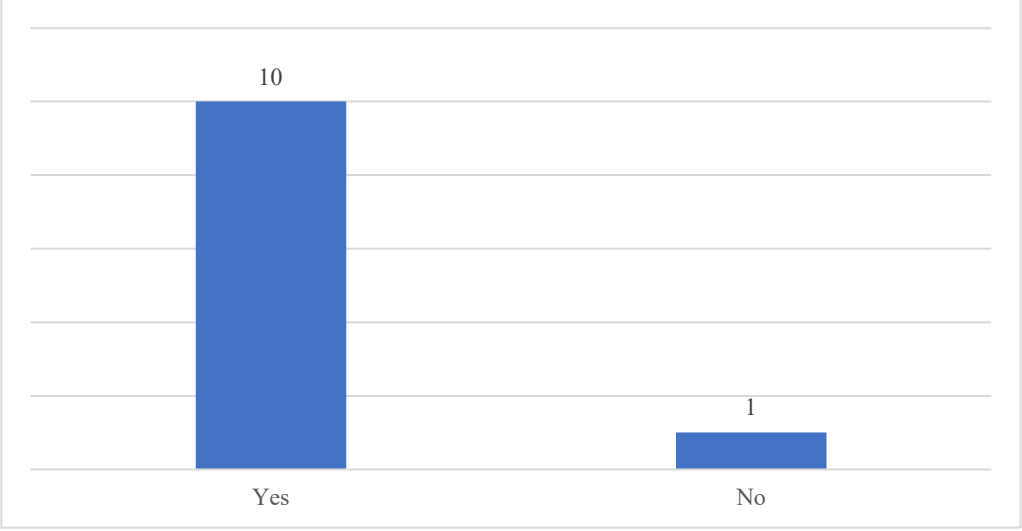
[146] Submission from India
[147] Bhutan, India, Indonesia, Nepal, Philippines.

- A respondent from the Philippines indicated that labelling farmers as ‘best farmers’ or custodians of agrobiodiversity and traditional knowledge is deemed insufficient. Farmers require genuine recognition and support for their crucial role in conserving and managing PGRFA.
- Respondents from India, Indonesia and the Philippines expressed their view that there are notable gaps in recognizing farmers' contributions to conservation, development and sustainable use of PGRFA. Respondents reported that capacity-building initiatives to support farmers are often ad hoc and primarily driven by CSOs, which typically operate with limited resources and capacity.
- Respondents mentioned that initiatives supporting farmers’ efforts to conserve and sustainably manage PGRFA through CSBs, seed fairs, PPB, FFS and by facilitating access to PGRFA through national gene banks have helped them to promote the realization of Farmers’ Rights.[148]
- Respondents stressed the importance of effectively supporting farmers' efforts in the conservation and development of PGRFA through sustained financial assistance, along with an enabling environment characterized by farmer-supportive seed policies and regulations.[149]
- Respondents reported their community-based conservation and sustainable use of PGRFA efforts such as CSBs, FFS, PPB, PVS, community biodiversity registers, diversity fairs and community biodiversity management funds to support farmers and farmers' organizations. They highlighted that these activities contribute to the realization of Farmers’ Rights; however, they need to be integrated into public policies and plans for broader impact and sustainability.[150]

5.2.2 The protection of traditional knowledge relevant to PGRFA (Article 9.2a)

A total of ten reporting countries from Asia have taken measures to protect traditional knowledge relevant to PGRFA.[151]

Figure 5.11
Number of reporting countries from Asia (n = 11) that have taken measures to protect traditional knowledge relevant to PGRFA



Source: Author's own elaboration

Legal instruments in several countries contain provisions that aim to protect traditional knowledge relevant to PGRFA.[152] These include ABS legislation, biodiversity acts and associated regulations that recognize community rights and provide frameworks for documenting and safeguarding community-held knowledge in

[148] Bhutan, India, Nepal, Philippines; Submissions from the Inventory provided by Indonesia, Lao PDR, Nepal, Philippines.
[149] India, Indonesia, Nepal, Philippines.
[150] Bangladesh, Indonesia, Nepal, Philippines.
[151] Bangladesh, Bhutan, India, Indonesia, Japan, Lao PDR, Malaysia, Nepal, Philippines, Sri Lanka.
[152] Bangladesh, Bhutan, India, Malaysia, Philippines.

line with the Nagoya Protocol. For instance, the Indigenous People's Rights Act of the Philippines reinforces the cultural and legal standing of indigenous traditional knowledge systems and practices.[153]

Complementing the legal measures, public institutions and civil society organizations in Bangladesh, India and Japan have launched important initiatives for the protection of traditional knowledge relevant to PGRFA. These include the establishment of a national database to inventory traditional knowledge associated with plant genetic resources, or record traits, uses and origins of farmers' landraces and traditional varieties, aiming to support conservation and breeding programmes. In Bhutan, India, Nepal and the Philippines, other community-based initiatives that help farmers to promote traditional knowledge relevant to PGRFA include producing community seed registers, catalogues of local varieties conserved in the CSBs, knowledge-sharing at biodiversity/seed fairs and various agricultural biodiversity events organized for and by farmers.

Experiences and lessons learned

The responses within the region provided valuable experience and lessons on safeguarding traditional knowledge relevant to PGRFA. These experiences are summarized as follows, in no particular order:

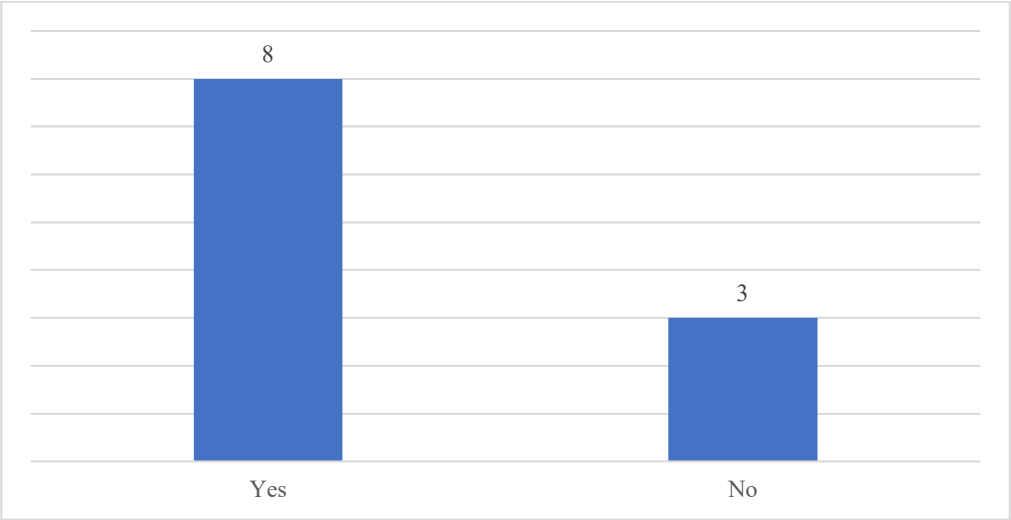
- Respondents from five countries in Asia highlighted the significance of safeguarding traditional knowledge related to PGRFA.[154] They pointed out the need for strong legal frameworks, financial resources, extensive awareness programmes to promote the importance of and documentation of traditional knowledge relevant to PGRFA and capacity-building efforts among farmers to protect traditional knowledge relevant to PGRFA.[155]
- Respondents from India cited the need for creating awareness about the benefits of registering farmers' varieties.
- The India's Traditional Knowledge Digital Library (TKDL) established in 2001 - addressing oral traditional knowledge goes beyond documentation; access, benefit-sharing, and ethics are equally crucial. India is in the process of drafting guidelines focused on three main principles: securing free and prior informed consent, recognizing community interests, and ensuring fair benefit-sharing. Acknowledging and respecting knowledge holders is vital, particularly in light of past oversights.
- A respondent from Nepal expressed positive views on the efforts made to promote the conservation and use of local crop diversity. The respondent indicated that various strategies, policies and plans have incorporated Farmers' Rights, although the act has not yet been approved. Additionally, a new Community Seed Bank Implementation Guideline is expected to be developed in 2025, which may support the promotion of Farmers' Rights. The respondent also reported that Nepal's seed regulation contains flexible provisions for registering local varieties. In addition to the plant variety protection and Farmers' Rights Acts, the general framework for ensuring Farmers' Rights in Nepal was described as favourable.
- Respondents from Malaysia noted that, although a law exists to protect traditional knowledge, it has not been implemented. However, some local governments are taking steps to enact legislation supporting the protection of traditional knowledge. Moreover, other responses from China, Nepal and the Philippines mentioned several initiatives undertaken by CSOs to systematically document traditional knowledge, such as the creation of community biodiversity registers and/or seed registries.
- Respondents from Bangladesh, Malaysia and Nepal described the erosion of traditional agricultural practices due to the conventional farming approach, hence advocating for the promotion of local knowledge over modern technologies, whose sustainability is not yet proven. In addition, the responses highlighted the existence of several capacity-building initiatives that promote the protection of traditional knowledge relevant to PGRFA, while also addressing the skills and knowledge of farmers and their organizations. According to the respondents from Bangladesh and Malaysia, many people are not aware of the importance of traditional knowledge and the conservation and sustainable use of PGRFA.

[153] Additionally, legislation that protects geographical indications also contributes to the protection of traditional knowledge.
[154] Bangladesh, India, Lao PDR, Malaysia, Nepal, Philippines.
[155] Bhutan, India, Indonesia, Nepal, Philippines.

5.2.3 The right of farmers to participate in benefit-sharing (Article 9.2b)

A total of eight reporting countries from Asia have taken measures to protect and promote the right of farmers to equitably participate in sharing benefits arising from the utilization of PGRFA.[156]

Figure 5.12
Number of reporting countries from Asia (n = 11) that have taken measures to protect the right of farmers to participate in benefit-sharing



Source: Author's own elaboration

5.2.3.1 Legal and policy frameworks on access and benefit-sharing

In six reporting countries from Asia, dedicated ABS legislation or policies provide the legal basis for equitable benefit-sharing from the use of genetic resources and associated knowledge in accordance with the Nagoya Protocol and the International Treaty.[157] In Bhutan and Indonesia, such legal and policy mechanisms also include procedural guidance for Material Transfer Agreements (MTAs). In addition, efforts are under way in Indonesia, Nepal and Pakistan to harmonize ABS mechanisms with existing biodiversity and seed legislation.[158]

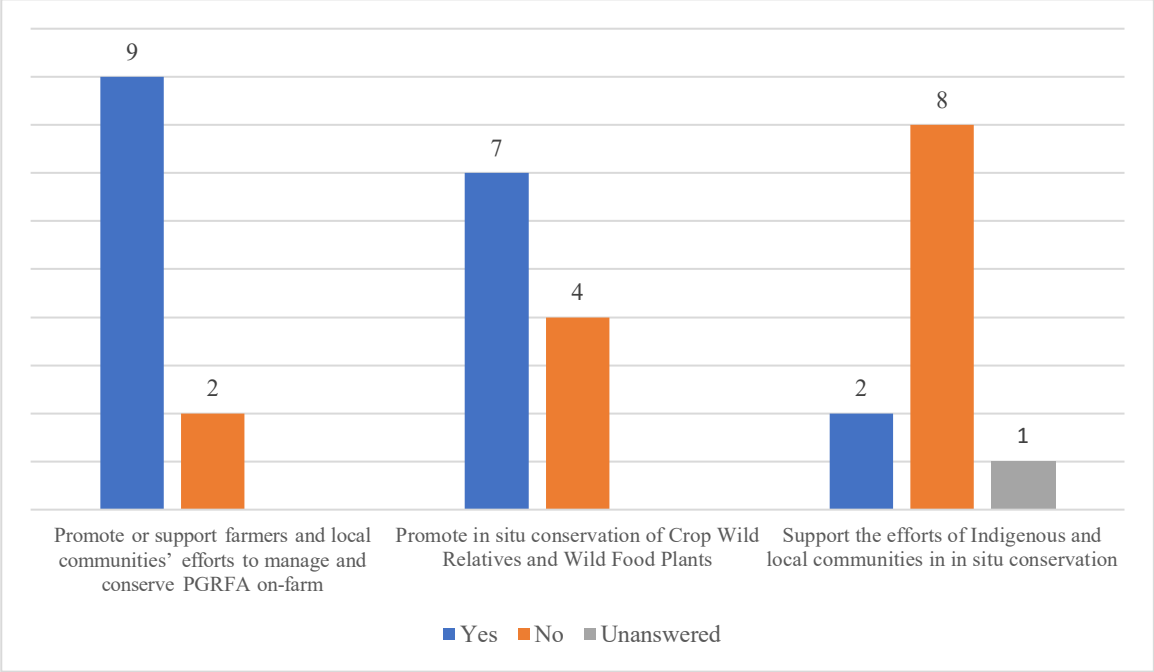
5.2.3.2 Non-monetary benefits

A. Supporting farmers and local communities' efforts to manage and conserve PGRFA on-farm and *in situ*

A total of nine reporting countries from this region have promoted or supported farmers' and local communities' efforts to manage and conserve PGRFA on-farm.[159] In addition, seven countries from Asia report having promoted *in situ* conservation of CWR and WFP.[160] However, while all seven countries have promoted *in situ* conservation in protected areas, only Bhutan, India and Sri Lanka report having also supported the efforts of Indigenous and local communities for *in situ* conservation.

[156] Bangladesh, Bhutan, India, Indonesia, Japan, Malaysia, Nepal, Sri Lanka.
[157] Bangladesh, Bhutan, India, Indonesia, Malaysia.
[158] It should also be noted that, at the regional level, the Association of Southeast Asian Nations developed a draft regional framework on ABS in 2005, prior to the Nagoya Protocol. However, this draft has not been finalized or formally adopted.
[159] Bhutan, India, Indonesia, Japan, Lao PDR, Malaysia, Nepal, Sri Lanka.
[160] Bhutan, India, Japan, Lao PDR, Malaysia, Nepal, Sri Lanka.

Figure 5.13
Number of reporting countries from Asia (n = 11) that have taken measures to:



At the policy level, strategic national action plans and biodiversity policies in six reporting countries have established legal and institutional frameworks that enable community participation in conservation initiatives.[161]

Other initiatives that directly support farmers include home gardening,[162] school nurseries,[163] community-based capacity development activities,[164] linking farmers to national gene banks,[165] technical committees with farmer representation,[166] PPB,[167] grassroots breeding,[168] CSB,[169] GIAHS designations that offer international and national recognition of traditional farming communities,[170] local variety registration,[171] technology transfer,[172] value addition,[173] and marketing support for PGRFA products and technical assistance and capacity building for on-farm conservation and sustainable use of PGRFA.[174]

- *Facilitation of farmers' access to a diversity of PGRFA*

Seed saving and exchanging, home gardening, CSBs and biodiversity/seed or crop fairs have been promoted in Bhutan, Indonesia, India, Nepal and the Philippines as effective strategies for preserving traditional varieties and enhancing farmers' access to a diversity of PGRFA. These approaches promote decentralized conservation, enhance seed sovereignty and serve as platforms for community-level education and seed exchange. Similarly, designated on-farm conservation sites and local gene banks managed by farming communities have been created in India, Sri Lanka and the Philippines to ensure continued access to diverse crop varieties.

[161] Bangladesh, Bhutan, India, Indonesia, Nepal, Sri Lanka.
[162] Bangladesh, Nepal.
[163] Bangladesh, Nepal, Philippines.
[164] Bhutan, India, Indonesia, Lao PDR, Nepal, Philippines, Viet Nam.
[165] Bhutan, India, Indonesia, Nepal, Philippines.
[166] Bhutan, India, Philippines.
[167] China, Malaysia, Nepal, Philippines, Viet Nam.
[168] Nepal.
[169] Bhutan, Lao PDR, Nepal, Philippines.
[170] China, India, Indonesia, Philippines.
[171] Nepal.
[172] China.
[173] Nepal, Philippines.
[174] Bhutan, India, Lao PDR, Malaysia, Nepal.

- *Institutional and research support*

Bhutan, India, Indonesia, Nepal and Japan have taken a proactive role in building institutional mechanisms for the conservation and promotion of farmers' varieties. A notable example is the creation of a national database created in Japan in 2018 to catalogue landraces and farmers' varieties, documenting traits, traditional uses and their status for conservation and breeding purposes. This approach not only contributes to conservation efforts, but also enhances the potential for benefit-sharing by increasing the accessibility and utility of genetic materials. In Bhutan, on-farm conservation was first initiated through collaboration with the NGO the Southeast Asia Regional Initiatives for Community Empowerment (SEARICE) in 2001, and later institutionalized as a subprogramme under the national biodiversity authority that was established as a non-departmental agency under the Ministry of Agriculture, ensuring continuity and national ownership. In India, under the PVP&FR Act, the National Gene Fund provides support to the conservation and sustainable use of PGRFA, including *in situ* and *ex situ* collections.

- *Community knowledge and participation in inventories, documentation and management*

In India, Japan, Nepal and the Philippines, conservation efforts have incorporated community knowledge and participation in inventories, registries and documentation of farmers' varieties/landraces, Wild Crop Relatives and Wild Food Plants, for instance citrus species, wild rice species and *Cajanus cajanifolius* species, a close relative of pigeon pea. Initiatives involving the identification and documentation of wild and semi-wild species, along with associated traditional uses and socioeconomic value, integrate community-held knowledge into formal conservation systems, laying the groundwork for more participatory and inclusive management. In Bhutan, community-based conservation models have been developed where community groups are explicitly formed to manage and sustainably harvest wild plants under localized by-laws, reinforcing both ecological stewardship and the socioeconomic role of communities in biodiversity management.

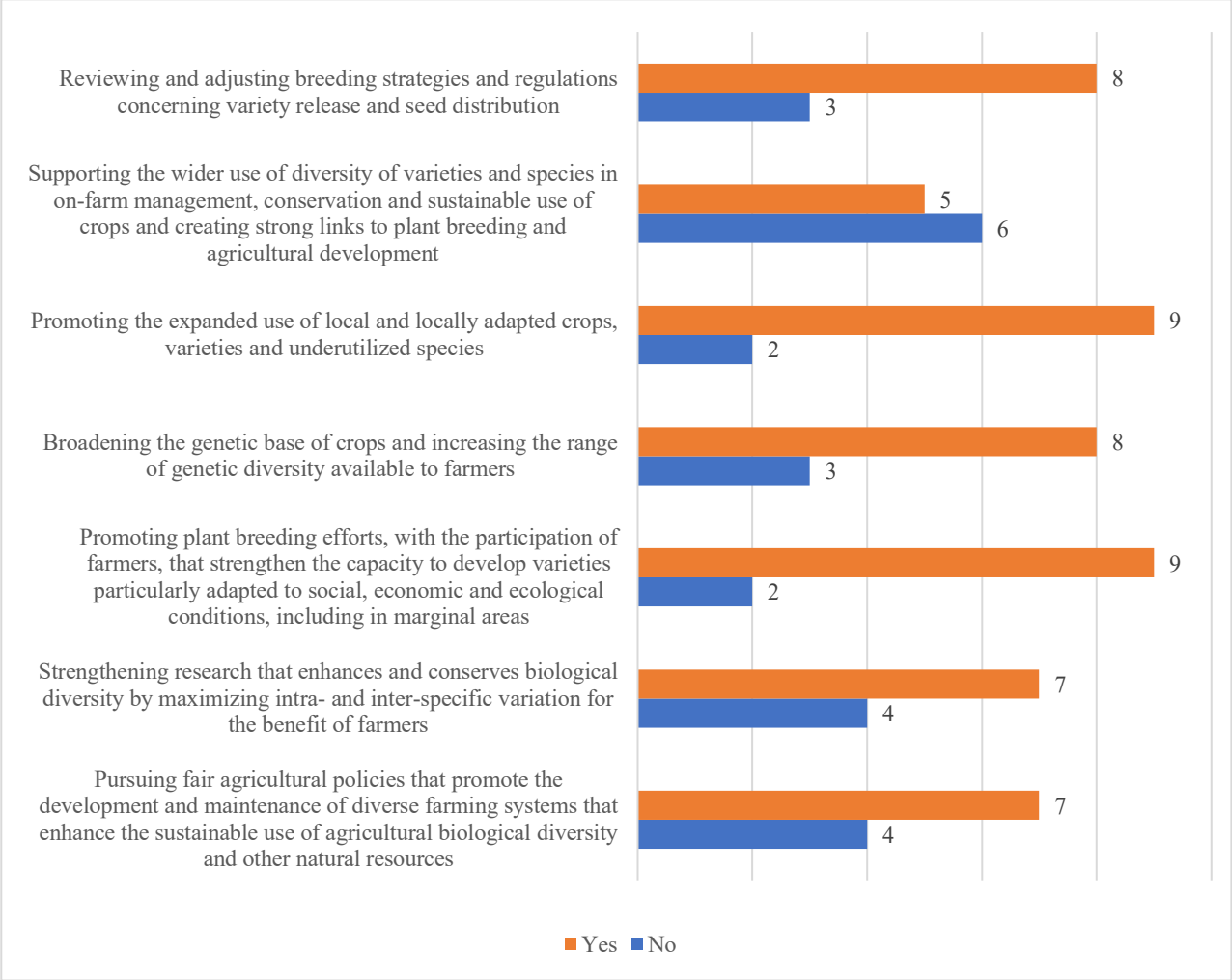
However, in some of these countries, including Bhutan and the Philippines, funding is lacking and no action plan or strategy to survey and inventory PGRFA has yet been developed, or efforts to identify and conserve CWR are still at a very early stage. Even in those countries where inventories and documentation of PGRFA have been carried out, the declining number of farmers due to the ageing of local farming communities has made the collection of local PGRFA a matter of urgency.

B. Supporting the participation of farmers in sustainable use of PGRFA

A majority of reporting countries from Asia (10 out of 11) have taken policy and legal measures to promote the sustainable use of PGRFA,[175] including with measures illustrated in Figure 5.14).

[175] Bangladesh, Bhutan, India, Indonesia, Japan, Malaysia, Nepal, Pakistan, Philippines, Sri Lanka.

Figure 5.14
Number of reporting countries from Asia (n = 11) with policy and legal measures in place for:



Source: Author's own elaboration

Such measures include laws and regulations that govern variety release, seed certification and the circulation of improved plant materials. Legal instruments adopted in Bhutan, India, Indonesia, Malaysia, Nepal and the Philippines have provisions for supporting farmers' participation and/or explicitly regulate access to genetic resources and ensure the involvement of farmers in plant breeding and seed systems, thereby supporting broader recognition of farmer innovations. For example, in Indonesia, agricultural policies and regulations promote wider use of local crops, including underutilized species, to strengthen food security and agricultural resilience. However, even with legal and policy measures in place, their implementation often faces challenges due to the lack of adequate human, technical and financial resources.

- *Participatory research/plant breeding*

Programmes have been implemented in Indonesia to strengthen farmers' participation in research and plant breeding, especially for the development of traditional varieties of fruit and other local crops. For instance, a project implemented under the BSF of the International Treaty has promoted PVS in ecologically sensitive areas such as swamplands, where local and improved varieties are tested and shared across borders.

Box 5.4
Empowering farmers through PPB

In 2000, the Southeast Asia Regional Initiatives for Community Empowerment (SEARICE), an NGO organization operating at the regional level, collaborated with the Agriculture Research Centre (ARC) of the National Agriculture and Forestry Research Institute and the Department of Agriculture in the Lao People's Democratic Republic to launch the Biodiversity Use and Conservation in Asia Program. This initiative later merged with another one called Community Biodiversity Development and Conservation, which was implemented from 2006 to 2010. The activities

focused on Farmer Field Schools specializing in rice breeding, where farmers and scientists from the ARC collaboratively defined breeding objectives and identified suitable parent materials. Researchers and extension agents received training as FFS facilitators, while policymakers from both local and national levels were actively involved in key activities to promote awareness and support for the farmers' work. As a result of this initiative, 55 high-performing rice varieties were developed, some of which demonstrated adaptation to specific conditions such as drought tolerance or acid soil resistance. One variety was officially released in 2018, while others are still undergoing the approval process.

Prior to this, rice farming at the programme site was limited to household consumption, with some communities experiencing hunger periods of three to four months. Through PPB, farmers developed 55 rice varieties with good performance, including drought-tolerant and acid sulphate soil-tolerant types. Some Indigenous communities in Luangprabang reported closing the three-month hunger gaps due to the benefits from these high-performing rice varieties. In addition, SEARICE farmer-partners started providing seeds, especially when government and commercial seed producers could not meet the seed demand during the planting season. The reliability of the developed rice varieties and seeds produced by farmers was evidenced during a disaster in the Lao People's Democratic Republic in 2008, when SEARICE farmer-partners supplied the required seeds after crops were damaged by floods and typhoons. Since then, farmers have gained government support by acquiring diverse segregating materials from ARC, receiving technical backstopping from researchers funded by the Government, and integrating PGRFA conservation and development into the extension system of four provinces, later expanded to seven. The varietal diversity of rice grown per community increased from 4 or 5 at the start of the project to 10 to 15 by the end-line assessment. Farmers involved in PPB interventions continue to develop varieties adapted to specific ecological conditions and extreme environmental conditions caused by climate change, making the communities resilient.

Through this PPB, eight drought-tolerant and a further eight flood-resistant varieties were developed. Some farmers started producing and selling high-quality seeds, leading to food sufficiency and higher incomes. More than 4 000 farmers have been trained in crop selection and breeding, with many continuing varietal selection from promising lines provided by ARC and farmer-breeders. More than 400 farmers are breeding crops in over 100 villages across 7 provinces, driven by increased interest in farming. Farmers also express pride and confidence after moving away from dependence on external seed sources.

Similar to other nations in Asia where SEARICE is implementing PPB, the efforts in the Lao People's Democratic Republic are aimed not only at conserving and developing PGRFA, but also at empowering farming communities, promoting and protecting their rights to their seeds. This empowerment enables farmers to recognize their inherent abilities and understand that they can secure their local seed systems independently, without relying on the government or private seed companies. This is particularly important in the Lao People's Democratic Republic, where formal seed systems provide only about 10 percent of the country's seed demand. This initiative has received strong support from both local and national government authorities in the Lao People's Democratic Republic due to their appreciation of farmers' contributions to the conservation and sustainable use of PGRFA.

Source: Extracted from the Inventory, submission from Lao People's Democratic Republic. FAO. 2025. Accessed 28 May 2025. https://glis.fao.org/glis/csures/inv-list.

- *Enhancement of local crops adapted to meet farmers' needs and local conditions*

In Bhutan, Indonesia, Nepal, the Philippines and Sri Lanka, activities such as farmer field fora, FFS, diversity fairs, PPB, farmer-breeder programmes, landrace enhancement (or grassroot breeding) and community-based varietal improvement are commonly promoted as a means of empowering smallholders and ensuring that PGRFA use responds to local needs and conditions. Additionally, Indonesia and Japan emphasize the role of national research organizations and CSOs in the sustainable use of PGRFA for adaptation, particularly through medium- and long-term breeding strategies. In Sri Lanka, a research programme has adopted breeding targets aimed at developing crop varieties that are tolerant to biotic and abiotic stresses, drawing on the diversity conserved in gene banks and community fields. However, financial and technical support remains limited in other countries such as Bangladesh and Bhutan.

- *Strengthening local food systems through traditional crop promotion*

Efforts to strengthen local food systems in Indonesia, Japan and Sri Lanka have emphasized the cultivation and use of traditional crop varieties as a means to support smallholder farmers and enhance food security and self-reliance in food production. In Indonesia, where subsistence farming is promoted as a strategy to maintain agrobiodiversity and ensure the resilience of rural livelihoods, local governments have encouraged the production of traditional vegetables, supporting local agricultural communities while contributing to preserving dietary diversity and cultural heritage.

In addition, external funding has supported countries in strengthening local food systems and building the capacities of farming communities in adaptive management and dynamic conservation of agricultural biodiversity, thereby ensuring the continued cultivation, sustainable use and on-farm conservation of traditional crop varieties.[176]

C. Training, capacity building and awareness-raising

Across the region, for instance in Bangladesh, Bhutan and Sri Lanka, farmers have benefited from agrobiodiversity management training, capacity-building and awareness-raising programmes, such as *in situ* conservation and biodiverse crop production, primarily funded by international institutions. Some CSOs have enabled farmers to develop essential skills for collecting – *in situ* and on-farm –conserving and rehabilitating traditional varieties and developing new ones through PPB and PVS. These activities are conducted through FFS. However, limited financial support, including from the government, remains a significant challenge to building farmers' capacities in at least three reporting countries including the Lao People's Democratic Republic, the Philippines and Viet Nam.

5.2.3.3 Monetary benefits

At least four reporting countries, namely Bangladesh, Bhutan, India and Malaysia, have ABS laws that provide for the sharing of monetary benefits derived from the commercial use of plant genetic resources and associated traditional knowledge. Although implementation varies, these laws establish legal mechanisms through which farmers may receive payments or royalties when their resources or knowledge are used.

Additionally, India has established a National Gene Fund to support benefit-sharing with farming communities and individuals who contribute to the conservation and sustainable use of genetic resources.

Experiences and lessons learned

Multistakeholder survey responses about experiences and lessons learned in promoting the rights of farmers to participate in the equitable sharing of benefits arising from the use of PGRFA are summarized as follows, in no particular order:

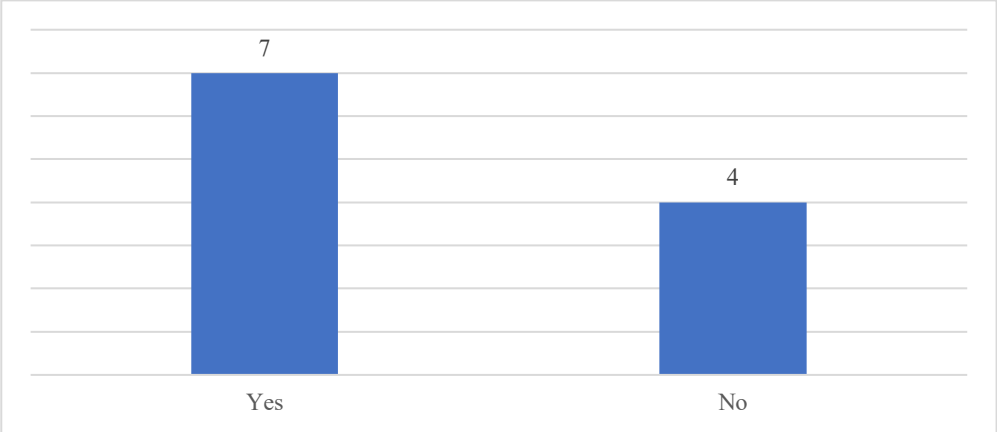
- In Malaysia, CSBs managed by farmers, along with participatory approaches and equitable participation, require continuous engagement with stakeholders, and sharing knowledge and crop genetic resources enables other farmers to increase their self-sufficiency level in rice.
- The respondent from Nepal noted that quantifying and monitoring benefit-sharing was challenging and emphasized the need for clear indicators and effective monitoring tools.
- In China, seed and food fairs represent effective and practical methods that enhance farmers' access to plant genetic resources from breeding institutes and gene banks. These initiatives merit recognition and should be supported through measures such as funding provisions, policy backing and technology transfer.
- In Nepal, there are legal provisions for the sustainable use of PGRFA with the involvement of farmers, but government policies favour modernization and commercialization of agriculture, leading to a loss of more than 50 percent of crop diversity and often neglecting the traditional knowledge of farming communities.

5.2.4 The right of farmers to participate in making decisions, at national level, on matters related to the conservation and sustainable use of PGRFA (Article 9.2c)

Seven reporting countries from Asia have adopted measures to protect the right of farmers to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of PGRFA.[177]

[176] For example, through the Global Environment Facility, such as in the case of India and the Philippines.
[177] Bangladesh, Bhutan, India, Indonesia, Japan, Nepal, Sri Lanka.

Figure 5.15
Number of reporting countries from Asia (n = 11) that have taken measures to protect and promote the right of farmers to participate in decision-making



Source: Author's own elaboration

In India, the PPV&FR Authority includes a designated seat for a representative from a farmers', tribal or women's organization involved in agriculture or working to protect farmers' interests. This representative also serves as a member of the Authority's standing committee.

Bangladesh, Bhutan and Japan mention the establishment of mechanisms to ensure farmers' representation in institutional processes and decision-making processes. In these contexts, farmers participate actively in national-level agricultural councils and policy discussions, contributing to decisions regarding food, rural development and agricultural inputs. This institutionalized involvement reinforces their agency in agricultural governance and ensures that their voices are reflected in national planning. However, implementation is often hindered by limited funding and weak institutional outreach. In Bhutan, for example, efforts to engage and empower farmers in biodiversity governance continue through consultations and training, but are constrained by financial and human resource limitations.

Additionally, in Bangladesh, Bhutan and Nepal, the revision of National Biodiversity Strategy and Action Plans, in line with the Convention on Biological Diversity, or the alignment of biodiversity policies with sectoral strategies, has led to the development or implementation of multilevel governance mechanisms. In Nepal, for instance, coordination committees are being merged or harmonized at provincial and local levels to enhance participatory governance. However, the extent and effectiveness of these participatory and governance arrangements require further information and study.

Experiences and lessons learned

The following is a summary of the experiences and lessons learned as provided by the multistakeholder survey responses:

- A respondent from China described the role of the Farmers' Seed Network, inviting farmers to express their views on their rights related to saving and exchanging their own seeds. This event brought together farmers and scientists to collaborate on a policy proposal submitted to the legislative department. The respondent reported that the multistakeholder dialogue served as a platform for farmers to stay informed about policy developments and ensure that their voices are heard.
- A respondent from Malaysia highlighted the importance of participation in decision-making bodies, which is crucial for implementing rules and regulations. A respondent described their experiences using events, such as seed fairs and consultation meetings, which were organized to discuss and formulate seed policies and decrees. Farmers in Cambodia, the Lao People's Democratic Republic and the Philippines actively participated in these meetings, sharing their valuable experiences on accessing, conserving and utilizing PGRFA. Farmers and other stakeholders are enriched with knowledge on PGRFA through training, meetings, exchange visits, festivals and farmer gatherings.

In Bangladesh, knowledge on seed management, multiple cropping, mixed cropping and relay cropping has been shared and replicated.

Box 5.5
Protecting plant varieties and Farmers' Rights for a secure seed system: An Indian perspective

India holds a prominent place as one of 17 mega-diverse countries and 12 global biodiversity hubs and is deeply rooted in a vibrant agricultural heritage. The nation's farming sector thrives with remarkable diversity, influenced by a wide array of climates, soils and ecosystems, and it sustains nearly half of its population.

Historically vulnerable to the pressures of natural resource depletion and unpredictable weather, Indian agriculture has transformed dramatically since independence, evolving from a struggle with food shortages to achieving surplus and export capabilities. The challenges faced in the 1950s – ranging from rapid population growth and climate change to limited resources and agricultural expertise – were daunting. Alongside malnutrition, health issues, inadequate rural infrastructure and cycles of drought and famine, these issues necessitated the importation of food grains.

However, the tide began to turn in the 1960s, propelled by visionary government initiatives and investments that sparked several agricultural revolutions. These pivotal actions not only enhanced domestic food production, but also laid the groundwork for sustained agricultural development. The Agricultural Revolution in India showcases remarkable advancements, driven by innovative strategies, modern tools and technologies and the effective harnessing of the nation's vast biodiversity and genetic resources through gene banks and farmers' fields.

At the heart of this transformative progress is the Protection of Plant Varieties and Farmers' Rights Act (PPV&FRA) of 2001. This groundbreaking legislation aims to: provide an effective system for the protection of crop varieties and the rights of plant breeders and farmers to promote crop variety development; stimulate investment in research and development both in the public and private sectors; and facilitate the growth of the seed industry in the country to ensure high-quality seed material for farmers. More than just a legal framework, the Act specifies the rights of a farmer as a researcher, farmer and plant breeder.

The PPV&FRA champions Farmers' Rights, extending beyond individual entitlements to embrace collective community rights. A standout feature of this Act is compulsory licensing, designed to guarantee that all farmers have fair access to essential agricultural advancements. It also includes vital provisions for fee exemptions and protection against unintentional infringement. Importantly, farmers who breed or develop new plant varieties receive registration rights equal to those of professional breeders, thereby formally recognizing their invaluable contributions to agricultural biodiversity. When a farmer selects a variety from traditional crops, it is classified as a farmer's variety. This designation recognizes and protects the traditional knowledge and practices that have been passed down through generations.

In contrast, a new variety created through hybridization and careful management of breeding materials is referred to as a new variety. The Act requires prior authorization for the commercialization of essentially derived varieties and ensures that farmers have access to seeds. The Act actively encourages the registration of new varieties by providing legal recognition and protection for agricultural innovations. Specific incentives and rewards are directed towards tribal and rural communities involved in the conservation, enhancement and preservation of economically important plants and their wild relatives, especially within agrobiodiversity hotspots.

Currently, the PPVFRA has registered a remarkable proportion of farmers' varieties, representing nearly 40 percent of all registrations granted. Numerous cases showcase the formal recognition and support of Farmers' Rights regarding crop genetic resources, highlighting the importance of informal seed systems and community seed banks.

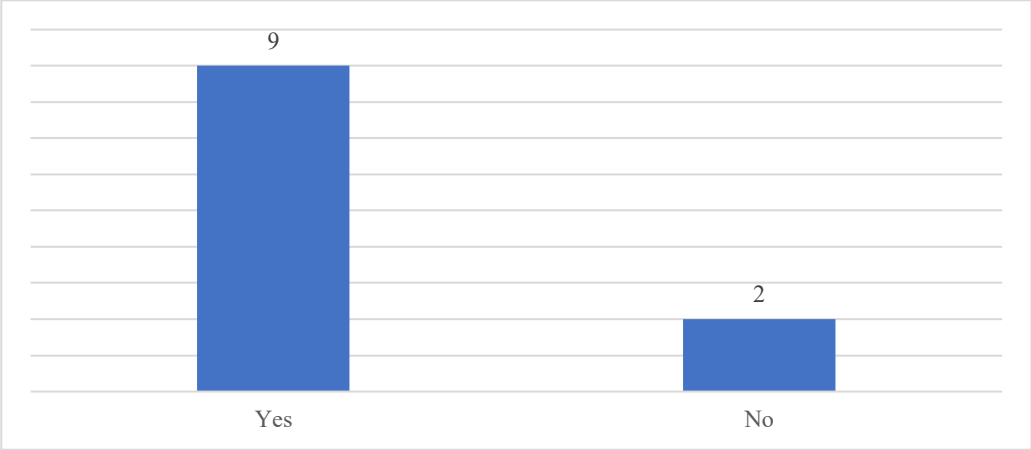
Source: Extracted from the plenary lecture of Trilochan Mohapatra, Chairperson, Protection of Plant Varieties and Farmers' Rights Authority, India. *Proceedings of the Global Symposium on Farmers' Rights.* FAO. 2025.

5.2.5 The rights of farmers to save, use, exchange and sell farm-saved seed, subject to national law and as appropriate (Article 9.3)

Nine reporting countries from Asia have taken measures to protect the rights of farmers to save, use, exchange and sell farm-saved seed.[178]

[178] Bangladesh, Bhutan, India, Indonesia, Malaysia, Nepal, Pakistan, Philippines, Sri Lanka.

Figure 5.16
Number of reporting countries from Asia (n = 11) that have taken measures to protect the rights of farmers to save, use, exchange and sell farm-saved seed



Source: Author's own elaboration

- *Legal frameworks governing farm-saved seeds*

Seed laws and PVP legislation across Asia reflect varying degrees of recognition of the rights of farmers to save, use, exchange and sell farm-saved seed. At least six countries from the region have enacted or proposed seed laws and PVP legislation that recognize the rights of farmers to continue cultivation of traditional crops;[179] some countries, including Bhutan, Pakistan, the Philippines and Sri Lanka, are in the process of updating or harmonizing their laws to ensure conformity with the International Treaty.

- *Traditional farmer seed exchange platforms*

As in other regions, responses to the multistakeholder survey and submissions to the Inventory cited examples of farmers who continue to exchange and share seeds through community-based initiatives, such as seed and farmers' markets, CSBs and direct farmer-to-farmer seed exchanges.[180]

Experiences and lessons learned

The experiences and lessons learned in Asia highlighted the significance of community initiatives, education, policy support and financial backing in advancing farmer-managed seed systems. The responses also identified legal obstacles and emphasized the necessity for a supportive policy framework. The experiences and lessons learned include the following:

- Respondents from Bhutan, India and the Philippines highlighted the importance of building the capacities of farmers, as well as community-based initiatives, such as seed fairs, farmers' field days and CSBs as vital support for promoting seed conservation and exchanges between and among farmers. However, according to the respondents, these initiatives often lack support from the government and are mostly facilitated by CSOs.
- Respondents from six countries stressed the need for awareness-raising and enhancing understanding of the importance of local PGRFA and the need for sustainable financing for the sustainable use of PGRFA and the implementation of Farmers' Rights.[181]
- Respondents from Indonesia, the Lao People's Democratic Republic, Malaysia and the Philippines noted that most initiatives promoting the implementation of Farmers' Rights are predominantly project-based. Consequently, they emphasized the necessity for sustainable funding and ongoing support for community-based and farmer-led or managed seed systems, such as CSBs, seed fairs and other platforms that facilitate traditional farmer-to-farmer seed exchanges.

[179] Bangladesh, India, Indonesia, Japan, Malaysia and Philippines.
[180] Respondents from Bhutan, Cambodia, India, Indonesia, Nepal, Philippines, Thailand, Viet Nam.
[181] Bangladesh, India, Indonesia, Lao PDR, Malaysia, Philippines.

- A respondent from China indicated that grassroots actions and measures, such as CSBs and seed fairs, should be recognized and incorporated into local policymaking to benefit farmers directly.
- According to respondents from Nepal, farmers' varieties should be considered private goods, and marketing of any items that farmers produce should be allowed.
- Respondents from India, the Lao People's Democratic Republic, Nepal and the Philippines stressed the importance of local varieties and adaptation to extreme climatic conditions.
- Respondents from Indonesia underscored the issue of legal barriers, for instance when farmers face obstacles due to the implementation of laws such as the PVP Act, the Plant Cultivation System and Sustainable Agricultural Farming System. According to the respondents, there are cases where farmers have been sued and jailed due to these laws, which are seen as setbacks.
- Respondents from India emphasized the need to develop clear guidelines for verifying the ownership of farmers' varieties, noting that most of such varieties belong to communities rather than individual farmers. They also suggested that testing requirements should incorporate relaxations regarding uniformity, as farmers' varieties often contain mixtures. In addition, they recommended that farmers be granted protection without being required to pay any fees, either at the time of registration, or subsequent annual or renewal fees.
- A respondent from Japan indicated that nearly 90 percent of major crop varieties, including vegetables, rice, potatoes and fruits, are from the public domain. This allows farmers to save, use and sell these varieties without restrictions. The PVP system in this country had produced over 30 000 varieties as of 2024, with 23 000 entering the public domain. This system has significantly contributed to the country's high-quality agricultural outputs. Without the backbone of a good PVP system, agricultural society would not have received the benefits and diversity of varieties that it enjoys today.

Cases where farmers have been taken to court, fined or otherwise sanctioned for saving, exchanging and/or selling seed/propagating material of varieties protected with plant breeder's rights or patents

- A respondent from India cited the case of farmers and the PEPSICO company. The company filed a case against farmers in Gujarat for illegally growing its potato variety, which is registered for 'Lays' chips. After discussions with the Government, the company withdrew the case against the farmers.
- A respondent from Indonesia indicated that, between 2004 and 2010, farmers in Indonesia were accused of: (i) cultivation without permission; (ii) purposely distributed or sell seed without going through seed certification; (iii) selling maize seeds, engaging in local seed business, and (iv) distributing seeds without label/trading maize seeds in plastic packaging without label attached. [182]

5.2.6 Gaps and needs with regard to the realization of Farmers' Rights

Table 5.2 presents the responses of the multistakeholder survey regarding identified gaps and needs. The majority of respondents reported experiencing challenges in the implementation of Farmers' Rights, though the nature and extent of these challenges varied. Notably, many highlighted insufficient or inadequate support from public institutions, a lack of coordination across sectors and weak enforcement of existing relevant policy and legal measures. Some respondents, however, indicated that they did not perceive such gaps, or were uncertain about their existence.

[182] References provided by the respondent: https://research.wur.nl/en/publications/clashes-between-formal-and-informal-seed-systems-a-case-study-of-

Table 5.2
Multistakeholder responses on the gaps and needs with regard to the realization of Farmers' Rights

Gaps and needs	Number of responses		
	Yes	No	Not sure
Lack of national policy and legal measures to protect and promote the provisions of Article 9	18	8	7
Weak enforcement of existing relevant policy and legal measures that can protect and promote the provisions of Article 9	25	2	5
Lack of or inadequate support from public institutions	28	5	0
Lack of coordination between and among sectors	27	3	3
Conflicts between national/subnational and international policies	12	9	10

Source: Author's own elaboration

Additional responses offered by the respondents who answered on the gaps and needs with regard to the realization of Farmers' Rights

- *Legal and policy frameworks*

- Existing national laws require harmonization or updating to ensure coherence with Article 9 of the International Treaty, particularly in the areas of the rights for farmers to save, use, exchange and sell farm-saved seed and the protection of traditional knowledge.[183]
- Although legal frameworks exist to support the promotion of Farmers' Rights, enforcement remains a significant challenge.[184]

- *Institutional coordination*

- There is a lack of coordination between and among sectors (e.g. agriculture, environment, forestry, commerce/industry) for the implementation of programmes at national level.[185]
- National programmes on conservation and sustainable use of PGRFA frequently operate in isolation, with limited integration into broader agricultural or rural development agendas.[186]

- *Obstacles to support farmers' efforts in* in situ *and on-farm conservation and sustainable use*

- Low priority is given to the threat assessment of CWR.[187]
- Taxonomic expertise, particularly for CWR and landraces, is limited, affecting germplasm collection and monitoring.[188]
- Declining farming populations, driven by ageing rural communities and rural-urban migration, reduce local capacity to maintain agrobiodiversity, while making collection of local PGRFA a matter of urgency.[189]
- Logistical challenges and poor infrastructure constrain seed access, especially in remote and mountainous regions.[190]

- *Financial and human resources to support activities that protect and promote Farmers' Rights*

[183] Indonesia, Nepal, Pakistan, Philippines.
[184] Bangladesh, Cambodia, China, India, Indonesia, Malaysia, Nepal, Pakistan, Philippines.
[185] Bangladesh, Bhutan, Cambodia, Pakistan, Philippines.
[186] Bangladesh, India, Nepal, Philippines.
[187] Nepal.
[188] India.
[189] Bhutan, India.
[190] Malaysia, Philippines.

- Many initiatives aimed at empowering farmers – particularly those involving conservation activities and training focused on underutilized crops and traditional varieties – rely on external funding and are therefore vulnerable to discontinuation.[191]
- National programmes often lack sufficient budget allocations for long-term *in situ* and on-farm conservation.[192]

5.2.7 Measures or factors limiting the realization of Farmers' Rights

Of 40 respondents in the multistakeholder survey, 11 indicated being aware of existing measures of factors that affected the realization of Farmers' Rights; the rest of the respondents replied to this question with "no" or "don't know".

Respondents who confirmed that their country had limitations provided additional information, which is summarized as follows, in no particular order:

- Lack of strategies and measures to support farmers and need of awareness-raising from the side of farmers and local communities

- A respondent from Bhutan noted farmers' limited knowledge on policies surrounding PGRFA conservation, as well as on technical knowledge.
- A respondent from Pakistan reported that agricultural policies have not considered Farmers' Rights.
- Respondents from Bhutan, Malaysia and the Philippines pointed out that knowledge and awareness of Farmers' Rights remain limited among farming communities.
- A respondent from India noted that farmers have limited understanding regarding the potential benefits of registering farmers' varieties.
- A respondent from Malaysia reported that the process for verifying and protecting farmers' varieties is often unclear or administratively complex.
- A respondent from China highlighted the lack of strategies or measures tailored to support farmers, particularly women farmers.
- A respondent from Bangladesh cited government programmes promoting the use of hybrid and GMO seeds, causing farmers, especially women farmers, to lose their traditional knowledge associated with PGRFA.
- Respondents from Indonesia stated that contradictions exist between policies and laws, specifically between the legislation on Plant Cultivation Systems and Plant Variety Protection, and the focus of the Government on industrial agriculture.

- Gender-related factors that may limit the realization of Farmers' Rights

Respondents from five countries (Bangladesh, Indonesia, Malaysia, Nepal, Pakistan) reported gender-related factors that may affect the realization of Farmers' Rights. These factors include: low participation of women in decision-making processes; government policies that do not recognize women farmers' roles in PGRFA conservation, hence they have no rights to participate in decision-making nor rights to own land property; and other factors related to education, land rights and farmer awareness regarding PGRFA and their rights.

[191] Indonesia, Nepal, Pakistan, Philippines.
[192] Bangladesh, Indonesia, Nepal.

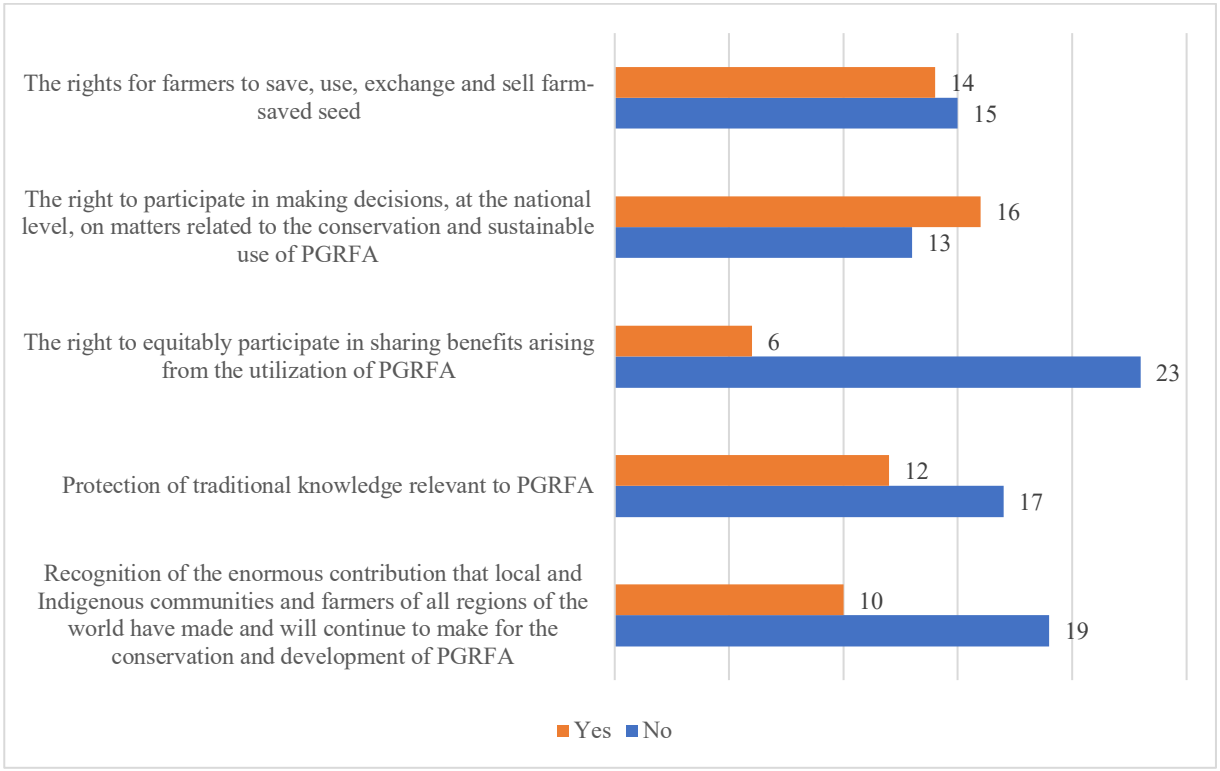
5.3 EUROPE

There are 48 countries in Europe, including 38 that are Contracting Parties to the International Treaty, excluding the European Union. By April 2025, a total of 29 countries from this region had submitted a national compliance report to the Secretariat of the International Treaty.[193]

The following summarizes the information provided in the 29 national reports submitted to the Secretariat of the International Treaty, supplemented by information gathered from the multistakeholder survey (48 responses from 25 countries),[194] conducted by the Secretariat, and 64 submissions from the Inventory provided by Contracting Parties and interested stakeholders.[195]

Of the 29 countries from Europe that submitted a national compliance report, a total of 20 have taken measures that contribute to protecting and promoting Farmers' Rights (69 percent of reporting countries),[196] including those illustrated in Figure 5.17.

Figure 5.17
Number of reporting countries from Europe (n = 29) that have taken measures in relation to:



Source: Author's own elaboration

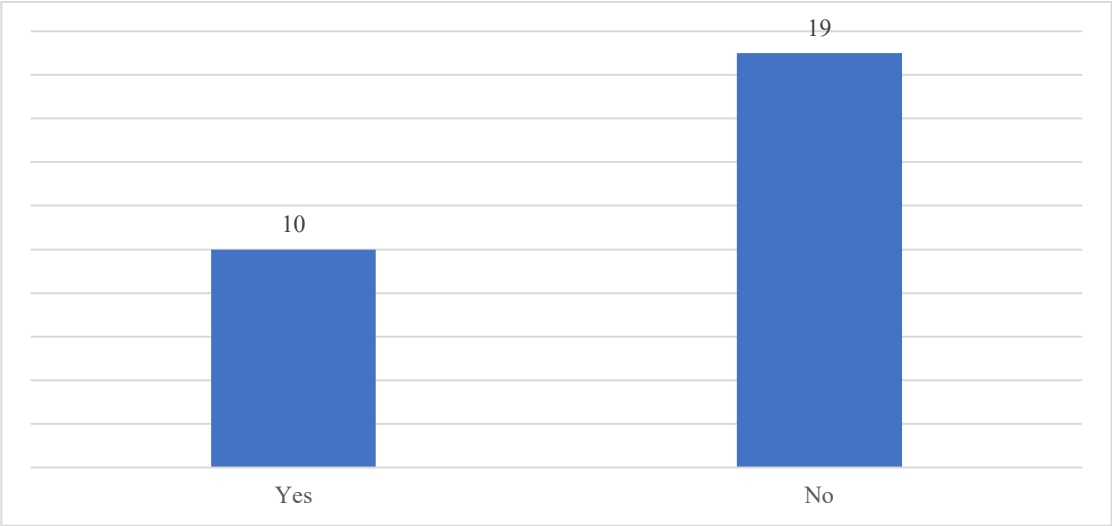
[193] Albania, Armenia, Austria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands (Kingdom of), Norway, Poland, Republic of Moldova, Romania, Serbia, Slovenia, Spain, Sweden, Switzerland, Türkiye, United Kingdom of Great Britain and Northern Ireland.
[194] Albania, Austria, Belgium, Czechia, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Ireland, Italy, Latvia, Malta, Republic of Moldova, Norway, Netherlands (Kingdom of), Poland, Portugal, Serbia, Spain, Switzerland, Türkiye, United Kingdom of Great Britain and Northern Ireland.
[195] Albania, Bulgaria, European Commission, France, France, Germany, Italy, Netherlands (Kingdom of), Norway, Spain, Sweden, Switzerland.
[196] Austria, Croatia, Czechia, Denmark, Estonia, Finland, France, Germany, Italy, Latvia, Lithuania, Malta, Norway, Poland, Romania, Serbia, Slovenia, Spain, Sweden, Switzerland.

PROVISIONS OF ARTICLE 9

5.3.1 Recognition of the enormous contribution of farmers and local and Indigenous communities to PGRFA conservation and development (Article 9.1)

Ten countries from Europe report having taken measures to recognize the contribution of farmers and local and Indigenous communities to PGRFA conservation and development.[197]

Figure 5.18
Number of reporting countries from Europe (n = 29) that have taken measures to recognize the enormous contribution of farmers and local and Indigenous communities to PGRFA conservation and development



Source: Author's own elaboration

In this region, farmers' contribution to PGRFA conservation and development is recognized through legal measures and recognition systems. In Italy, the law on agrobiodiversity for food and agriculture explicitly recognizes the role of farmers and farmers' associations in preserving biodiversity. Although not formally recognizing the contribution of farmers and local and Indigenous communities to PGRFA conservation and development, other policies and legislation across Europe reflect an understanding of the role that farmers play in maintaining biodiversity through traditional farming practices and conservation efforts. As such, in Italy, Romania and Spain, legal recognition has been given to the importance of locally adapted varieties and farmers' role in maintaining these, often in response to pressures from genetic erosion and the loss of traditional agricultural systems. In the territory of the European Union (EU), national policies supported by EU regulations also aim to strengthen farmers' involvement in PGRFA conservation by supporting projects that include traditional farming systems, as can be seen in five EU reporting countries.[198]

Besides legal and policy measures, Norway and Sweden have established recognition systems such as awards and plaques for individuals, institutions and organizations for their work in conserving PGRFA. Although these awards are not exclusively intended for farmers, several farmers have been recipients since the awards' inception. These awards aim to raise awareness and foster support, engagement and action to preserve and use plant genetic resources. Similarly, Spain promotes awards of excellence in innovation to encourage the participation of rural women in agricultural biodiversity efforts. Italy recognizes seed networks and farmers' organizations for their role in the sustainable use and conservation of PGRFA.

[197] Croatia, France, Italy, Latvia, Norway, Poland, Romania, Serbia, Slovenia, Spain.
[198] France, Germany, Italy, Poland, Spain.

Box 5.6
Promoting public awareness and understanding of the importance of PGR conservation through awards and recognition

The Golden Pea award (Sweden)

The Golden Pea award is a recognition of those individuals who – often throughout generations – have contributed to the conservation of plant genetic resources. The award can be made to farmers, gardeners, private persons and organizations. Since the first 'Golden Pea' was awarded in 2002, close to 50 caretakers of the green heritage have been lauded. The award is a collaboration between the Swedish University of Agricultural Sciences, coordinator of the national PGR Programme and county administrations that wish to participate. The Golden Pea award helps to raise public awareness of PGR issues at local and regional level.

The Plant Heritage Award (Norway)

The Plant Heritage Award was created to support awareness, engagement and action aimed at furthering the preservation and use of plant genetic resources. It was awarded for the first time in 2006. Candidates are proposed to the Norwegian Centre for Genetic Resources at the Norwegian Institute for Bioeconomy Research and approved by its advisory board. The award is intended as a mark of appreciation for special efforts that promote the goal of conservation and sustainable use of plant genetic diversity. It can be awarded to individuals, as well as institutions, and is not exclusively directed towards farmers. However, since it was established, several farmers have been awarded the prize, which consists of a unique lithograph by a Norwegian artist, as well as a diploma. Thus, the prize also recognizes the important efforts of farmers in addition to those of researchers and formal institutions in conserving PGRFA and ensuring the sustainable use of those resources. It creates an annual event that gives an opportunity to strengthen awareness of the importance of the conservation and sustainable use of PGRFA, thereby addressing the general public, other farmers and the political leadership of the Ministry of Agriculture and Food, among other public institutions.

Sources: Extracted from the Inventory, submission from Sweden and Norway. FAO. 2025. Accessed 28 May 2025. https://glis.fao.org/glis/csures/inv-list.

Experiences and lessons learned

Based on the available information, the following is a summary of the experiences and lessons learned regarding measures introduced to recognize the contribution made by local and Indigenous communities and farmers in the conservation and development of PGRFA:

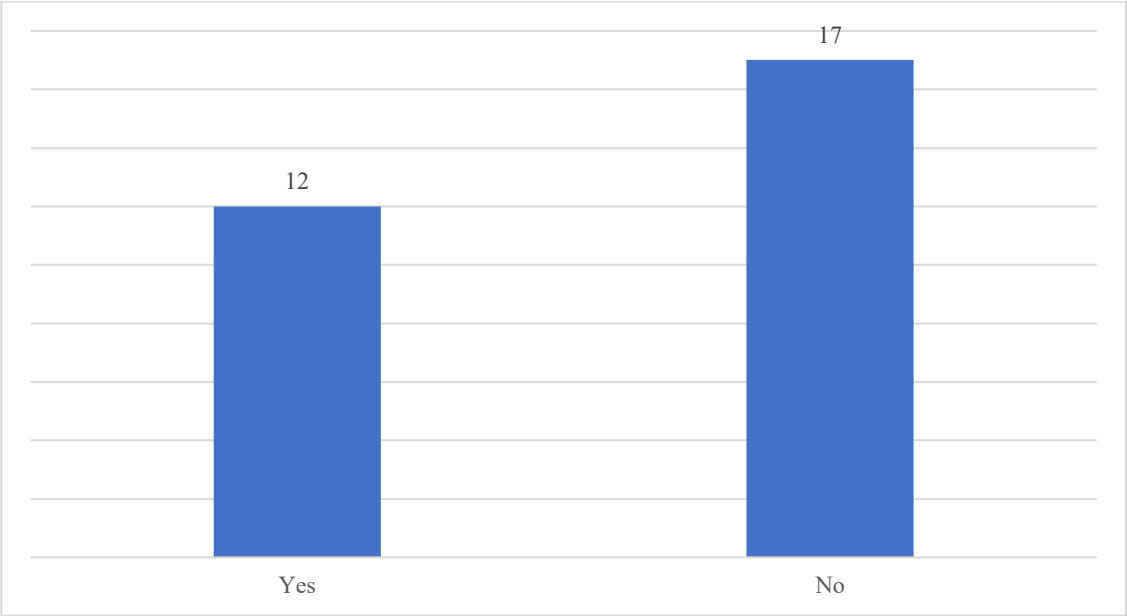
- Respondents from Italy, Sweden and Switzerland described supporting farmers and the sustainable use of PGRFA and their maintenance is crucial. This includes collecting PGRFA for gene banks, documenting traditional knowledge, enhancing crop diversity, creating value chains, providing financial support to institutions, promoting the cultivation of traditional plant varieties and raising awareness about PGRFA.
- A respondent from Poland noted that it is essential to offer storage for duplicates of seed accessions conserved by national, regional and international gene banks, research institutes and NGOs, as a back-up of the of the world's *ex situ* collections.
- A respondent from the Kingdom of the Netherlands stated that Farmers' Rights should extend beyond the sustainable use of genetic resources to include protection against fraudulent seeds and the ability to choose the best available seeds.
- A respondent from Denmark pointed out that plant breeder's rights, the International Treaty and the UPOV 1991 Convention are mutually supportive.
- A respondent from Norway explained that presenting an award serves as a means to inform both farmers and the general public about genetic resources and biodiversity. It also provides farmers with valuable insights on how to utilize these resources effectively. The award has heightened awareness of the conservation and sustainable use of older plant varieties and increased demand for their propagating material. This, in turn, helps to ensure that the varieties are actively used – the most effective safeguard against genetic erosion.

- A respondent from Switzerland noted that the National Plan of Action – Plant Genetic Resources for Food and Agriculture primarily supports the maintenance of PGRFA through breeders, while offering limited support to farmers who actively conserve these resources.

5.3.2 The protection of traditional knowledge relevant to PGRFA (Article 9.2a)

A total of 12 reporting countries from Europe have taken measures to protect traditional knowledge relevant to PGRFA, including legal, technical and other measures.[199]

Figure 5.19
Number of reporting countries from Europe (n = 29) that have taken measures to protect traditional knowledge relevant to PGRFA



Source: Author's own elaboration

The legal protection of traditional knowledge relevant to PGRFA in Europe is often integrated within broader biodiversity, ABS and intellectual property rights laws, as well as national biodiversity strategies.[200] For instance, in Italy and Norway, where biodiversity legislation regulates access to genetic material and traditional knowledge, specific measures are in place to ensure that the rights of farmers are protected regarding use of their traditional knowledge. These laws require the disclosure of the origin of plant material used in breeding programmes and ensure that farmers' traditional knowledge is recognized in the context of bioprospecting and commercial use.

In addition to legal and policy measures, five countries, including the Kingdom of the Netherlands, Finland, Romania, Spain and Sweden, report initiatives aimed at documenting and protecting traditional knowledge relevant to PGRFA. These efforts include conducting surveys, creating national inventories and establishing national databases or registers of traditional knowledge. Moreover, in Sweden, traditional knowledge relevant to PGRFA is promoted through events that highlight the intersection of crop and cultivar diversity with the cultural and geographical history of plants and food. By both sharing and learning food traditions, these practices contribute to the conservation and sustainable use of PGRFA.

The protection of traditional knowledge relevant to PGRFA is also promoted through legal mechanisms such as geographical indications, origin trademarks and other product labelling systems.[201] These tools help to recognize and preserve the link between traditional crops, local knowledge and specific territories, while also enhancing the market value of agricultural products rooted in cultural heritage.[202]

[199] Croatia, Finland, France, Italy, Malta, Norway, Poland, Romania, Serbia, Slovenia, Spain, Sweden.
[200] Czechia, Finland, France, Italy, Malta, Norway, Switzerland.
[201] Such as the system of traditional specialities guaranteed that is implemented in all 27 EU countries.
[202] Examples can be found in France, Italy and Switzerland.

In addition, since 2004, Italy has implemented a specific national RGV/FAO Programme on the implementation of the International Treaty, which supports and recognizes the role of seed networks and farmers' organizations, while at the same time contributing to the protection and re-creation of traditional knowledge relevant to PGRFA. In France, specific institutions and research centres focus on linking genetic resources with traditional knowledge.

Experiences and lessons learned

The responses within the region provided valuable experience and lessons on safeguarding traditional knowledge associated with PGRFA. These experiences are summarized as follows, in no particular order:

- According to a respondent from Italy, all the measures adopted promote the conservation of PGRFA and the associated traditional knowledge, cultural and ecosystem value. It is important to preserve these achievements for future generations through educational activities in schools.
- Respondents from Bosnia and Herzegovina, Latvia and Poland mentioned the protection of traditional knowledge relevant to PGRFA through three EU schemes known as protected designations of origin, protected geographical indications and traditional specialties guaranteed. These schemes promote and protect the names of quality agricultural products and foodstuffs, including traditional knowledge relevant to PGRFA.
- In Germany, national seed savers associations conserve and use traditional and local varieties, organize seed fairs, participate in local markets and share knowledge. Projects have been implemented to reintroduce traditional crops and develop value chains with farmers. Documentation of traditional knowledge may exist locally, and one national database provides information on historical vegetable varieties.
- In Georgia and Germany, despite the current focus on promoting registered varieties, some NGOs are advocating for traditional knowledge. However, integrating traditional knowledge into mainstream policies is challenging in Germany, as it is often seen as less compatible with modern development goals.
- In Norway, a regulation has been adopted to protect traditional knowledge relevant to genetic resources. While this is a general regulation that applies to all genetic resources – not specifically PGRFA – it has had limited practical impact. However, a national programme on 'Selected cultural landscape' includes agricultural sites where traditional landscape management practices are recognized and supported.
- In Spain, national efforts include the development of traditional knowledge inventories, although their influence on the broader food system remains limited. The collection of such knowledge is challenging and requires extensive research efforts.
- In Austria, various local initiatives aim to protect and promote traditional knowledge relevant to PGRFA. While these efforts often remain on the margins, they carry innovative potential – particularly when linked to concerns around food security, resilience, sustainability and local economic development.
- In Germany, several national seed savers associations are active in conserving and promoting traditional and local crop varieties. They organize seed fairs, participate in local markets and engage in knowledge-sharing activities. In addition, multiple projects have supported the reintroduction of traditional crops and the development of related value chains, often in collaboration with farmers. Although documentation of traditional knowledge is limited, there are local initiatives and at least one national database that provides information on historical vegetable varieties.
- A respondent from Germany noted that due to the country's highly mechanized and industrialized agricultural practices, traditional and local knowledge have become less relevant, with a preference for scientifically-based methods. However, these methods have not prevented biodiversity loss. Farm concentration continues despite these challenges, supported by security and insurance systems designed to manage disaster risks.

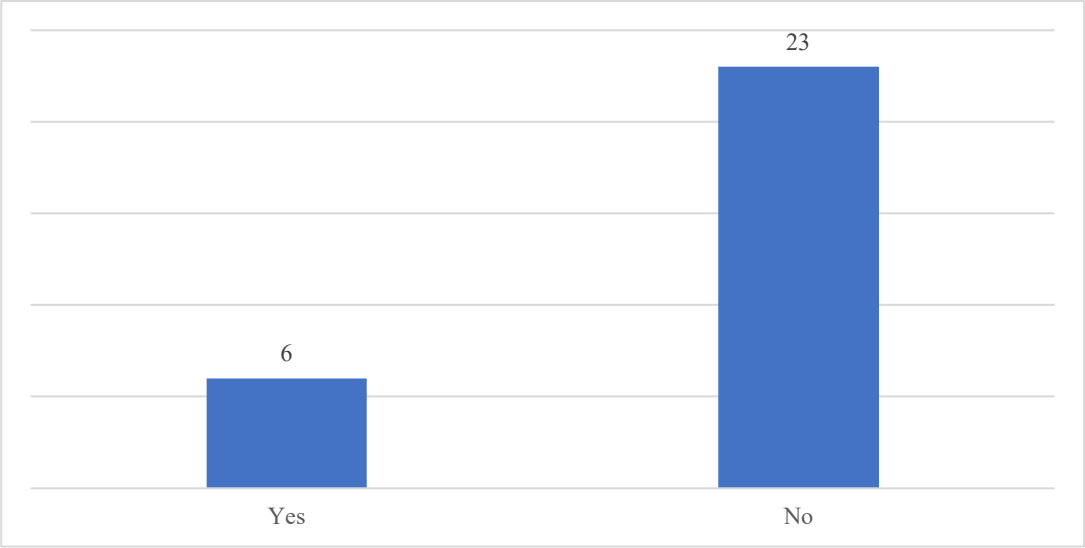
Multistakeholder responses describing cases of misappropriation of traditional knowledge and actions undertaken

- Several respondents raised concerns about the misappropriation of PGRFA and associated traditional knowledge through intellectual property mechanisms. One respondent reported fraudulent practices involving GIs and denominations of origin. Others highlighted the unauthorized use of materials and names linked to trademarks, GIs and variety registration. Specific examples cited included the *ramallet* tomato, *canoneta* orange, *bubango* and *mongeta del gantxet*.[203]
- Another respondent mentioned that, within the EU, some seed companies have registered heritage varieties as their own through the Community Plant Variety Office, the EU agency responsible for PVR. There were also reports of companies misappropriating the names of traditional landraces during this process.[204]
- A respondent from Switzerland described an attempt to register a trademark for the name of an old wheat landrace, which was ultimately rejected. Another respondent from Switzerland mentioned that the European Patent Office continues to issue patents that can lead to the monopolization of PGRFA. Organizations such as SWISSAID have filed appeals against several such patents, including one granted to Syngenta for a pepper variety with natural resistance to white flies.[205]

5.3.3 The right of farmers to participate in benefit-sharing (Article 9.2b)

A total of six reporting countries from Europe have taken measures in relation to the right of farmers to equitably participate in sharing benefits arising from the utilization of PGRFA.[206]

Figure 5.20
Number of reporting countries from Europe (n = 29) that have taken measures to protect the right of farmers to participate in benefit-sharing



Source: Author's own elaboration

5.3.3.1 Legal and policy frameworks on access and benefit-sharing

In at least eight reporting countries,[207] specific national legislation directly implements the Nagoya Protocol and defines benefit-sharing procedures for both users and providers of genetic material. Germany, Ireland and Switzerland also integrate ABS within broader biodiversity, environmental protection or agricultural

[203] References provided: Case of the *ramallet* tomato; case of *canoneta* orange; case of *bubango*; case of *mongeta del gantxet*; case of different tomatoes
[204] Ireland
[205] Reference provided: www.swissaid.ch/en/media/will-syngentas-controversial-pepper-patent-finally-be-revoked/
[206] France, Italy, Norway, Poland, Serbia.
[207] Albania, Czechia, Finland, France, Italy, Norway, Romania, Spain.

frameworks. For the 27 EU countries, Regulation (EU) No 511/2014 on compliance measures for users from the Nagoya Protocol in the Union establishes rules governing compliance with access and benefit-sharing for genetic resources and traditional knowledge associated with genetic resources in compliance with the Nagoya Protocol. However, in many contexts, the extent to which the regulatory scope provides clearly defined ABS rules or enforcement structures at the operational level could be explored further.

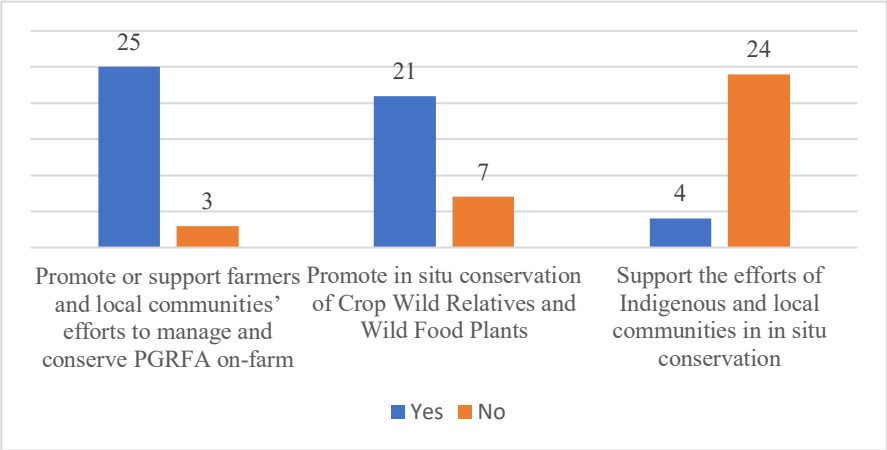
Although not specifically dedicated to governing ABS issues, other legal and policy measures on conservation and sustainable use of PGRFA adopted at both the European and national level also contribute to promoting farmers' participation in benefit-sharing. For instance, in the EU, several European directives and regulations have been adopted to regulate seed mixtures, acceptance of vegetable landraces and varieties, and marketing of fruit plant propagating material and fruit plants. At the national level, six countries report the adoption of legislation and national programmes, strategies and action plans dedicated to PGRFA conservation and sustainable utilization,[208] while nine other reporting countries have incorporated the conservation and sustainable use of PGRFA within broader agricultural, rural development and biodiversity legal and policy frameworks, plans and strategies.[209] These policies often include financial incentives, regulatory measures, strategic conservation programmes and rural development plans, for instance for the protection of traditional or conservation crop varieties, as in Germany, or for local varieties threatened by genetic erosion, as in France.

5.3.3.2 Non-monetary benefits

A. Supporting farmers and local communities' efforts to manage and conserve PGRFA on-farm and *in situ*

A total of 25 reporting countries from Europe have promoted or supported farmers and local communities' efforts to manage and conserve PGRFA on-farm.[210] By contrast, while 22 countries from the region also report promoting *in situ* conservation of CWR and WFP,[211] only 4 – Austria, Denmark, Germany and Malta – have supported the efforts of Indigenous and local communities for *in situ* conservation (about 14 percent of reporting countries from Europe).

Figure 5.21
Number of reporting countries from Europe (n = 29) that have taken measures to:



Source: Author's own elaboration

In at least eight reporting countries,[212] legal recognition has been given to the importance of locally adapted varieties and farmers' role in maintaining these, often in response to pressures from genetic erosion and the

[208] Croatia, Estonia, Germany, Norway, Spain and Switzerland.
[209] Albania, Finland, France, Ireland, Italy, Poland, Serbia, Slovenia, Sweden.
[210] Albania, Austria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Malta, Netherlands (Kingdom of), Norway, Poland, Romania, Serbia, Slovenia, Spain, Sweden, Switzerland, Türkiye, United Kingdom of Great Britain and Northern Ireland.
[211] Armenia, Austria, Cyprus, Denmark, Estonia, Finland, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands (Kingdom of), Norway, Republic of Moldova, Romania, Serbia, Spain, Switzerland, Türkiye, United Kingdom of Great Britain and Northern Ireland.
[212] Cyprus, France, Hungary, Italy, Malta, Republic of Moldova, Romania, Spain.

loss of traditional agricultural knowledge. Legal provisions typically emphasize the protection of farmers' varieties and landraces. For instance, Romania has integrated the recognition of local populations and varieties of agricultural plants that are threatened by genetic erosion into its national legislation. Similarly, Italy and Spain have provisions allowing for the cultivation and marketing of conservation varieties, which are particularly important for maintaining PGRFA diversity. In Italy, regional laws support the participation of 'guardian farmers' in on-farm conservation of local varieties and in rural development. Complementing legal instruments, Germany, Italy, Romania and the United Kingdom of Great Britain and Northern Ireland have adopted national policy frameworks to support on-farm conservation. Italy's National Plan on Biodiversity for Food and Agriculture provides a conceptual framework and financial support to 'Caring Cultivators'. Similarly, Germany and the United Kingdom of Great Britain and Northern Ireland's conservation programmes provide incentives to farmers or conservation groups for maintaining local varieties.

At the European level, the European Cooperative Programme for Plant Genetic Resources, a collaborative programme among most European countries which aims at ensuring the long-term conservation and facilitating the utilization of plant genetic resources in Europe, has established a working group on on-farm conservation, and several EU-funded projects promote the efforts of local farmers and farmers' communities in on-farm conservation.

- *Facilitation of farmers' access to a diversity of PGRFA*

At least eight reporting European countries support and facilitate the distribution of locally-adapted crops for direct use by farmers through national gene banks, CSBs and/or seed networks, sometimes with a focus on preserving particular crops, for instance traditional fruit orchards and endangered crops, or forage and fodder species in semi-intensive grasslands.[213] In addition, at least six reporting countries have established networks to deal specifically with on-farm and *in situ* conservation and support wider use of local crop varieties and landraces.[214] For instance, Hungary has created an on-farm network under its National Centre for Biodiversity and Gene Conservation, where farmers are encouraged to grow local landraces and document their cultivation practices. Seed-sharing initiatives, such as CSBs, seed networks or Economic and Environmental Interest Groups, as established in France, encourage farmers to exchange seeds of traditional varieties and integrate local varieties into economic activities. Community-driven projects also play a key role in promoting farmers' access to PGRFA and supporting conservation activities. In Serbia, the NGO Frame of Life brings farmers together to grow and conserve old varieties.

Providing access to germplasm under the Multilateral System of Access and Benefit-sharing (Multilateral System) is a form of benefit-sharing. NordGen, the Nordic Genetic Resource Centre, maintains Nordic-origin and region-relevant germplasm. This seed material is available upon request for plant breeders, researchers, museums and other bona fide users in small quantities for research, breeding or conservation. While mainly serving the scientific community, NordGen also accommodates requests from individuals such as farmers and gardeners with a genuine interest in preserving old or rare varieties. To simplify access, NordGen offers a 'Hobby Material Transfer Agreement', with a small fee to handle increasing requests.

- *Institutional and research support*

At least six reporting countries collaborate with national and/or regional research institutes for technical support and knowledge-sharing in PGRFA conservation, for instance to identify threatened species, or for regeneration, multiplication and the reintroduction of old varieties.[215] For instance, in Czechia, the Union for Nature Conservation works with pomologists and gardeners to document historical fruit landraces and link them to the national germplasm system. In Romania, a programme called "From genebanks' collections back to farmers' fields/gardens" has supported the reintroduction of traditional varieties conserved in the national gene bank since 2009.

Collaborative projects between countries have also supported farmers' efforts in on-farm and *in situ* conservation. For instance, Türkiye participated in a global project to strengthen *in situ* conservation of agricultural biodiversity in cooperation with local research institutions, universities and farmers'

[213] Albania, Cyprus, Norway, Poland, Romania, Spain, Serbia, Switzerland.
[214] Finland, France, Hungary, Italy, Netherlands (Kingdom of), Romania.
[215] Czechia, Finland, France, Hungary, Poland, Romania.

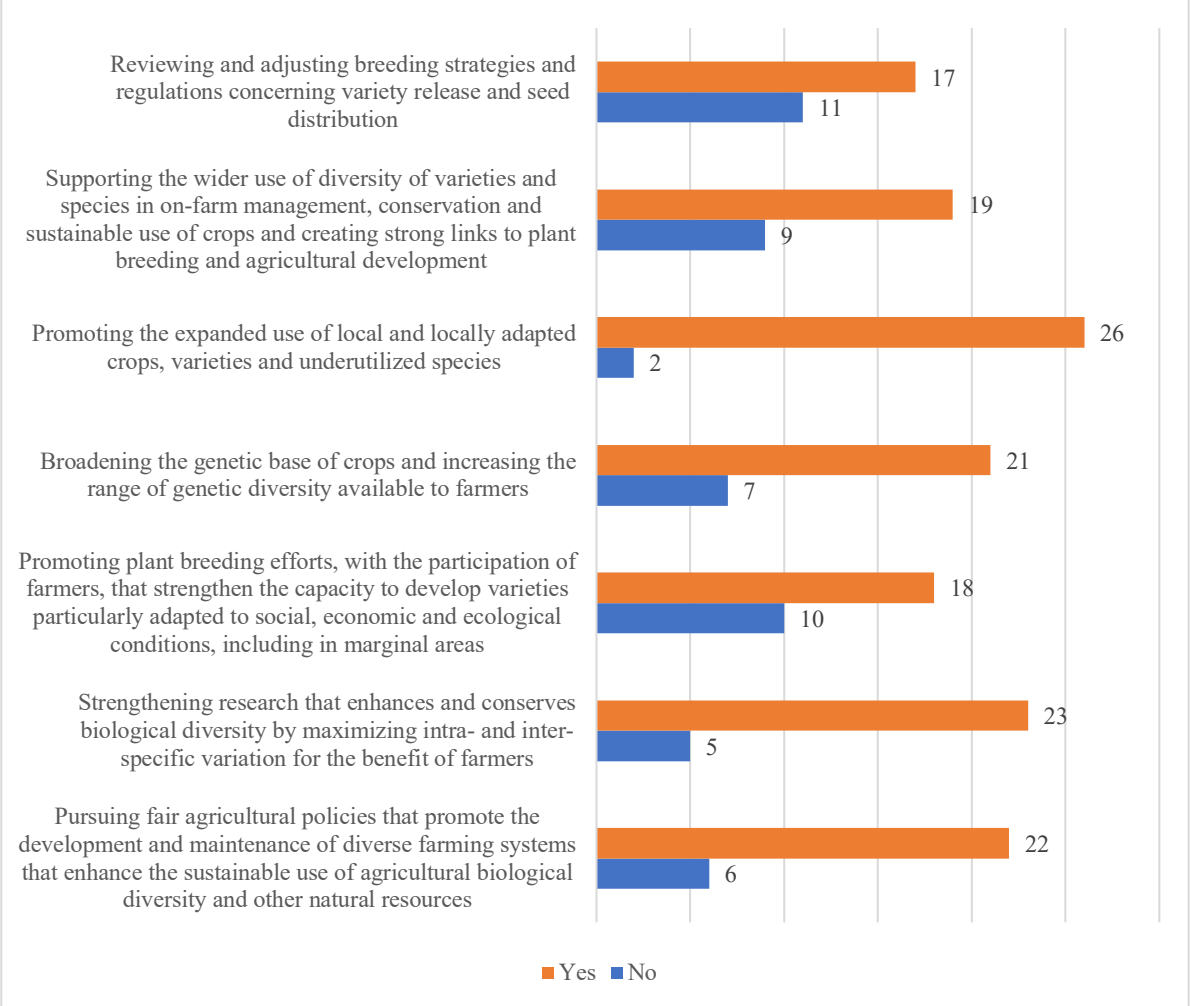
associations, involving farmers and farming communities. In Italy, around 5 000 farmers, technicians and consumers participate in on-farm trials and activities each year in the context of an FAO project implemented in collaboration with the national seed network, leading to the resumption of cultivation through recovery and genetic cleaning of local varieties, mainly vegetables.

However, in Albania and the Kingdom of the Netherlands, there is limited institutional and research support. In Albania, on-farm conservation activities are farmer-driven only, highlighting the need for dedicated funding and infrastructure.

B. Supporting the participation of farmers in sustainable use of PGRFA

All but one reporting countries from Europe have taken policy and legal measures that promote the sustainable use of PGRFA,[216] including measures as illustrated in Figure 5.22.

Figure 5.22
Number of reporting countries from Europe (n = 29) with policy and legal measures in place for:



Source: Author's own elaboration

European countries have adopted a range of legal and policy measures to promote the sustainable use of PGRFA, with varying levels of attention paid to farmers' roles in innovation and value chains, though their direct linkage to Farmers' Rights is not always explicit. Such measures include seed laws and PVP legislation that facilitate the conservation and marketing of landraces and traditional varieties, regulate marketing of

[216] Albania, Austria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands (Kingdom of), Norway, Poland, Republic of Moldova, Romania, Serbia, Slovenia, Spain, Sweden, Switzerland, Türkiye, United Kingdom of Great Britain and Northern Ireland.

seeds and/or ensure a balance between breeders' and farmers' rights;[217] legislation regulating access to PGRFA for use purposes;[218] legislation on the production, certification and marketing of seeds and propagating material;[219] national programmes, strategies and action plans dedicated to PGRFA conservation and sustainable utilization, or to use of PGRFA alone;[220] and broader agricultural or agrobiodiversity strategies promoting farmer-led innovation.[221] Additionally, national efforts to enhance the use of underutilized species and landraces are often framed within strategies for rural development, food security or climate change adaptation.[222]

- *Participatory research/plant breeding*

Among the reporting countries from this region, six report that greater participatory research and plant breeding activities have taken place within collaboration projects and/or seed networks,[223] sometimes in prebreeding programmes as in Estonia and Sweden, where farmers can set objectives and priorities in on-farm trials, variety selection and seed initiatives. In Italy, PPB has been initiated on cereals in collaboration with local farmers. In France, farmers grouped within Economic and Environmental Interest Groups have promoted local varieties through participatory breeding, mainly of cereals (corn, soft wheat), protein crops (crop diversification, mixed crop/livestock), arboriculture and vegetable crops.

- *Enhancement of local crops adapted to meet farmers' needs and local conditions*

Albania, France and Spain promote the use of local crops and farmers' varieties for improvement and adaptation to farmers' needs and local conditions as part of rural development policies or research and cooperation projects. In Albania, the identification, genetic improvement and adaptation of local cultivars of maize and beans to changing climatic conditions was the focus of a project implemented by the National Agricultural University funded under the BSF. Through this project, about 1 500 farmers located in remote mountainous areas were distributed quality seeds of local cultivars. In France, research projects on beet, wheat, rapeseed, peas, corn and sunflower have also been promoted as part of sustainable agriculture programmes aimed at providing farmers with material adapted to local conditions.

- *Market access and value-addition initiatives*

In terms of market access and value addition, an important legal innovation for the EU countries has been recognition by the EU of 'conservation varieties' and other categories of heterogeneous or traditional varieties. These special regimes, established under EU directives, allow the simplified registration and marketing of varieties that are adapted to local conditions and are threatened by genetic erosion. By easing regulatory burdens and enabling commercialization in niche or local markets, these measures support the enhancement and continued use of local crops.

Additionally, Cyprus, Malta and Romania have provided support to farmers to increase market access, adapt to changing market conditions and promote the consumption of products derived from local crops and varieties. For instance, Malta supports producer groups, producer organizations, farmers and growers to find new niche markets and alternative competitive value chains for their traditional crops, and to conserve and commercialize local fruit trees and crop varieties. Romania promotes local products derived from traditional varieties at both national and European levels through collaborative partnerships among ecotourism associations, guesthouses, restaurants and farmers active in the on-farm conservation network. In Cyprus, the Department of Agriculture and the Agricultural Research Institute participate in a programme for the re-entry into the market of landraces and varieties that are naturally adapted to local and regional conditions and are threatened by genetic erosion.

[217] Austria, Croatia, Cyprus, Denmark, Estonia, France, Germany, Italy, Lithuania, Malta, Norway, Republic of Moldova, Serbia, Spain, Sweden, Switzerland, Türkiye, United Kingdom of Great Britain and Northern Ireland.
[218] Czech Republic, France, Latvia, Malta, Spain, Switzerland, United Kingdom of Great Britain and Northern Ireland.
[219] Croatia, Cyprus, Czech Republic, Finland, Hungary, Italy, Latvia, Malta, Netherlands (Kingdom of), Norway, Republic of Moldova, Switzerland.
[220] Croatia, Czechia, Estonia, Germany, Hungary, Ireland, Poland, Romania, Slovenia, Spain, Türkiye.
[221] Armenia, Finland, Hungary, Norway, Republic of Moldova, Serbia, Türkiye.
[222] Albania, Cyprus, Estonia, France, Hungary, Malta, Poland, Romania, Serbia, Spain, Türkiye.
[223] Estonia, Finland, France, Italy, Norway, Sweden.

C. Training, capacity building and awareness-raising

Training and capacity-building activities targeting farmers and local communities take place across Europe in all aspects of conservation and use of PGRFA, including technical, legal, policy and marketing aspects. For instance, Malta's agricultural extension service provides technical advice to farmers on how to increase productivity and competitiveness while addressing climate change. Through a project implemented under the BSF in Albania, about 1 000 farmers, agricultural specialists, students, staff from gene banks and ministries were trained in the selection, genetic enhancement and multiplication of PGRFA. In Spain, the national centre for plant genetic resources and other gene banks participate annually in training activities for farmers, the transfer of results and dissemination aimed at the general public.

Awareness campaigns, public events and publications have been conducted in Estonia, Finland and Malta to inform farmers, scientists and the public about the importance of plant genetic resources. For instance, in Malta, the "Sharing Seeds, Sharing Life" project aimed to safeguard local heirloom and landrace seeds, raise awareness about traditional farming practices and cultures and provide information on locations of ethnobotanical interest

5.3.3.3 Monetary benefits

- *Agrienvironmental schemes*

One of the primary channels for financial support to European farmers is the integration, as in Finland and Ireland, of conservation measures into broader agrienvironmental schemes under the EU's Common Agricultural Policy, which implements a system of agricultural subsidies and other programmes to support farmers. In France, the Agro-Environmental and Climate Measures aim to incentivize farmers to cultivate endangered plant varieties. The Economic and Environmental Interest Groups established in this country also facilitate increased funding allocations for conservation initiatives by leveraging European, national and local funding sources, depending on the options provided by the regional rural development programme. Other countries provide financial assistance through their rural development programme, for instance to encourage the preservation and use of traditional orchards, underutilized species and endangered genetic resources.[224] These schemes ensure that conservation efforts are economically viable for farmers, preventing the loss of biodiversity due to market-driven agricultural practices.

- *National and regional funding mechanisms for conservation of PGRFA*

Among the reporting countries from this region, five have developed programmes to provide targeted financial incentives for PGRFA conservation.[225] For instance, in Germany, simplified registration and conservation programmes offer incentives for maintaining local varieties. In this country, the Ministry of Food and Agriculture has also allocated an annual budget for model and demonstration projects that focus on conservation, sustainable use and innovative applications of agrobiodiversity. Farmers from a specific area can also receive regional funding through a cultivated landscape programme for the planting of old cultivated varieties and regional crops threatened by genetic erosion. Italy's National Plan on Biodiversity for Food and Agriculture provides both a conceptual and financial framework for on-farm conservation, including the 'Caring Cultivators' initiative. Additionally, regional authorities offer direct financial incentives to farmers preserving genetic resources, for instance fruit crops, horticultural crops and corn. Similarly, Spain has incorporated financial support for conservation varieties within the rural development programmes of various regions.

- *Incentives for participatory breeding and sustainable seed systems*

In France and Slovenia, financial support also extends to participatory breeding programmes, crop diversification and sustainable seed systems. For instance, France's public subsidies at multiple government levels (state, region, department and urban areas) fund research projects that integrate farmers into breeding initiatives. These projects aim to design technical cultivation itineraries, formalize systems that promote agrobiodiversity, develop alternative seed supply chains and promote cross-breeding and selection on-farm.

[224] Croatia, Cyprus, Denmark, Estonia, Malta, Poland, Spain, Serbia, Sweden, Türkiye.
[225] Germany, Italy, Poland, Serbia, Spain.

Sweden presents a unique approach by integrating financial mechanisms within its Farmers' Union, which actively collects royalties from farm-saved seed production. As this country is a party to the UPOV 1991 Convention, financial mechanisms ensure that PVP rights are maintained, while allowing farmers to engage in farm-saved seed practices under regulated conditions.

- *Agreements on financial support*

In Norway, financial incentives for PGRFA conservation are determined through annual agricultural negotiations between farmers' unions and national governments, for instance to define support schemes for farmers engaged in genetic resource conservation. This negotiated process allows the continuous adaptation of financial support to align with farmers' needs and conservation goals.

Box 5.7
Financial support for farmers' conservation and sustainable use of PGRFA

-Annual support to the BSF

Norway initiated its annual contribution to the BSF during the official opening ceremony of the Svalbard Global Seed Vault in 2008. This initiative underscores the importance of on-farm conservation of PGRFA, complementing *ex situ* conservation efforts, and ensures financial support based on a predictable contribution from a user country to the BSF. Moreover, this annual contribution recognizes the benefits that Norwegian agriculture derives from PGRFA originating from other regions worldwide. To illustrate this point, the voluntary contribution is linked to the seed trade, amounting to 0.1 percent of annual seed sales in Norway, and is referenced in the State Budget, endorsed by the Parliament. Norway considers this contribution as a use-based, voluntary monetary benefit-sharing mechanism.

Additionally, these annual contributions provide an opportunity to regularly highlight the issue to the political leadership of the Ministry. The BSF invests directly in high-impact projects aimed at supporting farmers in developing countries to conserve crop diversity in their fields and assisting farmers and breeders globally in adapting crops to evolving needs and demands. The BSF aims to accelerate the conservation and utilization of plant genetic resources on a global scale through technology transfer, capacity building, high-impact projects and innovative partnerships involving farmers, plant breeders, civil society and other stakeholders. The BSF prioritizes on-farm management and conservation, thereby enhancing food security and facilitating innovative partnerships.

-External funding – public and private sources

Both public and private entities in France provide funding for farmers, farmers' organizations and other stakeholders involved in the conservation of PGRFA. Additionally, Article 28 of Regulation (EU) No 1305/2013 of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development mandates Member States to establish measures that provide support for farmers and other stakeholders in the conservation, sustainable use and development of genetic resources in agriculture. Genetic resources and breeding are also recognized within the EU research programme Horizon 2020 as a societal challenge.

The French Ministry of Agriculture provides financial support of approximately EUR 200 000 annually for the national PGRFA conservation structure through the French Variety and Seed Study and Control Group, alongside other contributions aimed at supporting stakeholders and networks involved in the conservation and characterization of PGRFA, particularly those under threat. Furthermore, the *Groupement National Interprofessionnel des Semences et plants*, the French interbranch organization for seeds, voluntarily decided to contribute EUR 175 000 annually to the BSF and the same amount to support French national PGRFA collections.

-AGUAPAN

The *Asociación de Guardianes de Papa Nativa del Centro del Perú* (AGUAPAN) is a benefit-sharing initiative sponsored by a Dutch potato breeding company and supported by several organizations in Peru, including *Grupo Yanapai*, *Instituto Nacional de Innovacion Agraria*, the International Potato Center and *Sociedad Peruana de Derecho Ambiental*. Launched in 2015, the primary aim of this initiative is to assist and empower farmers and their families in conserving and maintaining the genetic diversity of potato varieties at their origins. Additional objectives include facilitating farmers' organization efforts and ensuring their representation in decision-making processes relevant to their work with potato genetic resources. Dutch potato breeding company HZPC provided initial funding for custodial farmers in the Andes. Outcomes of this initiative include the establishment of AGUAPAN as a practical benefit-sharing organization backed by the mentioned partner organizations. Presently, it involves 43 families from 5 different areas in Central Peru who collectively cultivate approximately 1 000 unique potato varieties.

Sources: Extracted from the Inventory, submission from Norway, France, ISF. FAO. 2025. Accessed 28 May 2025. https://glis.fao.org/glis/csures/inv-list.

Experiences and lessons learned

Additional insights gathered from the multistakeholder survey responses have elucidated the following experiences and lessons learned from the implementation of Farmers' Rights:

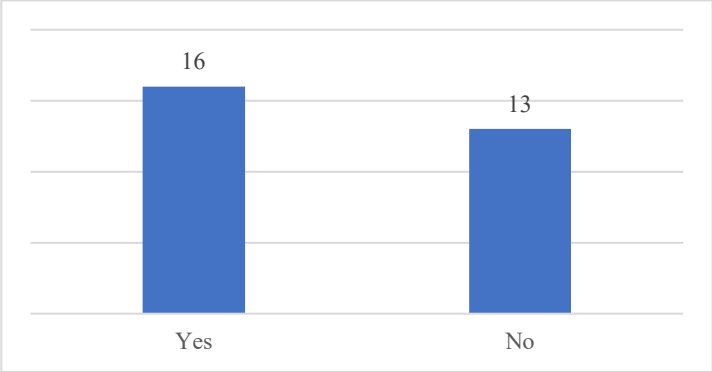
- The responses discussed some experiences related to sharing benefits arising from the utilization of PGRFA, through practices such as: (i) PPB and organic agriculture in enhancing crop diversity and seed autonomy in France; (ii) community seed exchange, including the sharing of traditional knowledge among farmers in Georgia.
- One respondent from Germany highlighted the availability of a Red List publication that assists farmers in applying for financial support to manage landraces. While existing capacity-building opportunities were described as effective, the respondent noted that the national programme for PGRFA should further strengthen efforts in capacity building related to conservation and utilization of PGRFA.
- One respondent from Germany stated that, in the absence of specific measures related to Farmers' Rights, the prevailing approach is to promote benefit-sharing across society rather than impose restrictions on access to PGRFA. Access to genetic resources is generally unrestricted, unless property rights apply. The legal framework allows the use of protected plant varieties for research and breeding without the consent of the rights holder. Farmers are also permitted to use farm-saved seeds from protected varieties, with reduced remuneration fees for small-scale farmers, as defined in the national context.
- A respondent from Poland reported that there are no specific measures in place concerning Farmers' Rights. The general policy approach emphasizes open access to PGRFA and the promotion of benefit-sharing in general across society.
- A respondent from Switzerland expressed the view that new varieties developed by the seed industry offer farmers direct benefits from breeders' use of genetic resources. Each new variety is an innovative combination of traits drawn from various genetic resources. These innovations and technologies are made readily available to farmers through new varieties. In countries with official variety catalogues, these typically include detailed information about the traits and various qualities of each variety. Even in countries without a formal variety registration system, breeders usually provide farmers with all the relevant information. In many cases, farmers also receive guidance on the intended uses and best agricultural practices for these varieties.

5.3.4 The right of farmers to participate in making decisions, at national level, on matters related to the conservation and sustainable use of PGRFA (Article 9.2c)

A total of 16 reporting countries from Europe have taken measures to protect the right of farmers to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of PGRFA.[226]

[226] Austria, Croatia, Czechia, Denmark, Estonia, France, Germany, Italy, Lithuania, Malta, Norway, Poland, Serbia, Slovenia, Sweden, Switzerland.

Figure 5.23
Number of reporting countries from Europe (n = 29) that have taken measures to protect and promote the right of farmers to participate in decision-making



Source: Author's own elaboration

- *Institutional mechanisms for farmers' participation*

At least seven reporting countries have formal institutions designed to ensure that farmers have a voice in decision-making regarding PGRFA.[227] These advisory bodies, usually embedded in national policies, typically take the form of national councils, commissions or committees connected to national programmes on genetic resource conservation and utilization. Such mechanisms provide structured platforms where farmers, alongside other stakeholders, contribute to policy discussions and strategic planning, ensuring that farmers' perspectives are considered in the formulation of policies on PGRFA. For instance, in France, farmers and their associations are stakeholders in the Plant Genetic Resources section of the Permanent Technical Committee for Cultivated Plant Breeding, a consultative body supporting the Ministry of Agriculture that is responsible for reviewing applications for registration of candidate varieties in the Official Catalogue. Through this structure, farmers collaborate directly with researchers and policymakers, helping to ensure that practical experience from the field informs regulatory decisions and national strategies for the sustainable use of PGRFA.

In Norway, negotiation processes are incorporated into the national agricultural governance structures to ensure that farmers' interests are represented. These negotiations often result in frameworks that define financial support schemes for the agriculture sector and broader agricultural policies. Also in Norway, the national genetic resource centre collaborates with cooperatives and smaller farming networks to facilitate their participation in decision-making processes. Increasing the organization of farmers into networks and associations has improved visibility and access to policy discussions, reinforcing their ability to influence agricultural biodiversity management strategies.

- *Public consultations and legislative processes*

Public consultations provide another mechanism for farmers to influence policy development. In five reporting countries from this region,[228] formal consultations are held where farmers' organizations and other stakeholders can provide input on legislative proposals related to PGRFA. These processes ensure that policies are more reflective of the practical realities faced by farmers. For instance, in Sweden, legislative drafts are frequently referred to relevant farmers' organizations to gather broader feedback, fostering transparency and inclusivity in policymaking.

Experiences and lessons learned

The respondents in the region described their experiences and lessons learned, which are summarized as follows:

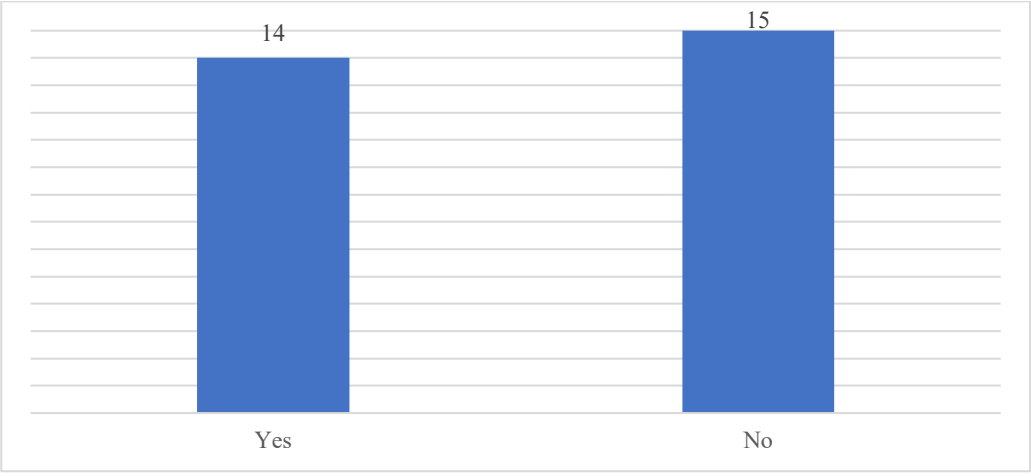
[227] Czechia, France, Italy, Latvia, Slovenia, Spain, Sweden.
[228] Germany, Norway, Poland, Sweden, Switzerland.

- The responses described the farmers' participation in decision-making processes concerning PGRFA as generally well-developed and aligned with established principles of participation and stakeholder engagement. In Poland, legislative acts concerning the agriculture sector are communicated to farmers' organizations for public consultations, seeking their feedback or comments. In Denmark, regulations are established through dialogue with farmers and their organizations.
- In Poland and Switzerland, the farmer lobby in parliament is described as very strong and farmers are reported to be well-informed about seed regulation processes, actively sharing their needs and priorities to be reflected in the regulatory framework.
- In Estonia, respondents emphasized the importance of understanding farmers' perspectives. Farmers have been informed about laws and regulations concerning PGRFA, available support measures and opportunities for utilizing PGRFA, as well as other relevant concerns.
- According to the Joint Rules of Procedure of the Federal Government of Germany, federations, general associations and expert groups at the federal level must be consulted in a timely manner during the drafting of legislation, including relevant agricultural associations.
- In Latvia and Norway, farmers' organizations are involved in discussions and processes led by the Ministry of Agriculture. Representatives of agricultural organizations may also participate in meetings and decision-making processes of the Genetic Resource Council.
- In Spain, respondents suggested that the mandate of the national commission should be expanded to create more space for farmer participation.
- In Georgia, it was reported that farmers are increasingly aware of regulatory processes related to seed laws and have shared their needs and expectations to be considered in the formulation of relevant policies and regulations.

5.3.5 The rights of farmers to save, use, exchange and sell farm-saved seed, subject to national law and as appropriate (Article 9.3)

A total of 14 reporting countries from Europe have taken measures to protect the rights of farmers to save, use, exchange and sell farm-saved seed.[229]

Figure 5.24
Number of reporting countries from Europe (n = 29) that have taken measures to protect the rights of farmers to save, use, exchange and sell farm-saved seed



Source: Author's own elaboration

- *Legal frameworks governing farm-saved seeds*

[229] Austria, Croatia, Denmark, Estonia, France, Germany, Italy, Latvia, Lithuania, Norway, Poland, Serbia, Sweden, Switzerland.

In Europe, these measures are shaped, in the case of the EU countries, by obligations under the EU regulations and directives on plant variety rights, seed marketing and conservation varieties and, for both the EU and non-EU countries, national PVP laws that provide varying degrees of recognition for farmers' seed-saving practices. The right to save and use farm-saved seed is the most widely recognized across the region, with at least 21 reporting countries providing legal space for farmers to save and use seed from previous harvests,[230] albeit sometimes limited. In France and Poland, reuse of seed from protected varieties is subject to conditions set out under PVP laws, requiring farmers to pay compensation to breeders unless exempted as smallholders. Switzerland recognizes this right under its PVP legislation for 23 species, albeit with limitations on further use.

The right to exchange farm-saved seed is less consistently recognized. Six reporting countries provide some form of legal or policy support for seed exchange under specified conditions.[231] For instance, France permits non-commercial seed exchange between farmers, provided that the seed is not protected under PVP and not produced under a formal multiplication contract. Norway allows the exchange of farm-saved seed on a non-commercial basis, as supported by its national genetic resources policy. In contrast, the right to exchange seed is explicitly restricted in Germany and Switzerland. In Estonia, traditional exchanges are not clearly addressed in law, creating legal uncertainty for farmers.

In the EU, the establishment of a special regime for ‘conservation varieties’ under the EU directives and adapted into the national legislation of at least 10 reporting countries,[232] enables the simplified registration and marketing of varieties that are adapted to local conditions and are threatened by genetic erosion. Likewise, Norway’s regulations allow the marketing of conservation varieties and traditional varieties of vegetables in limited quantities and by seed companies. However, for other varieties, the sale of farm-saved seed is either explicitly prohibited under national or EU seed marketing laws, or only allowed after seed has been registered and certified under strict criteria. Switzerland, for example, prohibits the sale of farm-saved seed, even while allowing its reuse for certain crops. In Germany, seeds from conservation varieties must meet certified seed quality standards, which restricts the commercial circulation of unregistered varieties.

- *Institutional support and participatory initiatives*

In addition to legal provisions, various institutional mechanisms contribute to the realization of farmers’ rights to save, use, exchange and sell farm-saved seed. In France, Norway, Serbia and Slovenia, the right to save seed is acknowledged in national action plans, biodiversity or rural development programmes, though not always codified in dedicated seed laws. These policy frameworks encourage collaboration between farmers, research institutions and government agencies, ensuring that farm-saved seed practices align with broader agricultural and environmental sustainability goals. Italy, Slovenia and Spain support seed exchange through participatory networks or seed-saving projects.

Experiences and lessons learned

The respondents in the region described their experiences and lessons learned, which are summarized as follows:

- Respondents from EU countries referred to relevant EU regulations – both national and regional in scope – governing the marketing of seeds and conservation varieties, as well as policy and legislation on plant breeders' rights. They discussed how these frameworks are balanced with Farmers' Rights, including the rights to seeds, as recognized in national strategies on genetic resources for food and agriculture and the corresponding action plans for their implementation.[233]

[230] Austria, Croatia, Czechia, Finland, France, Germany, Hungary, Italy, Latvia, Norway, Poland, Romania, Spain, Switzerland. France, Germany, Italy, Norway, Poland, Spain, Switzerland.
[231] France, Italy, Latvia, Norway, Slovenia, Spain.
[232] Croatia, Czechia, Finland, France, Germany, Latvia, Norway, Slovenia, Spain, United Kingdom of Great Britain and Northern Ireland. While other EU Member States such as Italy, Poland and Sweden are subject to the same EU directives, the extent of their implementation of these provisions was not documented in the compliance reports. Although no longer an EU Member State, the United Kingdom of Great Britain and Northern Ireland transposed the EU conservation variety regime into domestic law prior to Brexit.
[233] Albania, Denmark, Estonia, Germany, Netherlands (Kingdom of the), Norway, Poland, Switzerland.

- In Germany, the Seed Trade Act regulates the marketing of seeds and planting material for certain species. Based on EU Directives, the Seed Trade Act, together with its regulations, governs the authorization and marketing of plant varieties. For species not listed in the directory of species associated with the Act, seed authorization is not required for marketing. These regulations are considered important by farmers and gardeners, as they help to ensure access to efficient, site-adapted varieties with high yield potential, improved quality and resistance traits and contributing to better income opportunities.
- Across the EU countries, implementation of EU directives on conservation varieties (2009) and seed mixtures (2011) has facilitated the production and marketing of seed and planting material from farmers' varieties, old varieties and landraces important for PGRFA conservation. So-called 'conservation varieties' may be registered through a simplified procedure if they are deemed significant genetic resources. While official recognition is not a prerequisite for marketing such seed, it must meet the same quality standards as certified seed – or standard seed in the case of vegetables. The same simplified procedure applies to so-called 'amateur varieties', which are vegetable varieties unsuitable for large-scale horticulture, but whose particular characteristics are valued for regional cultivation and home gardens. The 'seed mixtures' regulation supports the commercialization of mixtures used in nature protection, such as for pastures and grasslands.
- A respondent from Switzerland stated that the absence of payment requirements for farm-saved seed from protected varieties (whether under patent or PVP) is particularly beneficial. Moreover, any contracts that attempt to restrict farmers' privileges in this regard are considered null and void.
- A respondent from Georgia noted that national law imposes limitations on farmers producing endemic seed varieties.
- In Poland, farmers are free to choose which varieties to cultivate, but must comply with regulations governing landraces, commercial varieties and intellectual property rights. Exceptions exist for private and non-commercial uses, particularly among subsistence farmers. The implementation of the EU directives has facilitated the production and marketing of conservation varieties and amateur varieties by enabling simplified registration and quality standards. Poland's approach emphasizes careful implementation of UPOV and the International Treaty, advocating for the introduction of Article 9 into national law only when necessary to support the conservation and sustainable use of plant genetic resources.

Cases where farmers have been taken to court, fined or otherwise sanctioned for saving, exchanging and/or selling seed/propagating material of varieties protected with plant breeder's rights or patents

- In Germany, there have been cases where farmers have been taken to court for storing the *Linda* potato variety in their barns, with the intention of reusing it in their own fields. By that time, *Linda* had been withdrawn from the market, and a combination of PVP and variety release legislation led to this situation.
- Norway maintains a balance between Farmers' Rights and plant breeders' rights (PBR) by adhering to the 1978 Act of the UPOV Convention, rather than the more restrictive 1991 Act.
- In Finland, respondents noted occasional incidents in which uncertified seeds were sold as certified.
- In Italy, it was reported that a private company, supported by seed companies, has initiated legal action against farmers.
- In Spain, a specific legal case was cited involving a farmer.[234]

5.3.6 Gaps and needs with regard to the realization of Farmers' Rights

- Legal and policy frameworks

[234] The information is provided in the following links: https://blogip.garrigues.com/variedades-vegetales/no-comeras-la-fruta-prohibida-primeras-sentencias-sobre-los-derechos-de-las-variedades-vegetales-en-relacion-con-el-material-cosechado https://www.20minutos.es/noticia/1500540/0/

- Legal challenges include the lack of specific legislation implementing Farmers' Rights or the International Treaty on PGRFA;[235] lack of legal clarity for small-scale seed exchange;[236] and the lack of harmonization among different legal instruments for biodiversity and agriculture.[237]
- Despite farmers' interests, the cultivation and sale of heritage cultivars face legal restrictions where national law imposes limitations on seed exchange and on-farm seed saving.[238]
- Implementation of the access and benefit-sharing measures under the Nagoya Protocol is very limited.[239]
- Farmers are unaware of their rights under international agreements.[240]
- There is inadequate institutional support to promote Farmers' Rights effectively.[241]
- Even when policies for PGRFA conservation and use are in place, they are not always implemented and translated into operational projects and activities.[242]
- Conflicts exist between national/subnational and international policies.[243]

- Institutional coordination

- There is weak or lack of sectoral coordination and interaction between government agencies dealing with agricultural and environmental matters, which undermines the effective implementation of Farmers' Rights by creating policy gaps and conflicting mandates.[244]

- Obstacles to supporting farmers' efforts in in situ *and on-farm conservation and sustainable use*

- Some old varieties and landraces are not widely cultivated in some countries due to lack of farmers' interest, which threatens their preservation.[245]
- More activities in the field of on-farm management and *in situ* conservation should be prioritized.[246]
- Insufficient quantities of old, traditional varieties and rare species in gene banks, coupled with the lack of an intermediary entity ('user gene banks') between gene banks and farmers engaged in seed multiplication, limit their availability to farmers in adequate quantities.[247]
- The organization of farmers into groups, cooperatives or networks is challenging.[248]
- Too few food processors, such as millers, specialize in the handling and processing of heirloom or traditional old varieties, which threatens the integrity of the food chain, from seed to table, by limiting the availability and viability of these heritage crops.[249]

- Financial and human resources to support activities that protect and promote Farmers' Rights

- On-farm conservation activities are farmer-driven without institutional and long-term financial support or incentives, highlighting the need for dedicated funding and infrastructure.[250]
- Sustainable funding dedicated to cooperation between gene banks and farmers is lacking.[251]

[235] Albania, Austria, Germany.
[236] Estonia.
[237] Serbia.
[238] Sweden.
[239] Poland.
[240] Armenia.
[241] Albania, Hungary, Italy, Poland, Sweden.
[242] Cyprus.
[243] Albania, Serbia.
[244] Sweden.
[245] Lithuania.
[246] Norway.
[247] Poland.
[248] Poland.
[249] Poland.
[250] Albania, Hungary, Norway.
[251] Germany, Poland.

- Lack of skilled human resources in the conservation and use of PGRFA and sustainable funding are identified as important bottlenecks.[252]

- *Awareness-raising*

- There is a need for awareness-raising activities on Farmers' Rights and the International Treaty in general.[253]
- There is a lack of widespread appreciation for traditional knowledge.[254]

5.3.7 Measures or factors limiting the realization of Farmers' Rights

A respondent from Türkiye mentioned gender-related factors or discrimination against women farmers, but no details were given.

[252] Hungary, Serbia.
[253] Armenia.
[254] Romania.

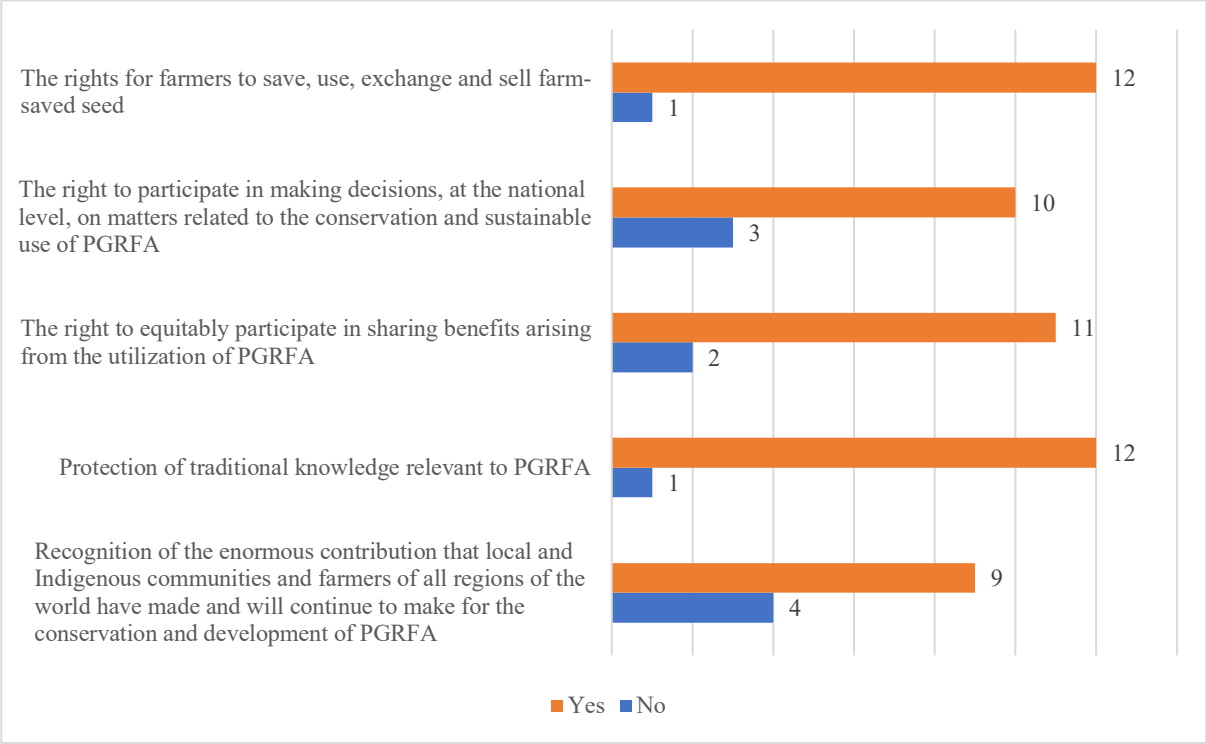
5.4 LATIN AMERICA AND THE CARIBBEAN

There are 33 countries in Latin America and the Caribbean, including 23 that are Contracting Parties to the International Treaty. By April 2025, a total of 16 countries from this region had submitted a national compliance report to the Secretariat of the International Treaty.[255]

The following information summarizes the information found in the 16 national reports submitted to the Secretariat of the International Treaty, supplemented by information gathered from the multistakeholder survey (30 responses from 12 countries),[256] conducted by the Secretariat, and the submissions from the Inventory (51 submissions from 13 countries).[257]

An overwhelming majority of reporting countries from Latin America and the Caribbean have taken measures to protect and promote Farmers' Rights (14 reporting countries out of 16),[258] including the measures illustrated in Figure 5.25.

Figure 5.25
Number of reporting countries from Latin America and the Caribbean (n = 16) that have taken measures in relation to:



Source: Author's own elaboration

As is shown in the following paragraphs, laws and policies adopted by countries in the region often focus on granting farmers the right to conserve, use, exchange and manage plant genetic resources, while ensuring equitable benefit-sharing from their utilization and preserving traditional knowledge relevant to PGRFA. They may also promote the right of farmers to participate in decision-making processes regarding conservation and use of PGRFA.

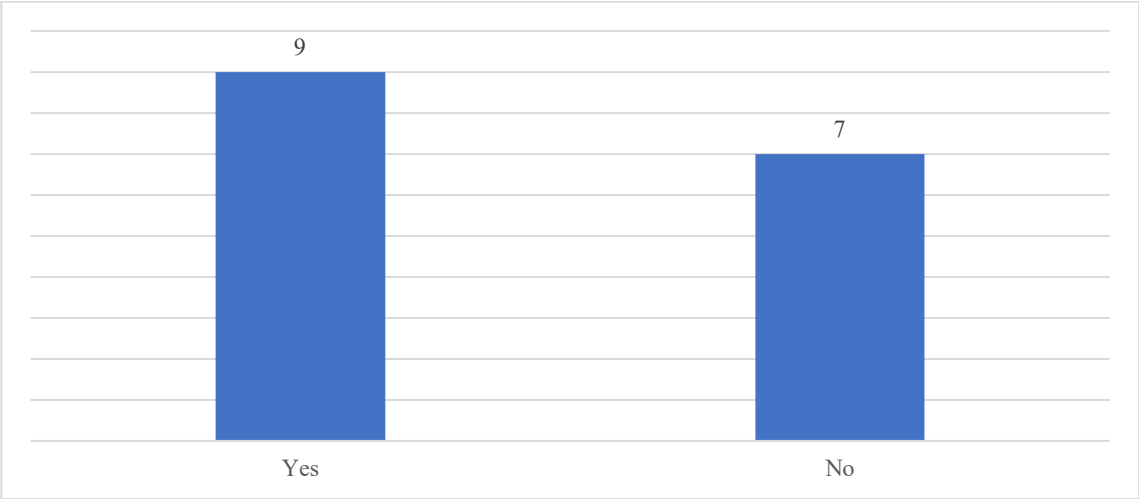
[255] Argentina, Bolivia (Plurinational State of), Brazil, Chile, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Nicaragua, Panama, Peru, Uruguay, Venezuela (Bolivarian Republic of).
[256] Argentina, Brazil, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Peru, Saint Lucia, Uruguay; Non-Contracting Party: Haiti and Mexico.
[257] Bolivia (Plurinational State of), Brazil, Chile, Colombia, Cuba, Ecuador, Guatemala, Honduras, Nicaragua, Mexico, Peru, Uruguay, Venezuela (Bolivarian Republic of).
[258] Argentina, Bolivia (Plurinational State of), Brazil, Chile, Costa Rica, Cuba, Ecuador, Guyana, Honduras, Nicaragua, Panama, Peru, Uruguay, Venezuela (Bolivarian Republic of).

PROVISIONS OF ARTICLE 9

5.4.1 Recognition of the enormous contribution of farmers and local and Indigenous communities to PGRFA conservation and development (Article 9.1)

Nine reporting countries from this region have taken measures to recognize the contribution of farmers and local and Indigenous communities to PGRFA conservation and development.[259] Through explicit constitutional recognition, comprehensive national legislation and policies that integrate traditional practices with modern agricultural innovation, the constitutional, legal and policy landscape across the region reflects a growing appreciation for the role of local and Indigenous communities in conserving and developing plant genetic resources.

Figure 5.26
Number of reporting countries from Latin America and the Caribbean (n = 16) that have taken measures to recognize the enormous contribution of farmers and local and Indigenous communities to PGRFA conservation and development



Source: Author's own elaboration

In the Plurinational State of Bolivia, Ecuador and the Bolivarian Republic of Venezuela, constitutional provisions explicitly acknowledge the importance of Indigenous and local communities in the stewardship of natural resources. Such constitutional recognition establishes a foundational principle that the sovereignty of genetic resources rests not solely in the hands of the state, but is also linked to the collective rights and responsibilities of local communities.

Additionally, national laws, decrees and administrative regulations adopted by Argentina, Brazil, Costa Rica, Cuba and Ecuador recognize that traditional practices and locally adapted techniques developed by peasants, Indigenous and local communities are critical for the conservation and sustainable use of PGRFA, underscoring the role of these communities in sustaining biodiversity. These laws typically address critical aspects of seed conservation, promotion of local varieties, and mechanisms for benefit-sharing. In Argentina and Ecuador, legislation on PGRFA is interwoven with policies on food sovereignty and sustainable development, ensuring that the rights and contributions of local producers are formally acknowledged and protected.

Complementing the constitutional and legal recognition, several common initiatives aimed at supporting farmers and Indigenous communities in the region include farmer-centred approaches and community-based biodiversity management. These initiatives encompass promoting agrobiodiversity fairs, PPB, CSBs, registering farmers' varieties, documentation of local PGRFA, seed exchange platforms or networks for farmers and communities, as well as capacity-building activities designed to enhance farmers' resilience to climate change.[260]

[259] Brazil, Chile, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Peru, Uruguay.
[260] Brazil, Chile, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Peru, Uruguay.

Furthermore, annual commemorations, such as the 'Day of Villages' in Guyana, honour the historical contributions of rural communities to agricultural heritage. Other approaches implemented in Brazil, Chile, Cuba, Ecuador, Nicaragua and the Bolivarian Republic of Venezuela include designating agricultural and cultural sites of global and national significance, such as biodiversity conservation zones, biosphere reserves, GIAHS and Nationally Important Agricultural Heritage Systems (NIAHS). These initiatives provide institutional frameworks that formally acknowledge the important contribution of family farmers, Indigenous and local communities in preserving genetic diversity for food security and nutrition, ancestral knowledge and cultural diversity.

Experiences and lessons learned

Based on the available information, the following is a summary of the experiences and lessons learned regarding measures introduced to recognize the contribution made by local and Indigenous communities and farmers in the conservation and development of PGRFA.

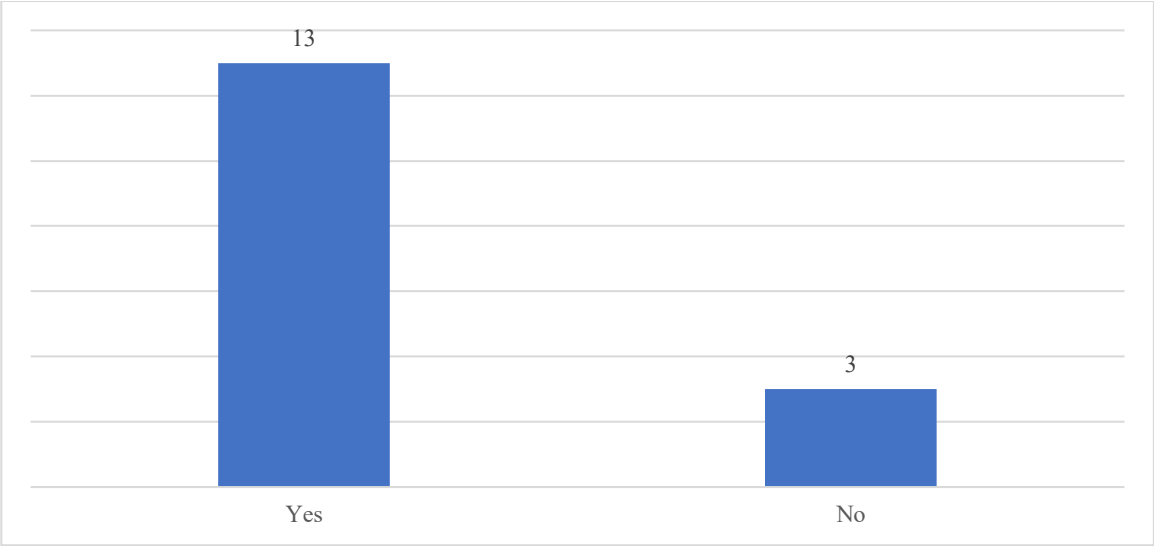
- Respondents from 12 countries described initiatives and activities undertaken to implement Farmers' Rights, including the development of policy and legal frameworks and the provision of technical support for the conservation and sustainable use of PGRFA. These efforts also recognize the contributions of farmers and local and Indigenous communities.[261]
- A respondent from Peru cited the regulations governing access to genetic resources and their derivatives as an example of implemented measures that recognize the role of farmers and local and Indigenous communities. These regulations ensure that both monetary and non-monetary benefits are provided to farmers or communities as suppliers of biological resources containing genetic materials. In this context, the regulations aim to improve the living conditions of farmers and Indigenous Peoples while enhancing and integrating the conservation, sustainable use and local management of native agrobiodiversity.
- A respondent from Ecuador noted that an annual budget has been secured to implement the International Treaty. Consequently, Farmers' Rights are implemented through competitive projects with the participation of peasant organizations.
- Three respondents from Brazil raised concerns that efforts may be insufficient to fully realize Farmers' Rights. Additionally, they noted that initiatives have been sporadic, often with limited financial support, and may not adequately address the specific challenges faced by farmers.

5.4.2 The protection of traditional knowledge relevant to PGRFA (Article 9.2a)

A total of 13 reporting countries from Latin America and the Caribbean have taken measures to protect traditional knowledge relevant to PGRFA.[262]

[261] Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, Guatemala, Honduras, Nicaragua, Peru, Uruguay, Venezuela (Bolivarian Republic of).
[262] Argentina, Bolivia (Plurinational State of), Brazil, Chile, Costa Rica, Cuba, Ecuador, Guyana, Honduras, Nicaragua, Panama, Peru, Venezuela (Bolivarian Republic of).

Figure 5.27
Number of reporting countries from Latin America and the Caribbean (n = 16) that have taken measures to protect traditional knowledge relevant to PGRFA



Source: Author's own elaboration

- *Constitutional recognition*

The Plurinational State of Bolivia, Ecuador and the Bolivarian Republic of Venezuela have embedded the protection of traditional knowledge, including traditional knowledge relevant to PGRFA, within their respective constitutions, establishing that the state has a duty to protect the collective intellectual property of Indigenous Peoples and local communities and that activities involving the use of genetic resources must respect and safeguard the traditional knowledge relevant to PGRFA held by these communities.

- *Legal protection and promotion of traditional knowledge to tackle modern challenges*

In Argentina, Cuba, Ecuador and Peru, comprehensive legal and policy frameworks that specifically address the protection of traditional knowledge relevant to PGRFA have been developed and are often linked to broader goals of biodiversity conservation, food sovereignty and sustainable development. For example, in Argentina, the regulatory framework established through a resolution on native seeds emphasizes that local and family farming practices are recognized as the foundation for food sovereignty by protecting not only the seeds themselves, but also the traditional knowledge relevant to PGRFA and practices associated with them. Similarly, the Organic Law on Agrobiodiversity, Seeds and the Promotion of Sustainable Agriculture and the Organic Law on Food Sovereignty of Ecuador explicitly protect traditional and ancestral knowledge, ensuring that these cultural assets are preserved, while being leveraged for innovation in sustainable agricultural practices. At the policy level, traditional knowledge relevant to PGRFA has been incorporated into broader policies and strategies on biodiversity and sustainable development in Brazil, Chile, Costa Rica, Ecuador and the Bolivarian Republic of Venezuela, providing a multilayered framework that integrates cultural heritage preservation with sustainable resource management.

This shows how, in the region, traditional knowledge relevant to PGRFA is increasingly being recognized as a dynamic resource able to contribute to tackling modern challenges. This acknowledgment marks a transformative shift from mere conservation to the active protection and promotion of knowledge that is both culturally significant and critical for future agricultural resilience.

- *Collective protection regimes*

Another distinct facet of the region's legal approach is the establishment of collective protection regimes for traditional knowledge and associated products. In Cuba, Panama, Peru and the Bolivarian Republic of Venezuela, statutory instruments mandate that traditional knowledge linked to biological resources, including that of relevance to PGRFA, be protected as collective cultural and intellectual property, while legal instruments such as Community Protocols in Brazil empower Indigenous groups to regulate access to their

traditional knowledge. Furthermore, the legal frameworks of Ecuador and the Bolivarian Republic of Venezuela aim to protect traditional knowledge relevant to PGRFA as a public good, expressly prohibiting the misappropriation and unauthorized patenting of genetic material and associated traditional knowledge and ensuring that any use for research or commercial purposes is conditioned upon the respect for and prior informed consent of local communities, so as not to undermine their collective rights. In Chile, the Seal of Origin programme contributes to the preservation of the traditional knowledge embodied in local products through GIs, collective marks and certification marks.

- *Non-legal measures*

Beyond legal and policy measures, other measures have supported traditional communities by promoting knowledge exchange through organized meetings, for instance the Meetings of Knowledge and Cultural Diversity in Brazil, facilitating discussions on cultural heritage preservation; the documentation of local varieties and associated traditional knowledge in local variety catalogues in Costa Rica; and the establishment of mechanisms to develop studies on indigenous knowledge in biodiversity in Panama.

- *Documentation and cataloguing of traditional knowledge*

Argentina, Costa Rica, Cuba and El Salvador have started to document traditional knowledge relevant to PGRFA, and they also encourage the registration of farmers' varieties.

Box 5.8
Ways to promote sustainable use of local crop diversity

Seal of Origin programme

Chile's Seal of Origin programme, launched in 2012 as a collaborative initiative between the Ministry of Economy, Development and Tourism and the National Institute of Industrial Property, seeks to create, promote, preserve, valorize and protect Chilean products distinguished by their strong connection to their region of origin. Its objective is to acknowledge and reward the dedication and effort invested in these products. Central to the programme is the application of industrial property instruments such as geographical indications, denominations of origin, collective marks and certification marks. These tools contribute to the valorization of traditional and unique products of Chile, with the ultimate aim of promoting the entrepreneurship and productive development of local communities and conservation of their traditions. The utilization of industrial property tools increases the visibility of territories, protects unique products, promotes standardization of common practices, provides incentives for the growth of business associations, and protects against unfair competition. As of 2019, 32 products had been protected under the programme, with 19 classified as food items – 12 of which are associated with plant genetic resources. These tools drive the preservation and stimulate certain forms of traditional production or manufacturing, safeguarding local food heritage, encouraging unity in regional communities and boosting the economic development of rural communities.

Participatory Guarantee System for the quality of farmers' seeds for community seed banks in Colombia

In Colombia, as in many other countries, farmers' seeds are not legally recognized. To address this, *Semillas de Identidad* – a network of seed guardians made up of 10 000 families organized into 500 seed banks – has developed a system to safeguard seed quality. In 2015, a collaboration between NGOs, networks and community seed banks led to the adaptation of Participatory Guarantee Systems (PGS). This community-based quality assurance system emphasizes social control and knowledge-building. Like traditional third-party certification systems, PGS aims to provide a credible quality guarantee for farmers and gardeners. To qualify for PGS certification, seeds must be cultivated without synthetic inputs, such as chemical pesticides and fertilizers. They must also meet other conditions, including having a good germination rate and being free from diseases and contamination by genetically modified organisms. Seeds approved by the PGS can display a specific label, allowing farmers to generate additional income by selling these certified seeds. More importantly, this labelling conveys a political message: it demonstrates that farmers can produce high-quality seeds and ensure their own quality standards. This initiative contributes to the network's broader political goals of increasing recognition for farmers' seed systems and respecting farmers' rights within Colombia's seed regulations. The PGS offers an alternative to the State's certification process and has expanded to several regions, including Córdoba, Sucre, Bolívar, Antioquia, Caldas, Risaralda, Quindío, Cauca, Valle, Nariño and Boyacá.

Sources: Extracted from the Inventory, submission from Chile and Colombia. FAO. 2025. Accessed 29 May 2025. https://glis.fao.org/glis/csures/inv-list.

Experiences and lessons learned

The multistakeholder survey responses and submissions from the Inventory provided valuable experience and lessons on safeguarding traditional knowledge relevant to PGRFA. These experiences are summarized as follows, in no particular order:

- Peru described the recognition of Andean systems as a Globally Important Agricultural Heritage System, helping to promote the value of crop genetic resources diversity and ancestral knowledge practices.
- Respondents and/or submissions to the Inventory from seven countries described measures and practices that promote the implementation of Farmers' Rights and protecting traditional knowledge relevant to PGRFA, such as farmer-centred approaches and community-based initiatives, as well as the sharing and exchanging of knowledge through cross-visits to farmers' farms by communities, researchers and other stakeholders. Additionally, traditional seed and food fairs, as well as local markets (seed routes), have led to increased awareness and a better understanding of the nutritional value of native crops and traditional knowledge for the conservation and sustainable use of local crop diversity. Efforts to raise awareness of the importance of PGRFA have been promoted through educational centres in rural areas, including school gardens, workshops and the incorporation of agrobiodiversity into educational curricula, among other initiatives.[263]
- Respondents from Cuba, El Salvador and Peru noted the positive impact of interaction and knowledge exchange among farmers, Indigenous Peoples and traditional communities, as well as training and seed exchanges that facilitate the recovery and renewal of genetic material for on-farm conservation, alongside the development of local seed catalogues.
- Respondents from six countries described key lessons from the implementation of Farmers' Rights, stressing the importance of traditional knowledge associated with PGRFA, as well as training and the adoption of sustainable practices, while balancing conservation with commercialization.[264]
- Respondents from El Salvador and Peru, together with submissions to the Inventory from Chile, Cuba, Ecuador and Guatemala, described community-based training as particularly effective in promoting knowledge exchange, revealing the diverse range of seeds that these communities protect. Additionally, the documentation of traditional knowledge relevant to PGRFA, agrobiodiversity and the establishment of protected designations related to specific crop products were emphasized.

Multistakeholder responses describing cases of misappropriation of traditional knowledge relevant to PGRFA and actions undertaken

Respondents from Brazil cited cases of misappropriation of traditional knowledge related to native species in their traditional and industrial use. These cases involve bioprospecting, technological development and product formulation by academics, researchers and industry professionals who do not recognize the rights of farmers or the legislation designed to protect them. The responses also cited instances of biopiracy of local varieties, such as patents on plants like *cupuaçu* and *andiroba*. Unauthorized use of traditional knowledge, particularly related to medicinal and food plants, is exploited without prior informed consent or compensation to Indigenous communities.

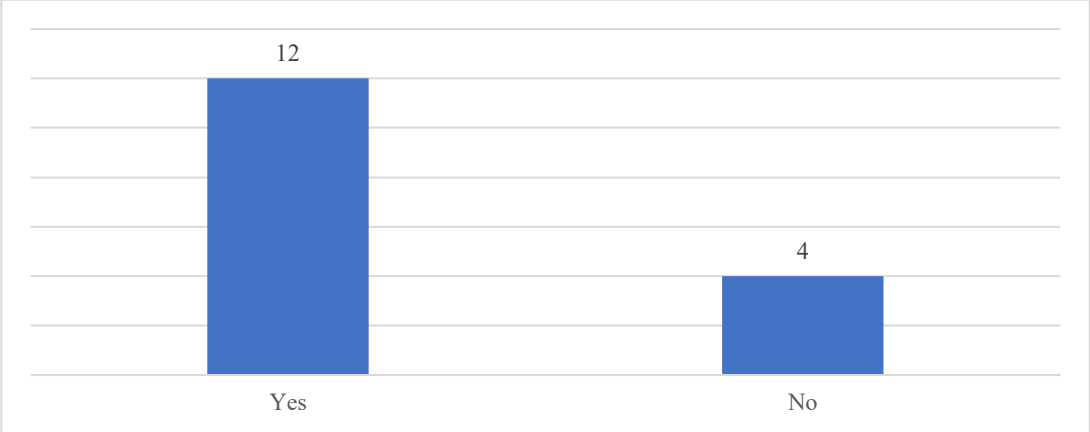
The responses cited the erosion of traditional knowledge relevant to PGRFA due to the abandonment of traditional agricultural practices. The expansion of monocultures and the adoption of commercial seeds have led to the replacement of local varieties, thus resulting in agricultural biodiversity erosion. For example, traditional varieties of beans and corn in the Cerrado region are being replaced by hybrids. The migration of younger generations to urban areas has disrupted the transmission of traditional knowledge, especially regarding seed management and *in situ* conservation. Some examples of misappropriation include that of Theobroma grandiflorum, Maytenus ilicifolia, Astrocaryum murumuru, Stevia rebudiana, Bixa orellana, Attalea speciosa, Paullinia cupana, Copaifera sp and various fruit and forest species.

[263] Brazil, Chile, Costa Rica, Cuba, Ecuador, Guatemala, Peru.
[264] Brazil, Chile, Ecuador, Guatemala, Mexico, Peru.

5.4.3 The right of farmers to participate in benefit-sharing (Article 9.2b)

A total of 12 reporting countries from Latin America and the Caribbean have taken measures in relation to the right of farmers to equitably participate in sharing benefits arising from the utilization of PGRFA.[265]

Figure 5.28
Number of reporting countries from Latin America and the Caribbean (n = 16) that have taken measures to protect the right of farmers to participate in benefit-sharing



5.4.3.1 Legal and policy frameworks on access and benefit-sharing

At the regional level, the Andean Community Decision 391 on access to genetic resources was one of the first access and benefit-sharing laws, adopted in 1996. It recognizes Indigenous and local communities' rights to decide about their know-how, innovations and the traditional practices associated with their genetic resources. However, it states that member countries exercise sovereignty over their genetic resources and consequently determine the conditions for access to them.

At the country level, many national frameworks incorporate legal and policy mechanisms to ensure equitable participation in the sharing of benefits arising from the use of PGRFA. While the Bolivarian Republic of Venezuela has embedded the principle of equitable benefit-sharing within its constitution, eight reporting countries have adopted legal and policy measures aligned with the Nagoya Protocol and the International Treaty, sometimes within biodiversity laws, policies and strategies.[266] These measures typically include requirements for obtaining prior informed consent and establishing access and benefit-sharing contracts and agreements that outline mutually agreed terms, ensuring that benefits are fairly shared among stakeholders. However, despite legal recognition, implementation remains inconsistent due to limited institutional capacity and lack of awareness among farmers of their legally enshrined rights.

5.4.3.2 Non-monetary benefits

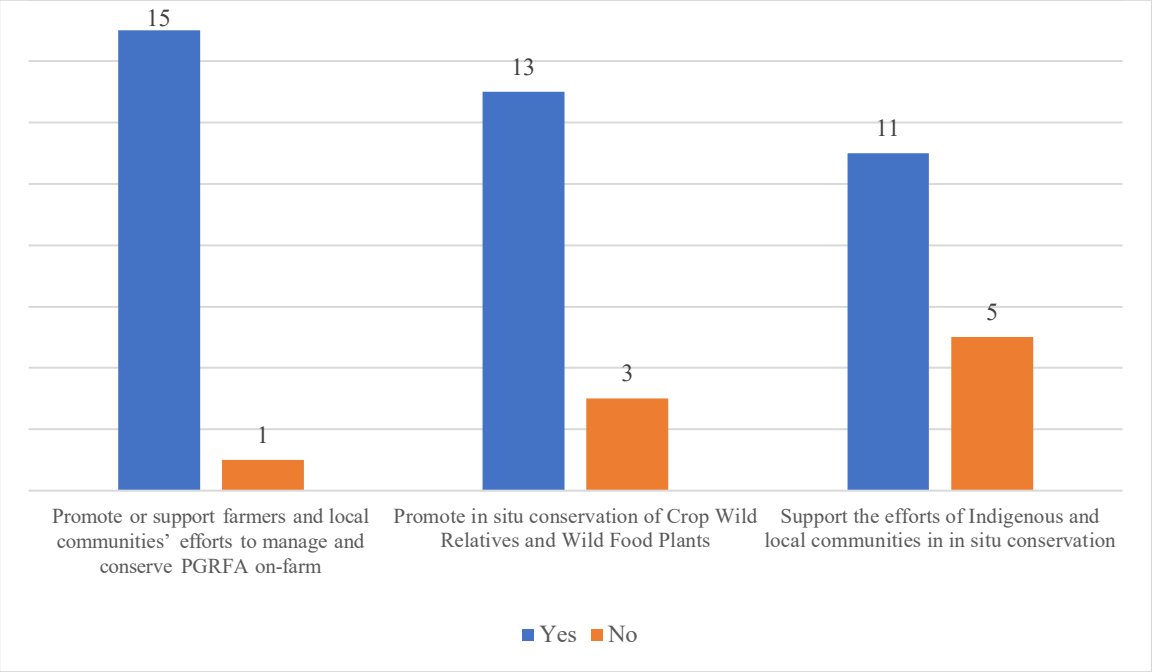
A. Supporting farmers and local communities' efforts to manage and conserve PGRFA on-farm and *in situ*

All but one reporting countries from this region have promoted or supported farmers and local communities' efforts to manage and conserve PGRFA on-farm.[267] In addition, 13 countries from this region also report promoting *in situ* conservation of CWR and WFP,[268] including 9 countries that have supported the efforts of

[265] Argentina, Bolivia (Plurinational State of), Brazil, Chile, Costa Rica, Cuba, Guyana, Honduras, Nicaragua, Peru, Uruguay, Venezuela (Bolivarian Republic of).
[266] Argentina, Brazil, Bolivia (Plurinational State of), Chile, Cuba, Ecuador, Panama, Venezuela (Bolivarian Republic of).
[267] Argentina, Bolivia (Plurinational State of), Brazil, Chile, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Nicaragua, Panama, Peru, Venezuela (Bolivarian Republic of).
[268] Argentina, Brazil, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Nicaragua, Panama, Peru, Venezuela (Bolivarian Republic of).

Indigenous and local communities in *in situ* conservation (about 56 percent of reporting countries from Latin America and the Caribbean).[269]

Figure 5.29
Number of reporting countries from Latin America and the Caribbean (n = 16) that have taken measures to:



Source: Author's own elaboration

A dozen countries from this region have adopted legal measures for on-farm and *in situ* conservation, often as an integral part of the broader legal and policy framework for protecting Farmers' Rights.[270] Examples include the legal frameworks of Argentina and the Bolivarian Republic of Venezuela's mandate that access to these resources be coupled with protocols which recognize the contributions of local custodians, thereby linking benefit-sharing with the continued on-farm conservation of native varieties. In other cases, such as Ecuador, broader policy documents, including national strategies on biodiversity and sustainable agriculture, integrate on-farm conservation with measures aimed at promoting food sovereignty and rural development.

In Argentina, Costa Rica and the Bolivarian Republic of Venezuela, specific laws have also been enacted to restore local seed varieties and enhance the recognition of traditional seed systems. These legal frameworks support participatory breeding programmes and the certification of native seed varieties, ensuring that smallholder farmers have access to quality seeds while preserving genetic diversity. However, challenges persist in the regulatory landscape, particularly in defining quality standards for farmers' varieties and traditional seed production. Legal reforms in Costa Rica and Honduras are currently under review to bridge these gaps.

- *Facilitation of farmers' access to a diversity of PGRFA*

Seed exchange and conservation programmes play a significant role in maintaining agricultural biodiversity and ensuring the availability of locally adapted varieties in Latin America and the Caribbean. Efforts supported by government agencies, research institutions and NGOs have included strengthening agrobiodiversity microcentres in the Plurinational State of Bolivia, establishing CSBs in Argentina, Costa Rica and Cuba, and promoting seed fairs and field days in Costa Rica, El Salvador and Honduras, alongside repatriation initiatives in Costa Rica. For instance, in Cuba, 33 CSBs have been established within the framework of a United Nations Environment Programme-Global Environment Facility initiative. In

[269] Argentina, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Panama, Peru, Venezuela (Bolivarian Republic of).
[270] Argentina, Brazil, Chile, Cuba, Costa Rica, Ecuador, Honduras, Nicaragua, Panama, Peru, Uruguay, Venezuela (Bolivarian Republic of).

Argentina, a recently established associative seed bank for maize promotes seed saving and sharing among producers.

Argentina, Ecuador, El Salvador and Honduras have established programmes that focus on small-scale producers working in collaboration with research centres for the restoration of traditional seed varieties to enhance community-based conservation efforts. In Argentina and Honduras, regional and cultural events have promoted traditional knowledge exchange and facilitated encounters between farming communities, promoting the preservation of biodiversity.

Initiatives in Argentina, the Plurinational State of Bolivia, Nicaragua and Panama have introduced decentralized conservation strategies, such as seed houses and community-based seed networks, ensuring access to diverse genetic materials. Community seed banks serve as mechanisms for conserving and exchanging seeds, with efforts to strengthen ties between producers and germplasm banks, particularly for the cultivation of different varieties of crops of cultural and economic importance such as potato, corn and beans, as in Argentina. In Costa Rica, these strategies have been complemented by training initiatives aimed at enhancing farmers' technical capacity in seed selection and conservation. However, although technical and financial support has been provided to assist in the conservation and management of local varieties, sustainability remains a key challenge, as many programmes cease operations once external financial and technical support is withdrawn, as has been observed in the Plurinational State of Bolivia. In Argentina and Cuba, community-driven initiatives have attempted to bridge this gap by integrating local farmers into seed production and distribution networks.

In Chile, Ecuador, Peru and the Bolivarian Republic of Venezuela, national policies supporting farmers' access to PGRFA have been reinforced through GIAHS and NIAHS to enhance the conservation of local varieties and agricultural heritage systems, together with social programmes that reinforce traditional seed-saving practices.

- *Farmers' participation in agricultural innovation and research*

The integration of farmers and Indigenous communities into agricultural research programmes and the innovation processes of research centres has been a growing trend in the region. In six reporting countries,[271] participatory approaches to agricultural research have empowered farmers by integrating their knowledge into seed selection, evaluation and breeding programmes, contributing to the development of locally adapted seeds. For instance, in Cuba, the Local Agricultural Innovation Programme actively involves farmers in priority-setting, selection, evaluation and dissemination of hundreds of improved varieties suited to local conditions. Collaborative efforts between farmers and scientists have not only strengthened agricultural innovation, but have also influenced policy reforms, particularly in seed sector development.

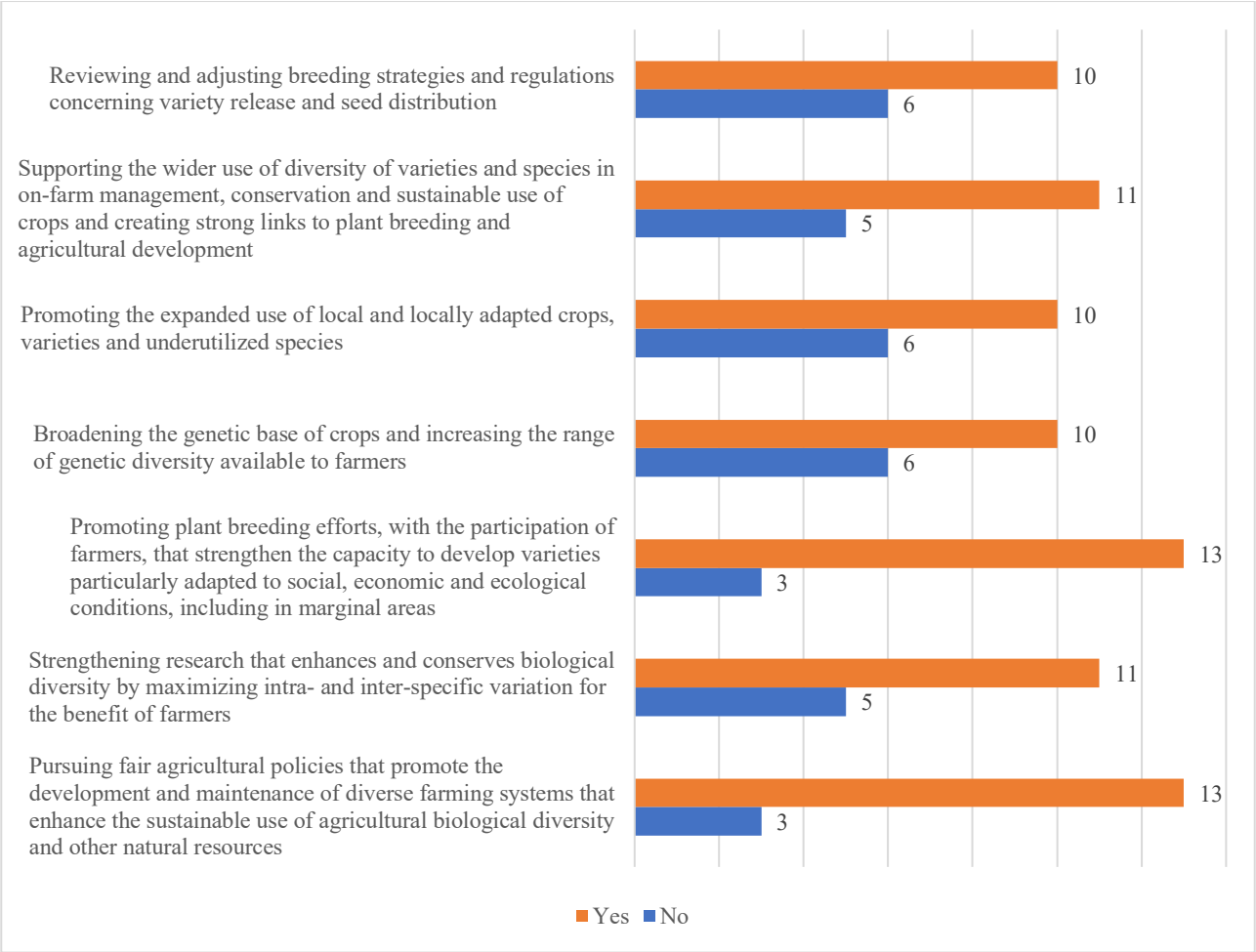
Participatory approaches have also been integrated into broader ecosystem restoration efforts to enhance climate resilience through agroecological practices in some contexts. This is the case in Costa Rica, Ecuador and Panama, where agricultural research institutions and extension programmes have played a key role in facilitating knowledge transfer between farmers and academic institutions through community workshops, demonstration farms, joint research initiatives and community-based projects.

B. Supporting the participation of farmers in sustainable use of PGRFA

Thirteen reporting countries from Latin America and the Caribbean have taken policy and legal measures that promote the sustainable use of PGRFA,[272] including measures illustrated in Figure 5.30.

[271] Argentina, Cuba, Ecuador, El Salvador, Guatemala, Uruguay.
[272] Argentina, Bolivia (Plurinational State of), Brazil, Chile, Costa Rica, Cuba, Ecuador, Guyana, Honduras, Panama, Peru, Uruguay, Venezuela (Bolivarian Republic of).

Figure 5.30
Number of reporting countries from Latin America and the Caribbean (n = 16) with policy and legal measures in place for:



Source: Author's own elaboration

Countries in the region have implemented a broad range of legal, policy and strategic instruments for the sustainable use of PGRFA that combine seed laws, plant breeders' acts, environmental and biodiversity legislation, and national strategies and policies on seeds, biodiversity, food security and sustainable agriculture.[273] For instance, Cuba has adopted a dedicated Seed and Plant Genetic Resources Policy, complemented by a Law on Food Sovereignty, to set standards for seed conservation and sustainable use. Costa Rica has adopted a National Seed Policy 2017–2030 and additional biodiversity strategies to safeguard native varieties. In Argentina, resolutions on native seeds have been introduced to regulate access and formalize benefit-sharing in ways that encourage sustainable agricultural innovation. Additional measures in Brazil, Chile and Panama, including tailored decrees on seed research and PVP, further illustrate a multifaceted legal landscape designed to promote sustainable use and foster local innovation.

- *Participatory research/plant breeding*

In Ecuador, the national framework explicitly provides for the participation of farmers and Indigenous communities in research on seeds, ensuring their active participation in decision-making and benefit-sharing.[274] In Cuba, government-backed programmes have successfully engaged farming communities in selecting and evaluating crop varieties, leading to improved adaptation to local conditions. Collaborative breeding initiatives have also been implemented in El Salvador and Guatemala to strengthen conservation strategies within local communities, often facilitated by national agricultural research institutions through

[273] Argentina, Bolivia (Plurinational State of), Brazil, Chile, Cuba, Costa Rica, Ecuador, Honduras, Nicaragua, Panama, Peru, Uruguay, Venezuela (Bolivarian Republic of).
[274] Law for Agrobiodiversity, Seeds and Promotion of Sustainable Agriculture (2017).

technology transfer, workshops and publications. In Honduras, efforts to improve participatory research have involved farmer-led selection of key staple crops such as beans and maize, although challenges remain in achieving official recognition for these improved varieties.

Generally speaking, financial constraints often hinder the sustainability of these initiatives, particularly when it comes to establishing infrastructure, such as with germplasm banks in Panama. In some cases, national biodiversity strategies explicitly support the sustainable use of PGRFA, reinforcing the need for continued investments in plant breeding and conservation research, as in Argentina.

- *Enhancing crop diversity and adaptation to meet farmers' needs and local conditions*

Research efforts to enhance local crops have increasingly relied on multisectoral partnerships that bring together public institutions, private entities and community-based organizations. These collaborations have yielded positive results, particularly in genetic improvement programmes that focus on adapting crops to local agroecological conditions, as can be observed in Costa Rica.

Research initiatives have also been launched to improve, classify and conserve agrobiodiversity, ensuring that newly developed cultivars align with both market demands and the specific requirements of smallholder farmers. In Ecuador, the involvement of public and community organizations in these programmes has strengthened the conservation and sustainable management of agrobiodiversity.[275]

In addition, the promotion of agricultural diversity has been integrated into national food and nutrition policies in Costa Rica, with efforts focused on incorporating native and wild crops into the food system. This strategy aims to preserve biodiversity, revitalize traditional culinary practices and develop innovative approaches to food production that maintain cultural identity.

Household and community-level interventions in Honduras have played a crucial role in promoting the cultivation of traditional crops, particularly through family gardens that improve dietary diversity and food sovereignty. These initiatives have been essential in reinforcing the role of small-scale farmers in sustaining diverse cropping systems. In Cuba, urban and peri-urban family agricultural programmes have been implemented to increase the availability of diverse plant species, with a focus on improving diets, food security and resilience to environmental pressures. Such efforts have prioritized the selection of cultivars that are more resistant to pests and diseases, contributing to long-term sustainability.

- *Market access and value-addition initiatives*

At least eight reporting countries from Latin America and the Caribbean have implemented strategies to support the commercialization of farmers' varieties, native species and underutilized crops.[276] In Argentina, Brazil, Chile and Costa Rica, national policies have been designed to promote the sustainable use of biodiversity within local productive arrangements, focusing on strengthening priority agricultural value chains. In Colombia, a Participatory Guarantee System has been introduced. Similar to third party certification, PGS provides a credible system to guarantee the quality of products from farmers and gardeners. These programmes have facilitated market access for small-scale producers and established fairer trading relationships between farmers and other economic actors. Additionally, in Brazil, national policy guarantees minimum prices for socio-biodiversity products such as *açaí*, nuts and *babassu*, benefiting traditional farming communities and supporting sustainable use of local biodiversity. By formalizing trade through structured price mechanisms and organized production chains, these initiatives have contributed to increasing financial returns for small-scale producers. At the community level, conservation practices have been embedded in local markets and community exchanges in five reporting countries.[277]

[275] For example, through the work of the Centers for Bio-knowledge and Agricultural Development; universities and Indigenous Peasants Organizations.
[276] Argentina, Brazil, Chile, Costa Rica, Cuba, Colombia, Honduras, Panama.
[277] Argentina, Costa Rica, Cuba, El Salvador, Honduras.

Box 5.9
Supporting farmers' fairs and traditional seed exchange practices

Farmers' festivities, biodiversity fairs and seed fairs are vibrant gatherings that empower farmers to socialize, share knowledge and exchange valuable farming practices, including seeds and crop varieties. Often intertwined with food fairs and cooking demonstrations, these events celebrate the rich heritage of agriculture. Women, men and youth come together to present their farm-saved seeds and propagating materials for exchange or sale, fostering a strong sense of community. Such gatherings not only showcase a diverse range of PGRFA, but also invite attendees to share their experiences and wisdom in farming. They open doors for farmers to access an array of PGRFA, inspiring them to expand their portfolios of farm crops and varieties, or to acquire the seeds they prefer. Examples include the following:

In Brazil, the *Articulação do Semi-árido (ASA) Brasileiro* collaborated with the state government of Paraíba to recognize farmers' seeds, improve seed production and facilitate distribution at state level. These initiatives were later integrated into national programmes focused on agroecology, family farming and food security. The goals were to conserve biodiversity, promote the production and exchange of local seed varieties and encourage sustainable farming practices. In 2002, Paraíba enacted a state law allowing direct transfers from the government to farmers. By 2005, the procurement of farmers' seed varieties for distribution through the national Food Acquisition Program (PAA) had begun and was eventually expanded to national level. The PAA included a component dedicated to purchasing seeds, and various government agencies, including Embrapa, the public sector agricultural research agency, supported seed production, quality control and seed fairs. Incorporating traditional food crops and farmers' varieties into public procurement programmes has strengthened and diversified family farm production, leading to healthier diets. By 2011, the PAA was operational in approximately 40 percent of municipalities in Brazil, reaching 25 000 governmental and non-governmental organizations and benefiting 15 million people annually through food distribution.

In Cuba, the *Instituto de Investigaciones Fundamentales en Agricultura Tropical 'Alejandro de Humboldt'*, in alliance with the *Instituto Nacional de Ciencias Agrícolas* and several key organizations, has successfully organized a series of biodiversity, seed and culinary fairs as part of its research initiatives. The first seed and biodiversity fairs were launched in the Biosphere Reserves of Sierra del Rosario and Cuchilla del Toa in 1999, followed by the inception of culinary fairs in 2003 in Sierra del Rosario and several other locations. These fairs serve a definitive purpose: to promote the exchange of seeds and sell seeds among farmers. They empower farmers from diverse regions to engage actively, fostering essential knowledge-sharing and seed exchanges. Women take centre stage at the culinary fairs, showcasing their expertise and skill in creating an array of traditional dishes. Such fairs have resulted in the revitalization of various traditional foods tied to specific regions, celebrations and seasons, stimulating much-needed creativity and passion. They underscore the critical link between the conservation of crop diversity and family food culture-sharing, making it imperative to extend this knowledge to broader populations.

In Ecuador, seeds nurtured by farmers from Indigenous communities in Cotacachi symbolize generations of wisdom and resilience. Since 2003, the initiative to promote seed fairs has blossomed, driven by the Union of Indigenous Peasant Organizations of Cotacachi, the Community Organization of Andean Women of Cotacachi and the National Institute of Agricultural Research. Their mission is to empower farmers by facilitating access to native seeds through vibrant farmer-to-farmer exchange, fostering the sharing of traditional knowledge on conservation and the use of diverse native varieties. The *Muyu Raymi* (seed festival) stands as a celebration of innovation and tradition, held for more than 18 consecutive years. With over 80 percent of participants being women, this festival brings together farmers from rural communities and beyond, creating a powerful network committed to the conservation of agrobiodiversity and the protection of traditional knowledge relevant to PGRFA. It serves as a catalyst for shaping local public policies and recognizing the invaluable contributions of farmers to maintaining traditional agroecosystems.

In Peru, between 2001 and 2005, the National Institute of Agrarian Innovation joined with various organizations to host a series of agrobiodiversity fairs. The goals were clear: to honour the diversity of native crops, celebrate the culinary treasures they inspire and promote seed exchange among farmers. These agrobiodiversity fairs were seamlessly integrated with local patron saint festivals, uniting communities in celebration of their cultural heritage and agricultural patrimony. Winners were rewarded with prizes such as organic fertilizers, farming tools and kitchen utensils, while the most accomplished participants earned the opportunity to showcase their talents at the national agrobiodiversity fair in Lima. This event ignited a spark of awareness in the urban population, unveiling the extraordinary diversity of native crops preserved by dedicated custodian farmers.

Sources: Extracted from the Inventory, submission from Brazil, Cuba, Ecuador, Peru. FAO. 2025. Accessed 29 May 2025. https://glis.fao.org/glis/csures/inv-list.

C. Training, capacity building and awareness-raising

Capacity-building initiatives have been implemented in at least five reporting countries from Latin America and the Caribbean to enhance farmers' ability to manage and conserve PGRFA.[278] In these countries, research institutions and governmental organizations have contributed to technical training for farmers through workshops, technology transfer programmes, webinars and seminars. In Costa Rica, the inclusion of Indigenous communities' organizations in some training efforts has reinforced the conservation and production of quality seeds from local varieties.

In Cuba and El Salvador, workshops on plant breeding and the establishment of CSBs have been conducted to encourage the conservation and development of local varieties. Similar efforts have been made in Guatemala to transfer agricultural technologies through visits to germplasm banks and the distribution of educational materials on native crop utilization. Training initiatives have been tailored to address the specific challenges faced by small-scale farmers. In Chile, prospective field visits have engaged Indigenous collectors in identifying and preserving valuable genetic resources. In Ecuador, capacity-building programmes have focused on agronomic management, agroecological practices, agrobiodiversity conservation and seed production systems recovery after natural disasters. Meanwhile, legal training has been conducted in Argentina to inform farmers about legal frameworks governing genetic resources and benefit-sharing mechanisms.

Emphasis has been placed on integrating ancestral knowledge, traditional agricultural practices and scientific knowledge. In Peru, exchange visits and training sessions have encouraged farmers to revive traditional knowledge relevant to PGRFA in native crop management, while incorporating improved methods such as crop rotation, seed selection, storage techniques and pest control strategies. In the Plurinational State of Bolivia, the establishment of agrobiodiversity microcentres with the involvement of farmers has helped to develop training activities in PGRFA conservation, as well as a communal registry of local varieties and the organization of seed fairs. However, the sustainability of these programmes has proved challenging, in the absence of long-term financial and technical support.

The role of communication has been explored in Brazil and Cuba with the production of information materials such as brochures, technical sheets and scientific publications to broaden outreach and awareness. For instance, in Brazil, agroecological production guides and manuals on pollinator-friendly farming practices have been developed to support sustainable agricultural management. In Cuba, a programme dedicated to urban, suburban and family agriculture includes specific guidelines for the conservation of local plant species and native varieties, recognizing these measures as contributing to Farmers' Rights.

Additional strategies, including the organization of seed fairs and culinary events in Argentina, Costa Rica, Cuba and El Salvador, have further contributed to increasing awareness and promoting the use of diverse crop varieties. Public awareness-raising activities in Cuba have been developed to disseminate information on conservation efforts and Farmers' Rights.

Knowledge exchange events have fostered collaboration between farmers, researchers and policymakers in some countries, including Argentina, Brazil, Costa Rica, Cuba and Honduras. For instance, large-scale biodiversity congresses have been organized in Honduras to promote knowledge-sharing on sustainable agricultural practices. In Brazil, regional events have facilitated exchanges between traditional farmers and Indigenous groups to exchange knowledge and experiences. These gatherings have included workshops on national policies related to biodiversity conservation and the protection of traditional knowledge relevant to PGRFA.

Despite these efforts, the continuity of training programmes remains a concern, as initiatives rely on external funding and institutional support in at least six reporting countries.[279]

5.4.3.3 Monetary benefits

Several reporting countries, including the Plurinational State of Bolivia, Brazil, Chile and Ecuador, have developed financial support systems to encourage the conservation and sustainable use of traditional crops. In Brazil, direct subsidies, guaranteed minimum price policies and public procurement have been set in place

[278] Argentina, Brazil, Costa Rica, Cuba, El Salvador.
[279] Argentina, Bolivia (Plurinational State of), Costa Rica, Ecuador, Honduras, Uruguay.

to ensure economic returns for small-scale producers cultivating native crops and non-timber forest products. In this country, structured price lists and production chains have also helped to formalize trade, improving financial stability for farmers engaged in these activities.

Competitive funding initiatives have played a role in preserving traditional agricultural heritage. Government-supported projects in Chile have encouraged the valorization of native crops by integrating them into local economies, with a particular focus on agroecology, agrotourism and smallholder diversification strategies. In Ecuador, a Research Fund for Agrobiodiversity, Seeds, and Sustainable Agriculture, established as a financial instrument, aims to promote research programmes and projects, plant breeding, seed production and technology transfer, financed by resources allocated from the general state budget. In the Plurinational State of Bolivia, financial and technical assistance has been provided to farmers involved in biodiversity conservation through the establishment of agrobiodiversity microcentres, although the sustainability of these initiatives has been challenged by inconsistent funding.

Experiences and lessons learned

Multistakeholder survey responses about experiences and lessons learned in promoting the rights of farmers to participate in equitable sharing of benefits arising from the use of PGRFA were as follows:

- Monetary benefits

- A respondent from Brazil described the Government's approach to benefit-sharing by establishing a national fund that receives a fixed percentage from profits made from reproductive material. Decisions regarding the allocation of resources are made by a committee that includes peasants as members.
- A respondent from Ecuador reported the establishment of a national fund for benefit-sharing, which provides funding for projects from state budgetary resources.

- Non-monetary benefits

- Respondents from Ecuador, El Salvador and Uruguay described benefit-sharing through engagement in technological advancements and capacity-building initiatives.

- Policy and legal framework

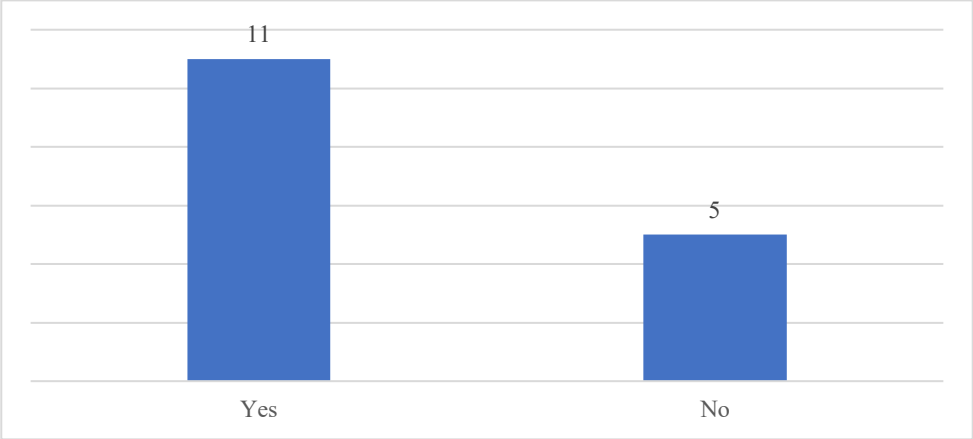
- A respondent from Peru described the establishment of a mechanism on "Regulation on Access to Genetic Resources and their Derivatives, which includes monetary and non-monetary benefits for providers of biological resources containing genetic resources of cultivated species of origin". These providers can be farmers, communities or others, as outlined in the Nagoya Protocol of the CBD.

5.4.4 The right of farmers to participate in making decisions, at national level, on matters related to the conservation and sustainable use of PGRFA (Article 9.2c)

A total of 11 reporting countries from Latin America and the Caribbean have taken measures to protect the right of farmers to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of PGRFA.[280]

[280] Argentina, Brazil, Chile, Costa Rica, Cuba, Guyana, Honduras, Nicaragua, Peru, Uruguay, Venezuela (Bolivarian Republic of).

Figure 5.31
Number of reporting countries from Latin America and the Caribbean (n = 16) that have taken measures to protect and promote the right of farmers to participate in decision-making



Source: Author's own elaboration

- *Institutional mechanisms for farmers' participation*

Institutional mechanisms have been developed in some contexts to integrate farmers into policymaking processes. In Uruguay, producer organizations play a direct role in influencing national policies on PGRFA by participating in the National Committee on Plant Genetic Resources, ensuring that their perspectives are considered in conservation and agricultural strategies. Cuba has gone further by legally recognizing the contributions of small-scale farmers to PGRFA conservation and incorporating them into governmental decision-making processes. Similarly, legislation has been enacted in Panama to establish a special regime to protect and promote traditional knowledge relevant to PGRFA and guarantee the involvement of local communities' authorities in biodiversity-related governance.

- *Participatory governance structures*

In other cases, dedicated platforms have been established to facilitate farmers' and local communities' engagement with public institutions. In Honduras, the Inter-Institutional Committee on Biocultural Heritage provides a space for farmers and Indigenous groups to express concerns and priorities regarding the protection of plant genetic resources and traditional knowledge relevant to PGRFA. This initiative has been supported through international agreements and funding mechanisms, ensuring the alignment of local governance structures with broader global frameworks. Honduras has also established the Forum on Indigenous and Afro-descendant communities, which serves as an avenue for raising awareness about international treaties on genetic resources and benefit-sharing, further integrating marginalized groups into policy discussions.

A technical committee dedicated to PGRFA has been formed in Guatemala to strengthen dialogue between agricultural associations, research institutions and policymakers and develop action plans that align with national conservation priorities, while addressing the needs of farmers.

- *Environmental governance and community-based decision-making*

At least two reporting countries have implemented comprehensive policies that integrate farmers into broader environmental governance structures. In Brazil, national policies on territorial and environmental management have been established to safeguard indigenous lands and natural resources, while promoting sustainable agricultural practices. These policies emphasize the Indigenous communities' governance and participation, biodiversity conservation and the protection of genetic heritage, ensuring that local communities play an active role in shaping environmental strategies.

In the Bolivarian Republic of Venezuela, decentralized governance models have been introduced, granting local communities the power to manage natural resources and contribute to agricultural policy formulation. Legal frameworks have been designed to strengthen grassroots participation by allowing farmers, Indigenous

groups and local communities to take part in planning and decision-making processes. These laws not only regulate seed conservation efforts, but also the availability of local crop varieties. Importantly, the legislative measures have been shaped through public consultations with farmers, peasants, Indigenous Peoples and other social movements, highlighting the role of participatory governance in agricultural policy development.

Experiences and lessons learned

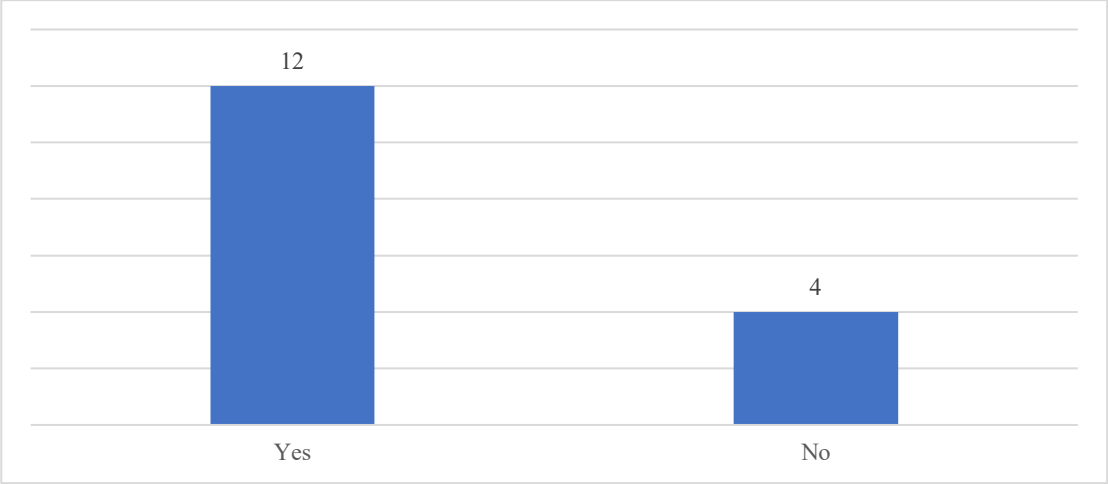
The following is a summary of the experiences and lessons learned, as provided by the multistakeholder survey respondents:

- Respondents from six countries noted a general awareness among farmers and local and Indigenous communities, and reported that authorities enable or support their participation and representation in technical committees, dialogues and discussions concerning PGRFA.[281]
- Respondents from Brazil emphasized the importance of continued discussions with farmers, Indigenous communities, farming communities and government entities for effective implementation of Farmers' Rights.

5.4.5 The rights of farmers to save, use, exchange and sell farm-saved seed, subject to national law and as appropriate (Article 9.3)

A total of 12 reporting countries from Latin America and the Caribbean have taken measures to protect the rights of farmers to save, use, exchange and sell farm-saved seed.[282]

Figure 5.32
Number of reporting countries from Latin America and the Caribbean (n = 16) that have taken measures to protect the rights of farmers to save, use, exchange and sell farm-saved seed



Source: Author's own elaboration

- *Legal frameworks*

Cuba, Ecuador and the Bolivarian Republic of Venezuela have established legal frameworks that explicitly recognize farmers' rights to seeds. These laws often recognize traditional knowledge relevant to PGRFA and address seed-saving practices as an essential component of agricultural sustainability. For instance, Ecuador's law on agrobiodiversity, seeds and the promotion of sustainable agriculture guarantees fair and equitable benefit-sharing, while ensuring farmer participation in seed management and protecting the informal exchange of seeds within traditional networks of seed distribution. Initiatives in Argentina, Costa Rica and Cuba provide direct support for restoring, revitalizing and promoting local seed varieties through dedicated national programmes. In Argentina, the formal recognition of creole seeds in seed trade policies

[281] Argentina, Brazil, Costa Rica, Peru, Saint Lucia and Uruguay.
[282] Argentina, Bolivia (Plurinational State of), Brazil, Chile, Costa Rica, Cuba, Ecuador, Guyana, Honduras, Panama, Peru, Venezuela (Bolivarian Republic of).

has facilitated their broader adoption among smallholder farmers, enhancing both conservation and economic opportunities.

- *Policy reforms and institutional support*

Ongoing policy reforms or discussions in at least three reporting countries, including Costa Rica, Ecuador and Honduras, aim to strengthen the legal recognition of farmers' seed systems. In Costa Rica and Ecuador, national seed policies and strategies and proposed amendments to existing seed laws seek to integrate traditional knowledge relevant to PGRFA and promote the recovery of traditional crop varieties. In Honduras, reforms have focused on incorporating native seeds into formal certification systems, enabling improved recognition and regulation of locally adapted seed varieties. However, challenges persist in balancing scientific standards for seed quality with participatory research approaches that include small-scale farmers.

- *Traditional farmer seed exchange platforms*

Peasant farmers continue to exchange and share their seeds through agrobiodiversity fairs, seed fairs, CSBs, farmers' markets and farmer-to-farmer seed exchanges. These activities are often facilitated by projects funded by the state or external sources, and sometimes with assistance from civil society organizations.[283]

Box 5.10
Seed fairs

The basis of seed fairs is solidarity, friendship and trust. You must believe in the other person and in the seed that he or she is going to give, in his or her identity, in his or her ability to germinate and give a flowering plant that bears fruit. The conservation and exchange of seeds is part of the culture, of a way of being, of celebrating, of relating to families in the countryside, and celebrating life. In seed fairs, certain elements that make the Gift, giving, without expecting to receive, are also recovered. The exchange is very simple, it is the exchange of one thing for another, of the seeds, plus the knowledge, the knowledge associated with it.

Source: Respondent from Argentina, Multistakeholder survey on the state of implementation of Article 9.

Experiences and lessons learned

The respondents in the region described their experiences and lessons learned, which are summarized as follows:

- Respondents from Brazil, Colombia and Guatemala indicated the absence of public policy to ensure specific financial resources for sustainable use activities of PGRFA, and stated that existing actions are insufficient and ineffective.
- Respondents from Argentina described the provincial and national legislation concerning access to and circulation of propagation material of native species. The respondents highlighted the crucial role of seed fairs in climate change adaptation and promoting food sovereignty. They also described the threats posed by extractive mining projects to the production of native and creole seeds.
- A respondent from Ecuador indicated the importance of having a management plan that enables sustainability and legal commitment from the state to finance Centers for Bio-knowledge and Agricultural Development. Regarding the implementation of the Law for Agrobiodiversity, Seeds and Promotion of Sustainable Agriculture (2017), which has three main sections covering native conservation, regulation of certified seed and sustainable agricultural practices. The respondent stated that it is preferable to focus on a specific issue, as addressing all three broad areas can lead to challenges.[284]

Cases where farmers have been taken to court, fined or otherwise sanctioned for saving, exchanging and/or selling seed/propagating material of varieties protected with plant breeder's rights or patents

- In Brazil, between the years 2000 and 2015, there was a significant industry campaign aimed at discrediting commodity crop producers (farmers) who saved seeds from their own crops when using

[283] Brazil, Chile, Cuba, Ecuador, Guatemala, Peru.
[284] Source: www.fao.org/3/ca7933en/ca7933en.pdf; www.fao.org/3/ca7936en/ca7936en.pdf

industrial seeds. These seeds were labelled as ‘pirate seeds’ in an effort to combat the non-payment of patent royalties. The campaign also sought to criminalize and severely impact family farmers, peasants and traditional communities who use, save and conserve genetic resources of interest to food and agriculture (traditional seeds and local varieties).

- In Costa Rica, use of the Rosé pineapple has been documented in several regions. Consequently, the State Phytosanitary Service conducted inspections and issued warnings to those in possession of this variety, as it is a GMO.
- In Argentina, regarding protected varieties, the issue has not been with native species, but with commercial varieties. Commercial farmers, whose activities involve the production of cereals and oilseeds for the commercial chain, have used protected varieties without recognizing their ownership at the time of access, thereby acquiring illegal seeds. However, if the seeds were acquired legally, farmers are permitted to use them without seeking authorization from the breeder.
- In Colombia, there were instances of seed seizure between 2010 and 2012 under the application of Resolution 970 of 2010. The most notable case occurred in the department of Huila, where the Colombian Agricultural Institute seized and destroyed rice seeds from smallholder farmers. These seizures led to the peasant movement demanding the repeal of this resolution. Although the resolution was amended, full guarantees have not been provided for the recovery, protection, production and free circulation of native and creole seeds, as well as for the protection of associated traditional knowledge.

5.4.6 Gaps and needs with regard to the realization of Farmers’ Rights

Table 5.3 displays the results of the multistakeholder survey about gaps and needs. The majority of respondents indicated having gaps and needs in the implementation of Farmers’ Rights, while a few responses replied “no”.

Table 5.3
Multistakeholder responses on the gaps and needs with regard to the realization of Farmers’ Rights

Gaps and needs	Number of responses		
	Yes	No	Not sure
Lack of national policy and legal measures to protect and promote the provisions of Article 9	13	3	0
Weak enforcement of existing relevant policy and legal measures that can protect and promote the provisions of Article 9	15	0	0
Lack of or inadequate support from public institutions	16	0	1
Lack of coordination between and among sectors	15	2	0
Conflicts between national/subnational and international policies	10	3	0

Source: Author's own elaboration

- Legal and policy frameworks

- The absence of a comprehensive legal framework, or outdated legislation, weakens the enforcement of measures to protect and promote Farmers' Rights.[285]
- In some instances, while laws exist to safeguard traditional knowledge relevant to PGRFA and seed conservation, enforcement remains weak due to bureaucratic obstacles, limited institutional capacity and lack of awareness among farmers of their legally enshrined rights.[286]

[285] Brazil, Cuba, Ecuador, Guatemala, Panama, Peru.
[286] Brazil, Peru, Panama.

- Regulatory frameworks on genetic resources primarily outline general principles, but lack implementation mechanisms and sufficient funding to ensure meaningful application.[287]
- National legislation does not align with Farmers' Rights and inconsistencies between national and provincial regulations further contribute to gaps in compliance with international treaties.[288]

- Institutional coordination

- There is a lack of interinstitutional coordination and harmonization of policies.[289]
- A national commission dedicated to plant genetic resources exists, but lacks operational capacity and coordination mechanisms.[290]

- Obstacles to support farmers' efforts in in situ *and on-farm conservation and sustainable use*

- Farmers face difficulties accessing and conserving seeds due to legal and logistical barriers.[291]
- Indigenous communities lack the technical and legal expertise to negotiate with governmental and corporate entities regarding seed conservation and benefit-sharing.[292]
- Seed registration, production and commercialization standards are either non-existent or need to be standardized to facilitate the exchange and conservation of native seeds.[293]
- While there have been initiatives to support PGRFA conservation, these often lack an integrated and systematic approach.[294] For instance, although some institutional projects have been launched for the sustainable use of genetic resources, they have largely been driven by researchers rather than by coordinated national strategies.[295]
- Some countries lack a comprehensive inventory of traditional and native crop varieties and documentation of new seed varieties, which hampers documentation efforts.[296]
- Research efforts on genetic diversity remain fragmented and valuable data are often scattered across different institutions, without a centralized database.[297]

- Financial and human resources to support activities that protect and promote Farmers' Rights

- Limited investment in conservation programmes restricts efforts to safeguard genetic diversity.[298]
- Research programmes on plant genetic resources are underfunded, leading to a lack of comprehensive studies, particularly on traditional or underutilized crops.[299]
- Financial support for farmers to access markets and benefit from conservation efforts remains inadequate.[300]
- There is a shortage of skilled personnel specialized in genetic resource management, research, advanced conservation techniques and legal matters.[301]
- Capacity-building efforts are further constrained by limited training opportunities for farmers and institutions responsible for implementing conservation programmes.[302]

[287] Bolivia (Plurinational State of).
[288] Argentina, Respondent from Guatemala.
[289] Argentina, Costa Rica, Uruguay.
[290] Costa Rica.
[291] Bolivia (Plurinational State of), Costa Rica, Guatemala, Nicaragua.
[292] Bolivia (Plurinational State of).
[293] Cuba, Guatemala, Guyana, Panama.
[294] Costa Rica, Cuba, Uruguay.
[295] Uruguay.
[296] Costa Rica, Guatemala, Guyana, Honduras.
[297] Costa Rica, Cuba, Honduras.
[298] Bolivia (Purilantional State of), Cuba, Guatemala, Peru and Venezuela (Bolivarian Republic of).
[299] Costa Rica, Cuba, Uruguay.
[300] Argentina, Brazil.
[301] Cuba, Guatemala, Uruguay.
[302] Cuba, Venezuela (Bolivarian Republic of).

- *Awareness-raising*

- One important obstacle to implementing Farmers' Rights is the limited awareness among farmers themselves of their rights, reducing their ability to engage in conservation and benefit-sharing initiatives such as financial incentive schemes.[303]
- Bureaucratic inefficiencies and low levels of farmer engagement have limited the effectiveness of financial incentive schemes, such as guaranteed minimum price policies for traditional crops.[304]
- Lack of public awareness and political engagement in the conservation and use of PGRFA has further hindered progress in implementing Farmers' Rights.[305]

5.4.7 Measures or factors limiting the realization of Farmers' Rights

Eight respondents from six countries indicated having measures or factors limiting the realization of Farmers' Rights.[306]

- *Lack of enabling legal and policy framework*

- A respondent from Argentina described government actions by various authorities as not adequately recognizing the role of women in seed care and conservation, resulting in them being disproportionately impacted by transnational corporate activities and agrochemical use, which compromises their rights.
- A respondent from Colombia reported a lack of regulation protecting farmers' seed production and safeguarding traditional knowledge relevant to PGRFA.
- A respondent from Mexico highlighted the lack of political will and interest in advancing the protection of Farmers' Rights.

- *Gender-related factors that may limit the realization of Farmers' Rights*

Respondents from Argentina, Brazil and Mexico indicated that existing policies fail to address the specific needs of many women farmers, particularly where restrictions on the distribution of financial resources limits their potential for innovation and entrepreneurship. This subsequently limits the capacity of women farmers to manage and conserve PGRFA.

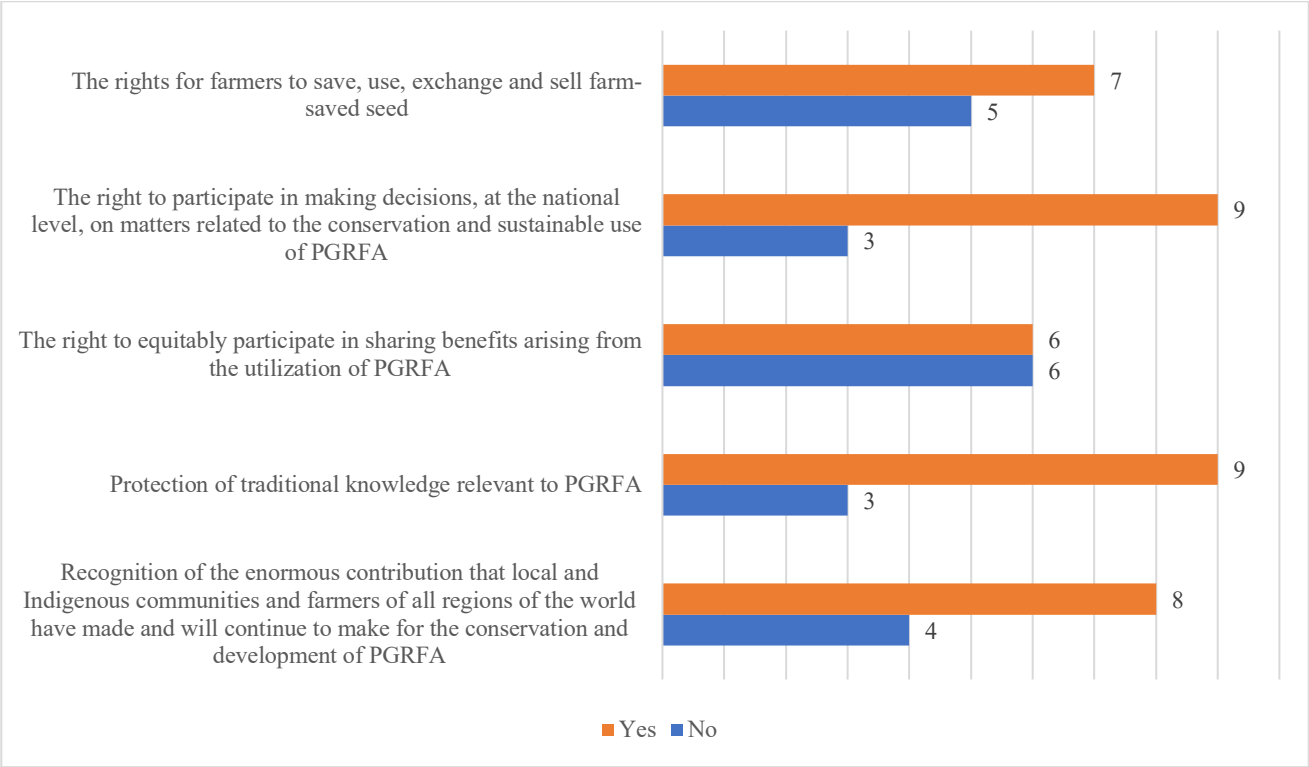
[303] Ecuador.
[304] Brazil.
[305] Guatemala, Uruguay.
[306] Argentina, Brazil, Colombia, Costa Rica, Guatemala, Mexico.

5.5 NEAR EAST

There are 20 countries in the Near East region, including 18 that are Contracting Parties to the International Treaty. By April 2025, a total of 12 countries from this region had submitted a national compliance report to the Secretariat of the International Treaty.[307] The following information summarizes that found in the 12 national reports submitted to the Secretariat of the International Treaty, supplemented by information from the Inventory (14 submissions covering 5 countries)[308] and 14 responses from 10 countries,[309] gathered through the multistakeholder survey conducted by the Secretariat of the International Treaty.

All reporting countries from the Near East have taken measures that contribute to the implementation of Farmers' Rights, although not for all aspects of Farmers' Rights (see Figure 5.33).

Figure 5.33
Number of reporting countries from Near East (n = 12) that have taken measures for:



Source: Author's own elaboration

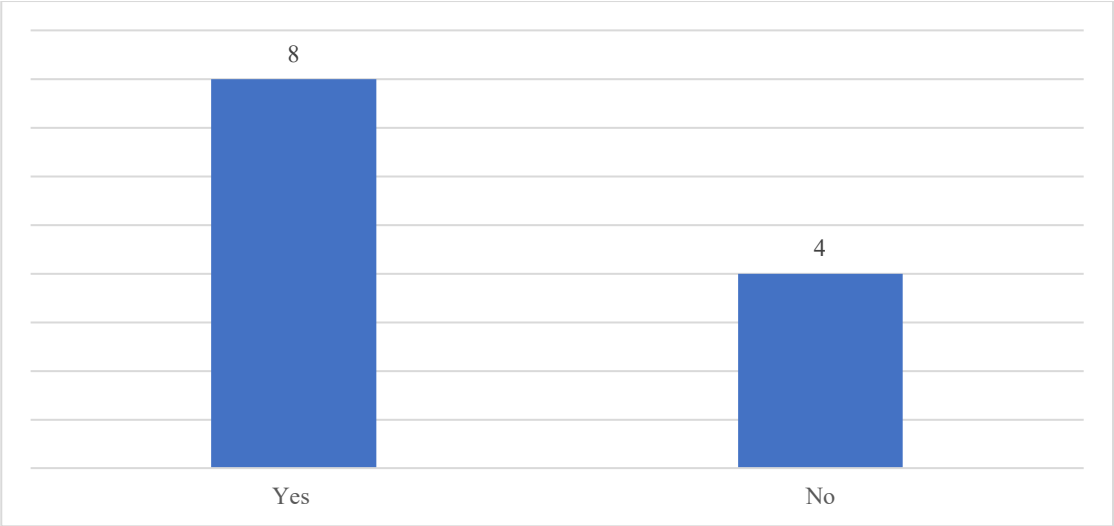
PROVISIONS OF ARTICLE 9

5.5.1 Recognition of the enormous contribution of farmers and local and Indigenous communities to PGRFA conservation and development (Article 9.1)

A total of eight reporting countries from this region report having taken measures to recognize the enormous contribution that local and Indigenous communities and farmers of all regions of the world have made and will continue to make for the conservation and development of PGRFA.[310]

[307] Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Oman, Saudi Arabia, Sudan, Syrian Arab Republic, United Arab Emirates, Yemen.
[308] Iran (Islamic Republic of), Jordan, Libya, Sudan, Uzbekistan.
[309] Egypt, Jordan, Lebanon, Libya, Qatar, Sudan, Iran (Islamic Republic of), Saudi Arabia, Sudan.
[310] Jordan, Kuwait, Lebanon, Oman, Saudi Arabia, Sudan, Syrian Arab Republic, Yemen.

Figure 5.34
Number of reporting countries from Near East (n = 12) that have taken measures to recognize the enormous contribution of farmers and local and Indigenous communities to PGRFA conservation and development



Source: Author's own elaboration

Some initiatives include awards and festivals that reward farmers for maintaining traditional varieties and practising sustainable agriculture, including in those countries that have reported having taken no measures to recognize the enormous contribution of local and Indigenous communities and farmers. For instance, in the United Arab Emirates, initiatives such as national farmers' awards for date palm and traditional festivals explicitly incentivize farmers and encourage participation by celebrating indigenous agricultural practices and promoting organic farming groups. In Sudan and Yemen, the recognition of farmers' contributions is promoted by naming improved crop varieties after farmers who collaborated in breeding or selection processes (such as *Baftaim* onion, *Ghoneimi* wheat and *Wad-el Bashir* and *Ashana* millet). Other recognition awards have been presented through the designation of GIAHS, as in the case in Egypt, the Islamic Republic of Iran and the United Arab Emirates.

Experiences and lessons learned

A respondent from Jordan indicated that Farmers' Rights are addressed in agricultural laws through various articles, instructions and regulations; however, greater clarity is needed. The respondent also emphasized that initiatives, projects and programmes require consistent institutional and financial support and that additional steps are necessary to diversify and strengthen current measures.

Box 5.11
Capacity building of farmers and local communities in conserving and managing local crops

Technical support for farmers

The National Agricultural Research Centre (NARC) in Jordan is dedicated to enhancing agricultural production while preserving the country's natural resources and maintaining ecological harmony. Through a series of projects, NARC empowers farmers with vital technical and logistical support. The Food Security Project, launched in 2016, established 200 to 250 field observation sites, paving the way for growth. The Field Schools Project, which began in the 2004–2005 growing season, started with vegetables and was later extended to fruit trees and other crops. Its mission is to unite researchers, agricultural extension agents and farmers in a groundbreaking agricultural journey. In February 2019, NARC introduced the Agricultural Innovation Incubator Initiative. This initiative transforms entrepreneurial ideas into reality, strengthening the national economy, fostering sustainable development and creating job opportunities and success stories that celebrate the resilience of farmers.

Transfer of technology to farmers

Farmers in the semi-arid regions of the Al Jaffara plain, south of Tripoli, Libya, face challenges with limited access to technology and high prices for agricultural inputs. In 2018–2019, the Safit Station for Agricultural Research and Studies and the Animal Research Center reignited hope by relaunching a technology transfer programme to support these

armers. Initially established from 1991 to 2000, this programme aimed to empower farmers with the knowledge of appropriate agricultural techniques for cultivating crops in their arid environment. Through this initiative, farmers learned to apply suitable methods, select the best seed types and varieties and ultimately enhance their farm incomes. The programme began with 49 farmers in 2018 and expanded to approximately 136 in 2019, demonstrating a commitment to community growth. As a result, farmers gained a new appreciation for the significance of adopting agricultural techniques tailored to their harsh conditions, enabling them to make informed choices in crop cultivation and embrace agricultural technologies that can transform their lives.

Evolutionary Participatory Plant Breeding

In 2008, the Centre for Sustainable Development and Environment embarked on an ambitious journey through the Evolutionary Participatory Plant Breeding Programme in the Islamic Republic of Iran. This initiative brings together a diverse network of national and international partners, including government agencies, NGOs, research institutions and farmers' associations. The mission is to empower low-input, marginal farmers across the Islamic Republic of Iran's unique microclimates, enriching their resilience by increasing genetic diversity and cultivating evolutionary crop populations that can thrive amidst the challenges of climate change and local stressors such as drought, water scarcity, salinity, pest, and diseases. Central to this programme are two vital components: the establishment of evolutionary populations in farmers' fields, ensuring a sustainable seed supply, and the enhancement of policies and regulations that promote the responsible use of PGRFA. By developing the capacity of farmers and researchers, the programme fosters a supportive environment to access, maintain and utilize these innovative crop populations. This not only boosts productive gains but also ensures yield stability and reinforces ecosystem resilience. Through this initiative, nutritious food and feed can flourish in the market, fostering a sustainable future for all.

Community-based initiatives

Between 2010 and 2012, PPB trials were conducted in Sudan, supervised by plant breeders from three agricultural research stations located in the traditional rainfed regions of Kordofan and Darfur. The goal was to develop and release improved millet varieties suitable for these areas. The trials included two varieties codeveloped by a farmer named Wad el-Bashir, who worked with a plant breeder from the Elobied research station. These varieties were based on local millet species, alongside a previously released variety called *Ashana*. The new varieties were registered under the name of Wad el-Bashir, representing a form of non-monetary benefit-sharing. This registration allowed the legal production, marketing and distribution of these farmer-developed varieties, which significantly increased the area cultivated with millet and contributed to improved food security at a national level. Another initiative to support farmers was the establishment of community-based Seed Growers Groups as part of the Seed Development Project, implemented from 2012 to 2018. This project was a collaborative effort between government organizations and authorities in North and South Kordofan, alongside public and private sector partners such as service providers and local extension teams. The aim was to enhance the productivity of smallholder farmers by promoting the use of certified seeds for crops grown under rainfed conditions in both states. The project encompassed four complementary components: (i) strengthening the regulatory environment and relevant government institutions; ii) improving the seed production system through necessary support; (iii) developing markets by assisting farmers' groups, associations and private sector enterprises in providing relevant technologies, goods and services; and (iv) effective project management. As a result of these efforts, 17 community-based Seed Growers Groups were established, involving a total of 853 farmers, with women accounting for 38 percent of the participants. These groups were enabled to produce certified seeds of both improved and traditional varieties, which were sold to seed companies, neighbours and farmers in other regions of Sudan, including West Kordofan and Darfur. Ultimately, these achievements have led to a significant enhancement of food security nationwide.

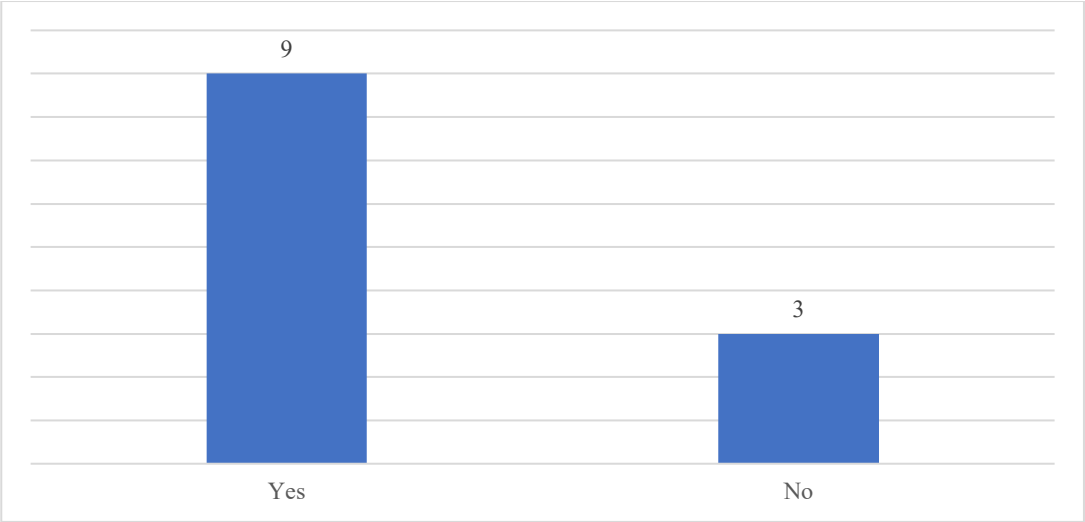
Sources: Extracted from the Inventory, submission from Jordan, Libya, Iran and Sudan. FAO. 2025. Accessed 29 May 2025. https://glis.fao.org/glis/csures/inv-list.

5.5.2 The protection of traditional knowledge relevant to PGRFA (Article 9.2a)

A total of nine reporting countries from the Near East have taken measures to protect traditional knowledge relevant to PGRFA.[311]

[311] Iraq, Kuwait, Lebanon, Oman, Saudi Arabia, Sudan, Syrian Arab Republic, United Arab Emirates, Yemen.

Figure 5.35
Number of reporting countries from Near East (n = 12) that have taken measures to protect traditional knowledge relevant to PGRFA



Source: Author's own elaboration

While direct legal recognition of traditional knowledge associated with PGRFA remains limited in scope, Egypt and Iraq have adopted intellectual property laws that include specific provisions for the protection of traditional knowledge relevant to PGRFA. Lebanon has initiated steps that contribute to its preservation through legal instruments regulating the harvesting and use of wild medicinal and aromatic plants, thereby contributing to protecting traditional knowledge relevant to PGRFA and uses associated with them.

In addition to legal measures, two reporting countries – Saudi Arabia and Yemen – have established specific mechanisms to document traditional knowledge relevant to PGRFA. In Yemen, the traditional knowledge and practices of farmers from various regions have been documented under national projects and programmes. Saudi Arabia reports that nine agricultural research stations dedicated to field and horticultural crops have been established, where seed collection and conservation efforts are systematically conducted, ensuring the documentation and selection of valuable plant varieties and the associated traditional knowledge. In Jordan, according to a respondent, the focus of protection of traditional knowledge relevant to PGRFA is more on WFP and less on local landraces and farmers' varieties.

Community engagement also supports the protection of farmers' traditional knowledge relevant to PGRFA. Two countries – Kuwait and Yemen – highlight the importance of collaboration and social inclusion in conservation initiatives and the preservation of traditional knowledge relevant to PGRFA. In Yemen, farmers are encouraged to group together into associations, such as the seed producers' association, the grape association and the coffee association, allowing them to collaborate on the conservation and marketing of traditional varieties and exchange traditional knowledge. In Kuwait, women are encouraged to participate in conservation projects, expanding engagement across different farming groups, strengthening social inclusion in conservation programmes and contributing to the use of their traditional knowledge relevant to PGRFA, and hence its preservation.

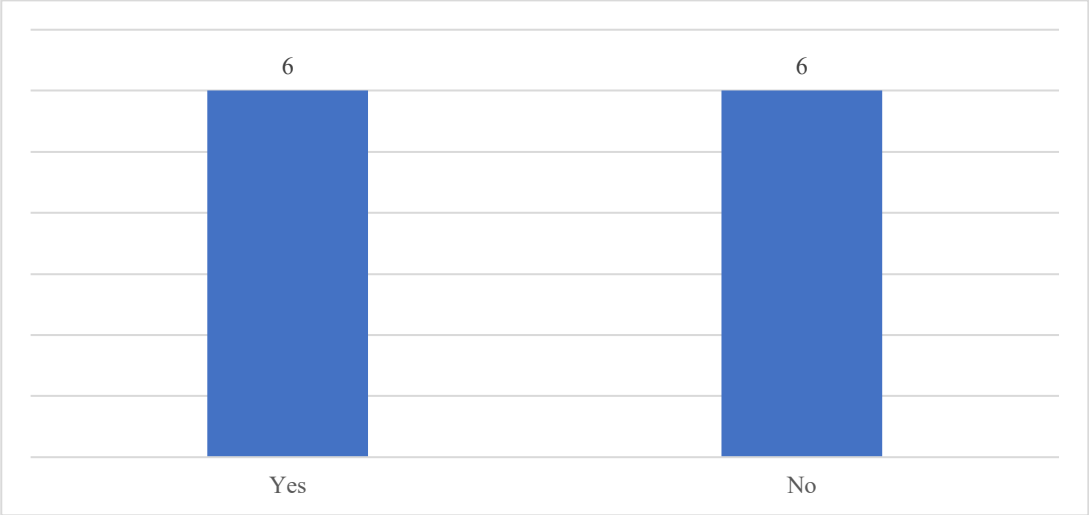
The protection of traditional knowledge, as well as the use of innovations and practices relevant to PGRFA, were also promoted by Algeria, Morocco and Tunisia through, *inter alia*, recognition of the Oases system as a Globally Important Agricultural Heritage System, farmer-managed seed systems such as CSBs, seed fairs, local markets and cross-visits between farmers and researchers/scientists.

5.5.3 The right of farmers to participate in benefit-sharing (Article 9.2b)

A total of six countries from the Near East report having taken measures in relation to the right of farmers to equitably participate in sharing benefits arising from the utilization of PGRFA.[312]

[312] Iraq, Jordan, Oman, Saudi Arabia, Sudan, Syrian Arab Republic.

Figure 5.36
Number of reporting countries from Near East (n = 12) that have taken measures to protect the right of farmers to participate in benefit-sharing



5.5.3.1 Legal and policy frameworks on access and benefit-sharing

Five reporting countries from this region have drafted or enacted laws guided by the Nagoya Protocol which include ABS provisions.[313] In Saudi Arabia, dedicated legislation has been developed specifically to implement ABS commitments under both treaties through a unified legal instrument.

Other measures include seed laws, legislation on plant breeders' rights, legislation to manage PGRFA, agricultural laws and environmental protection acts that indirectly reinforce equitable access to benefits derived from the use of genetic material.[314]

At the policy level, Kuwait, Lebanon and Sudan have adopted national PGRFA, agricultural or biodiversity strategies and action plans that also support farmers' efforts in conservation and sustainable use of PGRFA, while Lebanon has also developed a national seed policy.

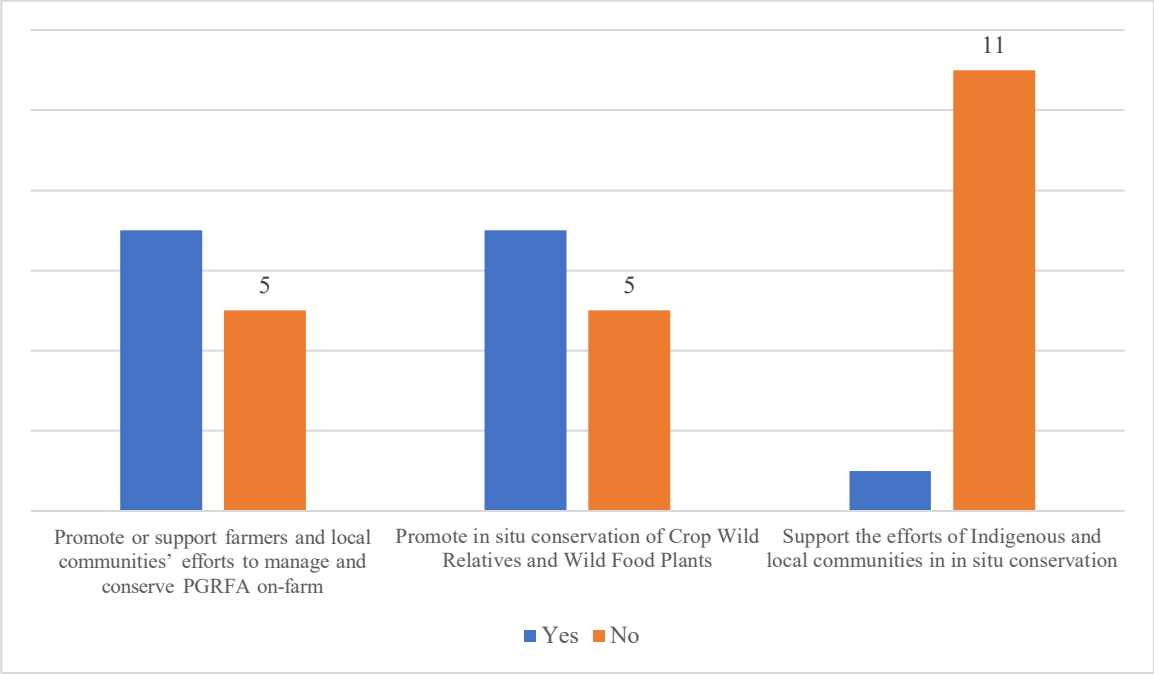
5.5.3.2 Non-monetary benefits

A. Supporting farmers and local communities' efforts to manage and conserve PGRFA on-farm and *in situ*

A total of seven reporting countries from this region have promoted or supported farmers and local communities' efforts to manage and conserve PGRFA on-farm.[315] However, while seven countries from this region also report promoting *in situ* conservation of CWR and WFP,[316] only Oman has supported the efforts of Indigenous and local communities in *in situ* conservation.

[313]Egypt, Iraq, Lebanon, Saudi Arabia, Syrian Arab Republic.
[314]Jordan, Lebanon, Oman, Saudi Arabia, Sudan, Syrian Arab Republic, Yemen.
[315]Egypt, Jordan, Kuwait, Lebanon, Oman, Saudi Arabia, Yemen.
[316]Egypt, Kuwait, Lebanon, Libya, Oman, Syrian Arab Republic, United Arab Emirates.

Figure 5.37
Number of reporting countries from Near East (n = 12) that have taken measures to:



Source: Author's own elaboration

Five reporting countries have adopted legal and policy instruments that support on-farm and *in situ* conservation.[317] These include general environmental protection laws and more targeted agricultural regulations that safeguard plant genetic resources in their natural habitats and support the conservation of CWR, as well as national biodiversity strategies and action plans. However, it is noted that some of these policies do not provide adequate reference to or even mention farmers, as is the case in Jordan. In Sudan, reforms to seed legislation are under way to better align with breeder's rights and the International Treaty obligations.

- *Facilitation of farmers' access to a diversity of PGRFA*

At least six reporting countries have initiatives for providing farmers with improved or traditional seeds, often linked to national institutions or international gene banks.[318] For instance, in Lebanon, a seed multiplication programme has been implemented with subsidies from the Ministry of Economy, leading to the distribution of wheat and barley seeds to farmers at a symbolic price. In the same country, farmers from a specific region received old accessions of wheat and barley landraces from the International Center for Agricultural Research in the Dry Areas (ICARDA) gene bank under a regional project implemented through the BSF. This helped to restore traditional seed systems and improve seed diversity and resilience. In Sudan, the registration of local farmer varieties has led to commercial seed production and marketing. This process has enabled farmers to legally produce and distribute seeds, resulting in an increase in millet cultivation and improved food security.

- *Institutional and research support*

In Kuwait and Yemen, governments play a critical role in ensuring that seeds of traditional and improved varieties remain accessible to farmers. In Oman, the expansion of government supervised seed production over the years has strengthened conservation efforts with a focus on important crops such as wheat and barley. In Iraq, Kuwait and Yemen, farmers are encouraged to conserve and use local genetic resources by receiving improved seeds and seedlings from government institutions, which also provide financial and

[317] Jordan, Kuwait, Lebanon, Oman, Sudan.
[318] Iraq, Kuwait, Lebanon, Oman, Saudi Arabia, Yemen.

technical support to make seed conservation economically viable. In Lebanon, collaboration among the Ministry of Agriculture, the national Agricultural Research Institute and the private sector has resulted in the implementation of a programme to produce certified seeds of fruit trees such as stone fruits, olive, grapevine and citrus.

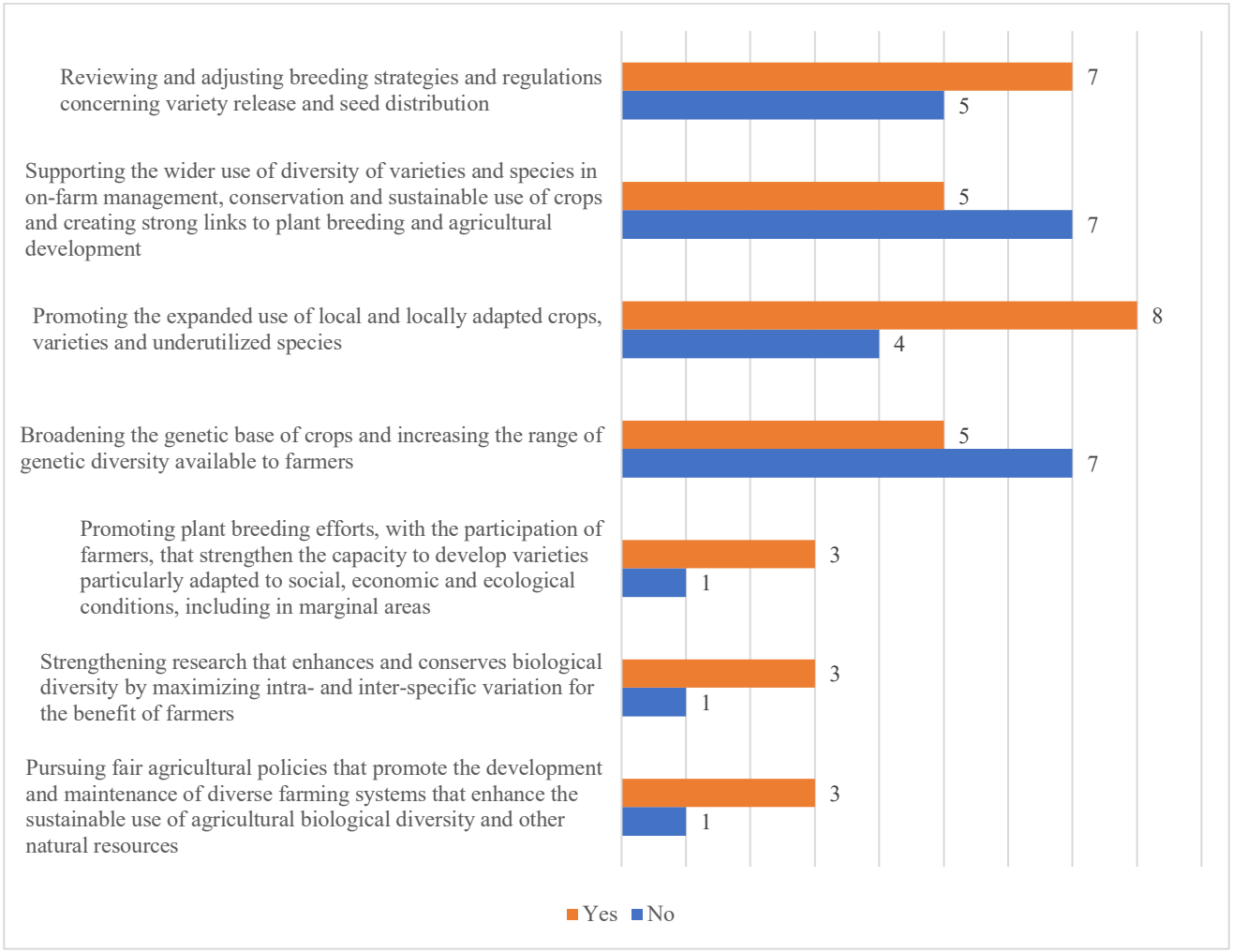
- *Farmers' participation in agricultural innovation and research*

Reliance on farmers' traditional seed selection also enhances PGRFA diversity. For instance, in Oman, the use by farmers of resilient, long-lived stands over multiple generations of the 'Omani' alfalfa variety has ensured that these important 'survival' characteristics are preserved and enhanced in successive multiplications. In this country, farmers actively produce vegetables and fruit crop seeds, as well as propagating materials of tree crops such as date palm, mango, acid lime and other citrus species, while the Ministry of Agriculture has established nurseries in different regions that produce seedlings of date palm, mango, acid lime, and other citrus species and crops.

B. Supporting the participation of farmers in sustainable use of PGRFA

All but one reporting countries from the Near East have taken policy and legal measures that promote the sustainable use of PGRFA.[319] Figure 5.38 provides details on the types of measures adopted in the region.

Figure 5.38
Number of reporting countries from Near East (n = 12) with policy and legal measures in place for:



Source: Author's own elaboration

[319] Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Oman, Saudi Arabia, Syrian Arab Republic, United Arab Emirates Yemen.

Efforts to promote the sustainable use of PGRFA are supported by a range of seed laws and policies,[320] PVP frameworks,[321] and national PGRFA and/or agricultural laws or strategies.[322] For instance, Lebanon has developed a comprehensive seed policy that includes provisions to support private sector participation in seed development, while ensuring public access to new varieties. In Oman, recent efforts have focused on drafting or updating legislation concerning the protection of new plant varieties and seed certification.

- *Participatory research/plant breeding*

At least five reporting countries from the Near East promote participatory research and plant breeding. In the Islamic Republic of Iran, Sudan and the Syrian Arab Republic, farmers participate in field evaluation of breeding lines. In Iraq, researchers and plant breeders are encouraged to develop varieties suited to local environments, with research centres and universities leading efforts to find resilient crop varieties. In Yemen, PPB is supported and the expansion of local and underutilized crop varieties is promoted.

In Iraq, Lebanon and the Syrian Arab Republic – all of which are experiencing significant unrest that is affecting the livelihoods of rural communities, agricultural activities and local agrobiodiversity – a FAO regional project implemented through the BSF: "Strengthening national capacities and regional integration for efficient conservation of Plant Genetic Resources in a post-conflict region", involves farmers in crop selection strategies. Under this project, PGRFA are used for scientific (some accessions might enter a research programme), educational and farmer-centred purposes (farmers will benefit from certified landrace seeds that were planted previously). Some landrace accessions have been reintegrated into research and production systems.

- *Market access and value-addition initiatives*

In Jordan, a six-year project on rural economic growth and employment funded by the International Fund for Agricultural Development engages farmers, rural entrepreneurs and microfinance institutions to integrate smallholder farmers into value chains. In this country, the Ministry of Industry, Trade and Supply is responsible for buying grains from farmers at preferential prices.

C. Training, capacity building and awareness-raising

Various training initiatives have taken place in the Near East to strengthen technical capabilities among stakeholders, including researchers, extension agents, farmers and policymakers. For instance, in Egypt, Jordan, Lebanon and Yemen, national agricultural research institutes organize periodic workshops, specialized training courses and seminars on plant breeding techniques, germplasm management, seed multiplication and conservation methods. In Libya, the transfer of technologies and their application to conservation and sustainable use of PGRFA have been delivered to farmers as a form of non-monetary benefit-sharing. Additionally, FFS, through demonstration plots and collaborative group learning, represent a practical and participatory approach adopted in the Islamic Republic of Iran, Jordan, Lebanon and Sudan to enable farmers to gain direct practical experience of sustainable agricultural practices, integrated crop management and effective conservation techniques. In Yemen, study tours and international or regional exchange visits constitute an additional capacity-building method used in the region.

Varied approaches to public education and awareness-raising have been adopted across the region. National awareness campaigns, media outreach, national biodiversity celebrations, field schools, field days, traditional festivals and targeted dissemination of educational materials are used in Lebanon and the United Arab Emirates. In this latter country, initiatives at the community level, such as festivals to promote dates, olives, mangoes and citrus farming, highlight traditional agricultural knowledge and play a dual role by simultaneously raising awareness and incentivizing participation among local farmers. In Jordan and Lebanon, science days and specialized events involving stakeholders who include scientists, extension agents, farmers and policymakers are organized as platforms for knowledge dissemination, research sharing and public engagement.

[320] Iraq, Lebanon, Saudi Arabia, Sudan, Syrian Arab Republic, Yemen.
[321] Iraq, Kuwait, Oman, Sudan.
[322] Jordan, Kuwait, Lebanon, Saudi Arabia, Syrian Arab Republic.

5.5.3.3 Monetary benefits

- *Financial support and direct subsidies*

Five reporting countries – Iraq, Jordan, Kuwait, Lebanon and Yemen – implement direct financial support measures, particularly through seed production, distribution and purchasing programmes. For instance, government subsidies enable farmers to obtain seeds at subsidized or symbolic prices, facilitating access to improved varieties. In Lebanon, an established seed multiplication and distribution programme has been in place since the 1960s, providing wheat seeds to farmers at minimal cost. Another example includes government contracts with local farmers who produce certified seeds under supervision, subsequently distributed at promotional prices to other local farmers, as is the case in Yemen. This arrangement not only ensures wider access to high-quality seeds, but also provides direct economic returns to the participating seed-producing farmers. In Jordan, Farmers' Rights are indirectly supported through preferential pricing.

- *International funding mechanisms*

Funding mechanisms frequently involve cooperation with international bodies. A notable project implemented in Jordan and supported by international funding specifically aims at rural economic growth, employment creation and value chain integration for small-scale farmers, with a special focus on vulnerable rural populations, including youth and women. Financed through international loans and grants, this project enhances farmers' capacity, market integration and overall economic empowerment.

Additionally, at the time of preparing this assessment, 14 projects had been funded under the BSF, 11 of which have now been completed. Three projects are currently ongoing: one in Yemen, focused on participatory conservation and the sustainable use of local landraces; and two multicountry initiatives – one involving Iraq, Lebanon and the Syrian Arab Republic and another spanning Algeria, the Islamic Republic of Iran, Jordan, Lebanon, Morocco, the Syrian Arab Republic, Tunisia and Türkiye.

These projects engage farmers in the crop genetic improvement of diversity, aiming to enhance food security, improve rural livelihoods and increase resilience to climate change through improved crop production.

Experiences and lessons learned

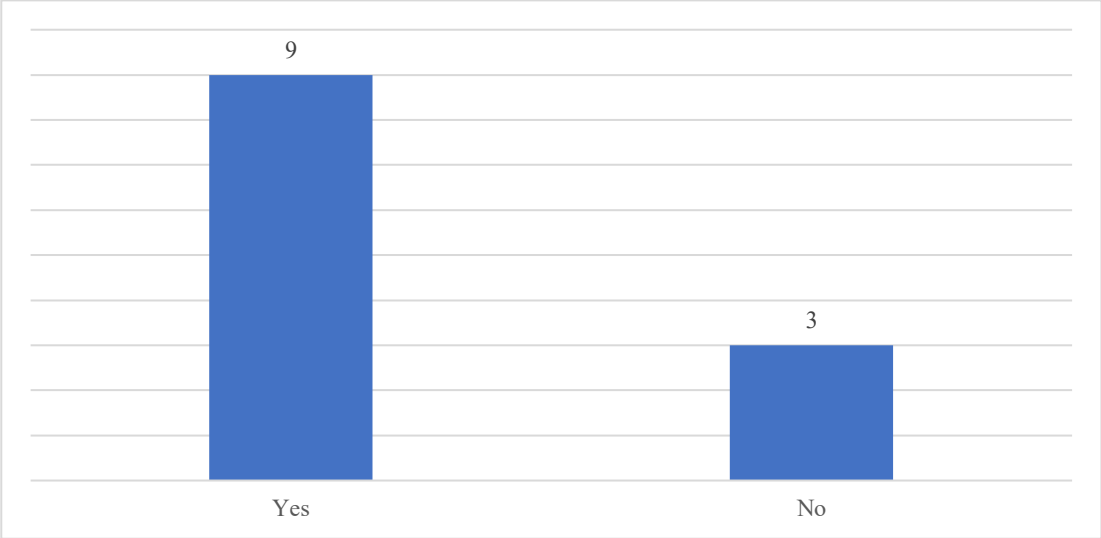
- The respondent from Jordan explained that the current legal framework concerning ABS will be addressed through a by-law to be adopted following implementation of the Nagoya Protocol.
- The respondent from Sudan noted that the registration of local farmers' varieties has led to commercial seed production and marketing. This process has enabled farmers to legally produce and distribute seeds, resulting in an increase in millet cultivation and improved food security across the country.
- With regard to training, capacity building and awareness-raising, the respondent from Jordan described the organization of festivals, field days and workshops as effective platforms for promoting awareness. These events bring together researchers, extension workers, farmers, farmers associations, agricultural organizations, academicians, stakeholders and the media to showcase recommended practices. The resulting increased awareness has been reflected in the greater adoption of recommended agricultural practices.

5.5.4 The right of farmers to participate in making decisions, at national level, on matters related to the conservation and sustainable use of PGRFA (Article 9.2c)

A total of nine reporting countries from the Near East have taken measures to protect the right of farmers to participate in making decisions, at national level, on matters related to the conservation and sustainable use of PGRFA.[323]

[323] Jordan, Kuwait, Lebanon, Oman, Saudi Arabia, Sudan, Syrian Arab Republic, United Arab Emirates, Yemen.

Figure 5.39
Number of reporting countries from Near East (n = 12) that have taken measures to protect and promote the right of farmers to participate in decision-making



Source: Author's own elaboration

- *Institutional mechanisms for farmers' participation in decision-making*

Formal mechanisms for farmers' participation in policymaking and lawmaking on PGRFA matters are emerging in at least three reporting countries. National PGRFA committees have been established in Lebanon and Saudi Arabia and include not only government and scientific representatives, but also stakeholders from the private sector and farmer representatives. The Syrian Arab Republic's legislative framework explicitly provides for the participation of farmers and civil society actors in decisions related to PGRFA conservation and use, including access regulations and benefit-sharing arrangements, thereby empowering farmers in decision-making.

- *Community-based decision-making*

In some contexts, the organization of farmers supports their representation in decision-making processes. For instance, the establishment of farmers' societies and cooperatives in Kuwait provides a collective voice for farmers and some institutional recognition. In Yemen, an initiative by the governmental corporation to contract farmers for improved seed multiplication to produce seeds under the supervision of specialists should contribute to their participation in national seed policies.

Experiences and lessons learned

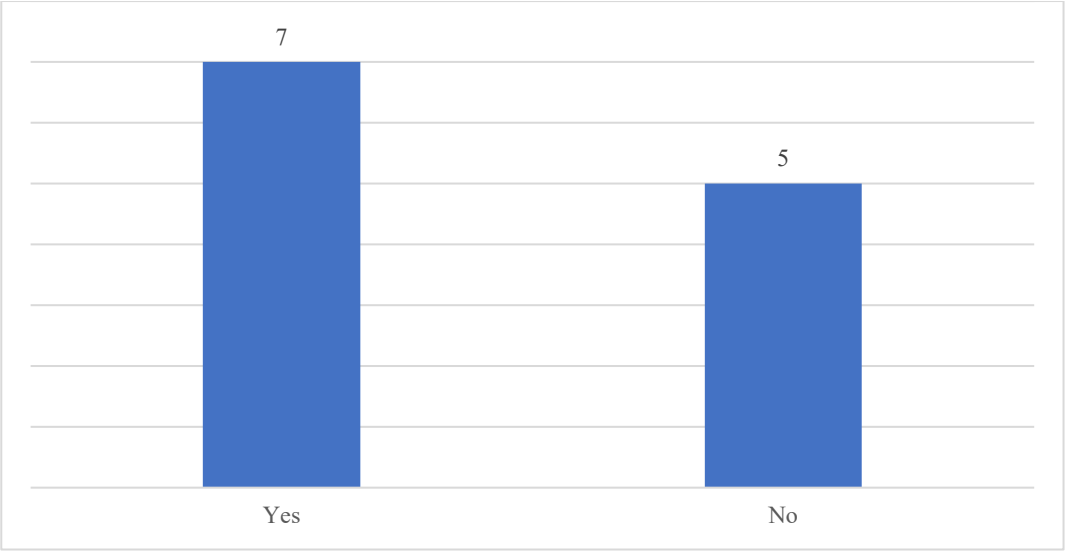
The respondent from Jordan noted that implementation of this Farmers' Rights provision is contingent upon specific projects and the proximity and accessibility of farmers. The respondent also emphasized the need to expand coverage to all farming regions and to strengthen farmer representation at various levels.

5.5.5 The rights of farmers to save, use, exchange and sell farm-saved seed, subject to national law and as appropriate (Article 9.3)

A total of seven reporting countries from the Near East, have taken measures to protect farmers' rights for farmers to save, use, exchange and sell farm-saved seed.[324]

[324] Egypt, Iraq, Jordan, Saudi Arabia, Sudan, Syrian Arab Republic, United Arab Emirates.

Figure 5.40
Number of reporting countries from Near East (n = 12) that have taken measures to protect the rights for farmers to save, use, exchange and sell farm-saved seed



Source: Author's own elaboration

- *Legal frameworks governing farm-saved seeds*

Seed laws in the Near East reflect varying degrees of support for farmers' seed systems. In Iraq, Sudan and Yemen, existing seed and variety protection laws focus primarily on regulating commercial seed markets and protecting plant breeders' rights, with limited explicit provisions for farmers' managed seed systems and associated traditional seed practices. Notably, in Sudan, new seed legislation has been proposed to bring national frameworks in line with international obligations, while also addressing the rights of farmers to seeds. In Lebanon, where seed programmes exist under public institutions, such as seed multiplication and certification schemes, they often prioritize the distribution of improved varieties through subsidized channels.

In contrast, the adoption of forestry and environmental laws in Jordan indirectly supports traditional propagation methods, such as grafting and pruning of wild fruit species, by regulating but not prohibiting these activities on both public and private lands. However, comprehensive frameworks explicitly protecting farmers' rights to save, use, exchange and sell farm-saved seed are generally lacking across the region.

- *Institutional support and participatory initiatives*

Non-legal initiatives have been developed in three reporting countries to promote farmers' rights to save, use, exchange and sell farm-saved seed. Saudi Arabia has developed a national seed system project and a seed and seedling guide to support improved seed systems and agricultural practices. It has also established a committee to register local seed varieties. In Lebanon, seed exchange and data-sharing are promoted among farmers, research institutions and seed producers. In Yemen, where farmers play a key role in decision-making for traditional seed production, various projects have been implemented to encourage farmers – especially those considered as pioneers/innovators – to reuse, produce and share the seeds produced in their fields with the participation of researchers and extension workers, and sell them to other farmers. In this country, an attempt has been made to reform seed distribution by developing a mechanism for seed sharing and varietal registration. However, governance issues, including weak institutional structures, a lack of clear vision by decision-makers in the Ministry of Agriculture and ongoing conflicts, hinder the establishment of a coherent national seed policy.

Experiences and lessons learned

The respondent from Jordan emphasized that these measures should be integrated into relevant national programmes or strategies, rather than implemented on an ad hoc basis.

5.5.6 Gaps and needs with regard to the realization of Farmers' Rights

- Legal and policy frameworks

- Policy gaps hinder effective implementation of PGRFA-use strategies. One country reports that the existing seed law needs adjustment, particularly in sections related to breeders' rights. While a new proposed legislation on the protection of new plant varieties and breeders' rights has been drafted, it has not yet been adopted.[325]
- Respondents to the multistakeholder survey expressed the absence of legal measures that recognize the role of farmers in the conservation and sustainable use of PGRFA, as well as for the protection and promotion of the provisions of Article 9.[326]
- Limited legal expertise and difficulties in articulating existing frameworks with local farmers' varieties restrict progress in Farmers' Rights protection and PGRFA regulation and implementation.[327]

- Institutional coordination

- Institutional weakness, lack of expertise and conflict-related disruptions are major barriers.[328]
- National efforts in genetic resources conservation and research remain scattered, with no central body coordinating the various relevant units.[329]
- There is a lack of or inadequate coordination between and among sectors in promoting the sustainable use of PGRFA, which is adversely affecting the promotion and protection of Farmers' Rights.[330]

- Obstacles to support farmers' efforts in in situ *and on-farm conservation and sustainable use*

- *In situ* conservation activities are largely absent due to a lack of clear policy for local genetic resource conservation.[331]
- Conservation of CWR is not a priority by protected area authorities, leading to a lack of monitoring.[332]
- Ongoing conflict-related disruptions have halted survey and inventory operations for more than seven years, leading to a significant loss of genetic resources.[333]
- Insufficient funding and trained personnel hinder germplasm collection and conservation.[334]
- National efforts in sustainable use are fragmented, lacking coordination and legal backing.[335]

- Financial resources to support activities that protect and promote Farmers' Rights

- Greater financial support is generally needed to protect Farmers' Rights and promote conservation and sustainable use of PGRFA.[336]

- Capacity building and awareness-raising

[325] Sudan.
[326] Jordan, Lebanon, Sudan
[327] Jordan, Kuwait, United Arab Emirates.
[328] Syrian Arab Republic, Yemen.
[329] Yemen.
[330] Yemen.
[331] Sudan.
[332] Jordan.
[333] Syrian Arab Republic.
[334] Sudan.
[335] Yemen.
[336] Iraq, Sudan, Yemen.

- Limited government support and security issues restrict capacity-building efforts.[337]
- There is a need for expertise, capacity building and training courses, together with financial support, including to build legislative and institutional capacities related to genetic resources access and benefit-sharing.[338]
- There is a need for public awareness campaigns on the International Treaty and its provisions, including on Farmers' Rights.[339]

- Conflict and political instability

- Armed conflict, socioeconomic instability and poor security conditions in parts of the region make it difficult for policymakers to prioritize the implementation of Farmers' Rights and efforts for the conservation and use of PGRFA.[340]

- Irregular participation of farmers

- The participation of farmers in making decisions related to PGRFA is currently confined to specific projects and depends on their proximity and accessibility. It is essential to enhance coverage across all farming communities and strengthen the representation of farmers at various levels.[341]

5.5.7 Measures or factors limiting the realization of Farmers' Rights

Respondents from Jordan, Lebanon, Sudan and Tunisia indicated having measures or factors that limit the realization of Farmers' Rights.

- The respondent from Jordan identified three main limitations: (i) lack of awareness among decision-makers about the importance of PGRFA for food security; (ii) lack of policies and legislation for Farmers' Rights; and (iii) low representation of farmers' organizations or associations in decision-making related to PGRFA.
- The respondent from Sudan noted the limited financial resources and slow action in the approval of draft national legislation.
- Respondents from Lebanon indicated that gender norms restrict women's ability to engage in certain activities related to PGRFA conservation and sustainable use.

5.6 NORTH AMERICA

There are two countries in the North America region: Canada and the United States of America, which are both Contracting Parties to the International Treaty. Both countries have submitted a national compliance report to the Secretariat of the International Treaty.

The following summary consolidates the data presented in the national reports of the two Contracting Parties, supplemented by information from the Inventory (15 submissions) and five responses collected through the multistakeholder survey conducted by the Secretariat of the International Treaty.

Both Canada and the United States of America have taken measures to protect and promote the provisions of Article 9 of the International Treaty.

[337] Iraq.
[338] Iraq, United Arab Emirates, Yemen.
[339] Jordan, Yemen.
[340] Syrian Arab Republic, Yemen.
[341] Iraq, Jordan, Lebanon.

PROVISIONS OF ARTICLE 9

5.6.1 Recognition of the enormous contribution of farmers and local and Indigenous communities to PGRFA conservation and development (Article 9.1)

Both Canada and the United States of America have taken measures to recognize the contribution of farmers and local and Indigenous communities to PGRFA conservation and development.

In this region, there is legal and constitutional recognition of the essential role that farmers, Indigenous communities and local custodians play in the conservation and development of PGRFA. In Canada, this recognition is anchored in the Constitution Act, which acknowledges the inherent rights of Indigenous Peoples to their lands, territories and resources. This constitutional framework is complemented by international engagement with the country's active participation in and contribution to the funding of international agreements such as the International Treaty, the CBD and UNDRIP.

The legal and constitutional recognition is translated into national funding programmes and policies. For example, Canada's Indigenous-led Conservation Support Funding programme, launched in 2021, reflects a significant commitment to empowering Indigenous communities in environmental governance, explicitly supporting their leadership in the conservation of ecosystems and biodiversity, including agrobiodiversity. These commitments are further strengthened by collaboration with global research institutions, such as CGIAR.

In the United States of America, the Agricultural Conservation Easement Program, established in 2014, provides financial and technical assistance to farmers to help conserve agricultural lands and limit non-agricultural uses of the land. Agricultural land easements protect the long-term viability of the country's food supply by preventing the conversion of productive working lands to non-agricultural uses. Land protected by agricultural land easements provides additional public benefits, including environmental quality, historic preservation, wildlife habitat and protection of open space. Another example is the crop insurance administered by the United States Department of Agriculture Risk Management Agency. The Federal Crop Insurance Corporation (FCIC) promotes the economic stability of agriculture through a sound system of crop insurance and provides the means for research and experience helpful in devising and establishing such insurance. The Risk Management Agency was created in 1996 to serve the United States of America's agricultural producers through effective, market-based risk management tools, to strengthen the economic stability of agricultural producers and rural communities. It manages the FCIC to provide innovative crop insurance products to the country's farmers and ranchers.

In addition to policy and legal measures, recognition is also demonstrated at the technical level through various programmes and project activities that support farmers and Indigenous local communities in the development, management, conservation and sustainable use of PGRFA. These initiatives include PPB programmes, the provision of access to PGRFA from national gene banks, knowledge exchange and the conservation of heirloom varieties donated by heritage seed growers and farmers. These efforts are being implemented at local, national and regional levels and have been extended globally where international cooperation exists.

Experiences and lessons learned

Based on the available information, the following is a summary of the experiences and lessons learned regarding measures introduced to recognize the contribution made by local and Indigenous communities and farmers in the conservation and development of PGRFA:

- Inclusive cooperation at national and international levels is described in Canada's Compliance Reports on implementation of the International Treaty, received in 2017 and in 2024.
- A memorandum of understanding between the Canadian national gene bank and an NGO engaged in conservation and sustainable use of PGRFA has been in place since 1995.

Box 5.12
Indigenous Peoples *in situ* conservation and management of CWR and WFP

As of 2016, Indigenous Peoples represent 4.9 percent of the total Canadian population and manage reserve lands with an area of more than 3.5 million hectares. Locally harvested traditional foods are central to the cultural, spiritual and

physical health of Indigenous Peoples and communities. About 550 different species of plants have been utilized in the traditional diets of Indigenous Peoples in Canada. Among Indigenous communities in Canada, a wealth of traditional knowledge exists regarding natural resources, particularly plants, which make up a large part of their traditional diet). Due to their close and long-term relationships with their traditional territories, Indigenous Peoples have knowledge, methodologies, practices and social controls that enable them to engage in beneficial sustainable resource use and management. Indigenous Peoples in Canada have a long history of effectively managing food plant production and plant habitats using practices such as succession, regeneration, selective harvesting, pruning/coppicing berry bushes, controlled burns, habitat creation and distributed use and harvest across landscapes and over time (seasonal rounds).

The Government of Canada is committed to advancing reconciliation with Indigenous Peoples through a renewed, nation-to-nation, Inuit-Crown and government-to-government relationship based on the recognition of rights, respect, cooperation and partnership; enhanced departmental capacity and Indigenous representation; and inclusive policies and programmes. A key objective is increasing awareness and appreciation of traditional methods and fostering reciprocal, non-transactional partnerships with Indigenous communities to increase food security, revitalize Indigenous agricultural practices, revive traditional knowledge systems, conserve traditional food/medicine plant genetic resources and empower Indigenous Peoples, including communities, organizations, businesses and individuals. In 2018, Agriculture and Agri-Food Canada (AAFC) launched the Indigenous Agriculture and Food Systems Initiative, a five-year (2018-2019 to 2022-2023), CAD 8.5 million programme that supports Indigenous communities seeking opportunities in agriculture and the food system more broadly.

Agriculture and Agri-Food Canada also launched an Indigenous Pathfinder service in 2018. This is a one-stop shop for advice and referral to help Indigenous Peoples and communities to navigate relevant information, tools and support available to start or expand activities in the agriculture and agrifood sector.

In October 2017, AAFC officially established an Indigenous Support and Awareness Office, to enhance departmental capacity to support Indigenous cultivation through knowledge and awareness of the history, cultural contexts and current barriers and opportunities for Indigenous cultivation through the development of an Indigenous Awareness Learning Series. The Indigenous Support and Awareness Office is also mandated to increase recruitment and retention of Indigenous employees by supporting the activities of the Indigenous Student Recruitment Initiative, the Indigenous Network Circle for employees and the departmental Elder. The Indigenous Support and Awareness Office provides access to Elder services, which ensures ongoing support for Indigenous employees and activities across the department of AAFC. Learning content providers within the office support stronger cultural awareness for employees and senior management.

Agriculture and Agri-Food Canada's Science and Technology Branch established a Senior Indigenous Science Liaison Officer position in 2017 to act as a liaison between AAFC researchers and potential Indigenous partners in the context of scientific research partnerships. This position now leads the Indigenous Science Liaison Office, which was established by the Science and Technology Branch in 2020 to support AAFC researchers in building relationships, engaging and ultimately co-developing research projects with Indigenous partners. The Indigenous Science Liaison Office does this by providing science-specific Indigenous cultural literacy and intercultural competency training to Science and Technology Branch staff, researchers and management, liaising between researchers and potential Indigenous partners, creating guides and tools and providing input in science policy and programming to facilitate Indigenous research partnerships.

Agriculture and Agri-Food Canada supports several Indigenous science projects.

Agricultural Living Laboratories functions as a local innovation hub, where various participants explore, demonstrate and adapt beneficial management practices and technologies within a working agricultural landscape. The Agricultural Living Laboratory initiative has established a national network of Agricultural Living Laboratories situated in various production systems and landscapes across Canada, including First Nations' lands in cooperation with Indigenous people. The establishment of the network enables the development of comparative studies, cross-sectoral collaboration, and the sharing of lessons learned.

Agriculture and Agri-Food Canada Science and Technology Branch Transformative Workshops – In recent years, the Science and Technology Branch has carried out several transformative workshops related to Indigenous cultivation. The Empowering Indigenous Communities and Seeding Agricultural Resilience by Revitalizing Indigenous Food Plant Production workshop encompassed a Science and Technology Branch initiative to capitalize on the collective expertise and creativity of leading government and academic researchers and First Nations traditional knowledge holders, community members and leaders to identify the potential for collaboration on traditional foods production, and specifically, bridging Indigenous Traditional Knowledge and AAFC research. The 2017 Transformative Workshop on Vertical Farming, which was initially held as a general workshop in 2016, focused specifically on northern greenhouses.

Agriculture and Agri-Food Canada's Science and Technology Branch has funded several Indigenous agriculture and Northern agriculture projects since 2018. This initiative was followed up by allowing internal funding for research priorities to cover Indigenous agriculture, such as:

- Understanding Indigenous food systems and revitalizing key Indigenous food plants in Interior and Coastal regions of British Columbia.

- The Three Sisters project conducted by AAFC was initiated in 2015 to study characteristics of accessions of corn, squash and beans and the products derived from them to develop added value for Indigenous communities, while also studying health benefits. This project brought together participants from different backgrounds, including AAFC scientists, technical staff and Indigenous Peoples.

- Supporting Makkovimiut food systems: This six-year project results from two years of consultations (2019–2020) with the Inuit community of Makkovik. Agriculture and Agri-Food Canada scientists worked with Makkovimiut in Labrador to identify shared priorities in developing agricultural opportunities in this remote northern community.

- Lingonberries project is a Science and Technology Branch research project on the genetic and climatic conditions affecting lingonberry (Vaccinium vitis-ideae L.) cold-hardiness and antioxidant content. This project explores how lingonberries, which are endemic to Canada and are a traditional food plant for many Indigenous groups, can be integrated into a supply food chain that could help to engage Indigenous communities and establish partnerships with universities, government, NGOs and industry groups.

- Labrador Tea project (2012–2019). Agriculture and Agri-Food Canada's Science and Technology Branch research, in collaboration with an industrial partner, carried out a controlled extraction of medicinal ingredients from Labrador tea (Rhododendron tomentosum Harmaja and R. groenlandicum (Oeder) Kron & Judd).

Source: Diederichsen, A. & Davidson, C., eds. 2022. *Canada's Country Report for the Third Report on the State of the World's Plant Genetic Resources for Food and Agriculture*. Ottawa, Agriculture and Agri-Food Canada.

5.6.2 The protection of traditional knowledge relevant to PGRFA (Article 9.2a)

Both Canada and the United States of America have taken measures to protect traditional knowledge relevant to PGRFA.

- *Legal and institutional frameworks*

In Canada, the protection of traditional knowledge relevant to PGRFA is approached through a mix of international obligations, national legislation and policy initiatives. Participation in the CBD reinforces commitments to protecting traditional knowledge, including traditional knowledge relevant to PGRFA, while the adoption of the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) Act into domestic positive law in 2021 represents a further institutional shift, requiring that national laws align with the United Nations Declaration on the Rights of Indigenous Peoples. This Act obliges the federal Government to develop action plans that recognize Indigenous rights – including rights associated with traditional agricultural practices and knowledge systems – thereby affirming the contribution of traditional knowledge relevant to PGRFA to national biodiversity and food security strategies. Although Canada has not ratified the Nagoya Protocol, its principles inform policies on access to genetic resources and equitable benefit-sharing.

Nationally, domestic laws contribute to protecting traditional knowledge relevant to PGRFA by embedding Indigenous participation in biodiversity conservation and environmental governance. For instance, Canada's legislation requires the integration of traditional knowledge relevant to PGRFA in conservation strategies, particularly for species of ecological and cultural significance. National legislation also recognizes the value of Indigenous environmental stewardship, reinforcing the role of traditional knowledge relevant to PGRFA in shaping policies related to land and resource management.

In the United States of America, the protection of traditional knowledge relevant to PGRFA is primarily guided by national laws and executive actions that focus on local governance and cultural heritage preservation. While this country has not ratified the CBD or the Nagoya Protocol, the protection of traditional knowledge relevant to PGRFA is primarily facilitated through government-to-government relationships and consultations with Indigenous communities, as mandated by executive orders and federal policies. National environmental agencies play a key institutional role by consulting Indigenous groups and incorporating traditional knowledge relevant to PGRFA into the management of protected lands. National parks, recognized as ancestral homelands for many Indigenous communities, serve as focal points for preserving cultural and ecological heritage. Consultation mechanisms with local communities aim to incorporate traditional knowledge relevant to PGRFA into land and resource management decisions, particularly within federally protected lands and national parks.

- *Confidentiality and intellectual property considerations*

Both countries have developed policies to address the confidentiality and ethical use of traditional knowledge relevant to PGRFA, recognizing that traditional knowledge is often closely tied to cultural identity and customary practices.

In Canada, benefit-sharing mechanisms remain under development, with ongoing discussions about how to ensure that Indigenous communities retain control over their knowledge, while also participating in agricultural and biodiversity-related research. Implementation of the UNDRIP Act requires further policy refinements to establish clearer guidelines on intellectual property rights and equitable benefit-sharing.

In the United States of America, federal agencies prioritize the protection of culturally sensitive information through legal provisions that restrict public disclosure. National legislation explicitly prevents the unauthorized release of information concerning cultural patrimony, acknowledging the need to safeguard traditional knowledge relevant to PGRFA from exploitation. Policies further ensure that any collection and use of traditional knowledge relevant to PGRFA are conducted with the full participation and consent of Indigenous communities.

- *National inventory, catalogues, studies and publications*

Canada is undertaking various initiatives to enhance the protection of traditional knowledge relevant to PGRFA at both local and national levels. These initiatives include the creation of catalogues, as well as the registration and documentation of knowledge systems related to PGRFA. Furthermore, the dissemination of traditional knowledge relevant to PGRFA, innovations, knowledge exchange, academic research, studies and publications on the subject are actively promoted by the communities, as well as by academic and government institutions.

Experiences and lessons learned

Numerous local initiatives have been undertaken by communities, academic institutions and government entities, which are described in Canada's *Country Report for the Third Report on the State of the World's Plant Genetic Resources for Food and Agriculture*.[342]

5.6.3 The right of farmers to participate in benefit-sharing (Article 9.2b)

Both Canada and the United States of America have taken measures in relation to the right of farmers to equitably participate in sharing benefits arising from the utilization of PGRFA.

5.6.3.1 Legal and policy frameworks on access and benefit-sharing

While benefit-sharing in North America often takes the form of national investment in public research, conservation funding and agricultural extension services, legal mechanisms for direct benefit-sharing linked to PGRFA utilization remain under development. Efforts towards equity are reflected in programmes that support, *inter alia*, agricultural research by government and universities, including outreach and technical cooperation, access to and transfer of technologies, access to germplasm and associated information, collaboration on germplasm characterization, PPB, seed-saving networks and Indigenous conservation leadership, although these are not codified under a specific legal benefit-sharing framework.

5.6.3.2 Non-monetary benefits

A. Supporting farmers and local communities' efforts to manage and conserve PGRFA on-farm and *in situ*

Both Canada and the United States of America promote or support farmers and local communities' efforts to manage and conserve PGRFA on-farm. Both countries also promote *in situ* conservation of CWR and WFP, and Canada also supports the efforts of Indigenous and local communities in *in situ* conservation through capacity building.

[342] Source: Diederichsen, A. & Davidson, C., eds. 2022. *Canada's Country Report for the Third Report on the State of the World's Plant Genetic Resources for Food and Agriculture.* Ottawa, Agriculture and Agri-Food Canada.

Box 5.13
Supporting on-farm management and on-farm improvement of plant genetic resources for food and agriculture

Globally, on-farm conservation is complemented by the *ex situ* collections of PGRFA by gene banks. In Canada, the three Canadian National Plant Germplasm System (CNPGS) gene banks distribute germplasm for research and breeding, including initiatives for participatory breeding.

In October 1991, Plant Gene Resources of Canada (PGRC) signed a memorandum of understanding with the Seeds of Diversity Canada, which is engaged in the on-farm conservation of vegetables (Seeds of Diversity Canada 2021). Since then, collaborative activities have continued, PGRC has stored security back-up samples, hosted visitors and field tours, provided seminars using on-line technology and suggested several on-farm conservation projects.

Seeds of Diversity Canada regenerated seed of gene bank accessions chosen in common with PGRC and engaged in a Citizen Science project that focused on tomato diversity. Canadian farmers have rarely requested PGRC germplasm directly, and if so, this was done for small research projects. Civil society organizations have been involved in the on-farm conservation of vegetables and potatoes in Canada for many years and more recently increased their involvement to include cereal crops. PGRC hosted the Executive Director of the Bauta Family Initiative on Canadian Seed Security in 2012. This initiative has a unique focus on on-farm research and on low-input ecological production practices. It is part of a larger organization SeedChange, formerly known as the Unitarian Service Committee of Canada. In fostering an environment for plant breeding, new and improved cultivars are bred giving farmers options for growing cultivars that require less input (e.g. efficient use of nutrients, resistance to plant pests and diseases, salt and drought tolerance, and better adaptation to climatic stress). This gives farmers options to sustainably increase productivity and product quality in agriculture, horticulture and forestry, whilst minimizing pressure on the natural environment. Farm-saved seeds are still common in Canada. Resistance to seed-borne diseases is part of the breeding objective in many public breeding programmes and helps to reduce the need to apply chemical seed treatments.

Source: Diederichsen, A. & Davidson, C., eds. 2022. *Canada's Country Report for the Third Report on the State of the World's Plant Genetic Resources for Food and Agriculture.* Ottawa, Agriculture and Agri-Food Canada.

- *Facilitation of farmers' access to a diversity of PGRFA*

Farmers in North America benefit from multiple initiatives that support access to diverse plant genetic resources. Government agencies, civil society organizations and Indigenous communities play critical roles in ensuring the availability and conservation of seeds and propagating material. In Canada, AAFC collaborates with NGOs to facilitate on-farm conservation. A memorandum of understanding exists between a national gene bank and an NGO, enabling the security back-up of germplasm and ensuring continued farmer access to seed varieties. Collaboration with another NGO has identified heirloom potato varieties as priorities for conservation, promoting genetic diversity in staple crops.

In the United States of America, access to PGRFA is facilitated through various NGOs and networks of farmers, such as Seed Savers Exchange, as well as through nurseries and seed businesses that specialize in heirloom varieties, ensuring their continued availability to farmers. Public agencies provide information and technical assistance, reinforcing farmers' ability to maintain and use traditional and locally adapted seeds.

- *Farmers' participation in agricultural innovation and research*

Participatory research programmes have expanded in recent years, enhancing the role of farmers in conservation and breeding efforts. Civil society organizations have developed initiatives that integrate farmer knowledge with scientific research, increasing the adaptability of crops to specific environmental conditions, notably with cereal crops. In Canada, the Bauta Family Initiative on Seed Security engages farmers in conservation efforts, adaptation and breeding to improve resilience in the face of climate change. This initiative leads participatory on-farm research and education programmes on seed conservation and plant breeding to increase the quantity, quality and diversity of regionally adapted seed. Other initiatives in Canada, such as Agricultural Living Laboratories, encourage collaborative research between Indigenous communities and scientists, leading to innovative conservation methods.

Formal collaboration at national level among various organizations on PPB, PVS and seed conservation contribute to improving documentation, the exchange of information and the sharing of plant genetic resources.

- *Institutional support*

Improved interagency collaboration in Canada has enhanced storage, collection and documentation standards, strengthening farmers' ability to conserve and access PGRFA. Collaborative workshops in this country between researchers from North and Central America have facilitated knowledge exchange on ancestral plant genetic resources.

In the United States of America, government-funded conservation programmes provide financial and technical assistance, encouraging farmers to maintain biodiversity in agricultural systems. Other conservation programmes incentivize sustainable land-use practices, indirectly supporting genetic resource conservation. Additionally, the Native Plant Materials Development Program works to develop high-quality native seeds and seedlings for restoration projects. A National Native Seed Assessment is currently under way to evaluate the capacity of different sectors to meet conservation and restoration needs. These efforts ensure that native plant populations remain viable in their natural habitats, contributing to both environmental sustainability and agricultural resilience.

- *Indigenous and local community stewardship*

In North America, Indigenous and local communities play a crucial role in conserving plant genetic resources in their natural habitats. Traditional knowledge relevant to PGRFA and sustainable resource management practices contribute to the protection and utilization of a wide range of plant species. In Canada, Indigenous communities manage reserve lands covering more than 3.5 million hectares, incorporating traditional practices such as regeneration, controlled burns, selective harvesting and habitat creation to sustain plant biodiversity. National policies and government-funded projects and initiatives aim to strengthen partnerships with Indigenous Peoples to enhance their role in conservation efforts and empowerment, while increasing awareness of the value of traditional knowledge relevant to PGRFA and supporting food security. Canada's Indigenous Agriculture and Food Systems Initiative is an example of government support for Indigenous-led conservation, providing funding for projects that integrate traditional agricultural knowledge with modern conservation strategies.

In the United States of America, federal agencies promote the conservation of native species of CWR in partnership with NGOs. Programmes such as Seeds of Success focus on collecting and preserving wild plant species, ensuring their availability for ecosystem restoration and agricultural development. Federal agencies also collaborate with Indigenous communities to develop native plant materials for conservation and restoration projects, recognizing the importance of traditional knowledge relevant to PGRFA in maintaining genetic diversity.

- *Civil society initiatives*

Civil society organizations actively support *in situ* conservation by funding research, establishing conservation programmes and integrating traditional knowledge relevant to PGRFA into biodiversity strategies. In Canada, Indigenous-led conservation projects have focused on revitalizing traditional food systems.

B. Supporting the participation of farmers in sustainable use of PGRFA

Both Canada and the United States of America have taken policy and legal measures that promote the sustainable use of PGRFA in all aspects of use. These include:

- pursuing fair agricultural policies that promote the development and maintenance of diverse farming systems that enhance the sustainable use of agricultural biological diversity and other natural resources;
- strengthening research that enhances and conserves biological diversity by maximizing intra- and inter-specific variation for the benefit of farmers;
- promoting plant breeding efforts, with the participation of farmers, that strengthen the capacity to develop varieties particularly adapted to social, economic and ecological conditions, including in marginal areas;

- broadening the genetic base of crops and increasing the range of genetic diversity available to farmers;
- promoting the expanded use of local and locally adapted crops, varieties and underutilized species;
- supporting the wider use of diversity of varieties and species in on-farm management, conservation and sustainable use of crops and creating strong links to plant breeding and agricultural development; and
- reviewing and adjusting breeding strategies and regulations concerning variety release and seed distribution.

- *Participatory research/plant breeding*

Over the past decade, participatory breeding has gained prominence in North America as a means of developing cultivars tailored to specific regional conditions and market demands. The Organic Vegetable Improvement Project implemented in Canada exemplifies participatory breeding efforts. In partnership with research institutions, farmers contribute germplasm and field-testing expertise to develop new open-pollinated vegetable varieties. The programme collaborates with universities and seed producers, working with farmers nationwide to manage breeding projects on crops such as pepper, carrot, rutabaga and lettuce.

In the United States of America, government-supported research promotes the involvement of farmers in plant breeding through open-access policies. Scholarly publications funded by public research programmes are made freely available, ensuring that farmers worldwide can benefit from scientific advancements.

- *Enhancing crop diversity and adaptation*

Breeding programmes in North America integrate diverse PGRFA to develop improved crop varieties with higher yields, increased nutritional value and greater resilience to environmental challenges. These programmes enhance productivity and income for farmers while reducing reliance on chemical inputs. Through targeted breeding, crops with resistance to pests and diseases are introduced, promoting sustainable agricultural practices and minimizing ecological impact. The introduction of new crops has further expanded biodiversity, strengthening both ecological and economic resilience in agricultural systems.

In Canada, national gene banks play a critical role in providing germplasm for research and breeding, supporting participatory breeding initiatives. By developing cultivars with improved nutrient efficiency, disease resistance and stress tolerance, these breeding efforts offer farmers a range of options suited to various climatic and soil conditions. Farm-saved seeds remain a common practice, with breeding programmes emphasizing resistance to seed-borne diseases, reducing the necessity for chemical treatments.

Similarly, in the United States of America, public-sector plant breeders collaborate with farmers to develop locally adapted varieties that meet diverse agricultural needs. Expired PVPs result in unrestricted public access to formerly protected seeds for use in plant breeding. The broadening of genetic diversity remains a key objective, with initiatives such as the “Germplasm Enhancement of Maize” project incorporating exotic and public germplasm to expand the genetic base of staple crops.

- *Market access and value-addition initiatives*

In Canada, diversification of crop production through the utilization of a broader range of plant genetic resources in breeding programmes and the introduction of novel crop varieties have opened new market opportunities for farmers. The conservation and use of traditional and Indigenous PGRFA hold potential for expanding niche markets for heritage foods that align with consumer demand for diverse food products, contributing to both economic benefits and cultural preservation.

C. Training, capacity building and awareness-raising

In Canada, a significant milestone in the training of farmers in the on-farm conservation of vegetable varieties occurred with a formal collaboration between a plant genetic resources centre and a national organization dedicated to biodiversity. Since the signing of a memorandum of understanding, ongoing

activities have included the storage of security back-up samples, organization of field tours and the provision of seminars using online technology.

In this country, the establishment of an Indigenous Support and Awareness Office within the AAFC aims to enhance institutional capacity to support Indigenous cultivation. By developing an Indigenous Awareness Learning Series, this initiative has educated both Indigenous farmers and government employees on the historical and cultural contexts of Indigenous agricultural practices. Additionally, initiatives aimed at increasing the recruitment and retention of Indigenous employees underscore a commitment to building a culturally competent workforce that understands and respects Indigenous agricultural traditions and practices. Further, a Senior Indigenous Science Liaison Officer role within a governmental science and technology branch promotes knowledge exchange between researchers and Indigenous communities, facilitating collaborative research projects that respect Indigenous traditions. Training in Indigenous cultural literacy and intercultural competency enhances the sensitivity of researchers, while empowering Indigenous partners by fostering collaborative research environments.

In Canada, several workshops initiated by AAFC focused on developing viable economic models using indigenous plant genetic resources have equipped farmers with essential tools for sustainable development.

Additionally, community-driven initiatives, such as seed exchange events and the establishment of community seed libraries, highlight grassroots efforts to cultivate a culture of seed saving and sharing, providing educational resources and workshops that empower farmers in sustainable practices. Instructional handouts and how-to resources available for seed savers aim to enhance farmers' skills and foster a community-oriented approach to agriculture.

Broader support mechanisms have allocated resources for ecosystem protection and sustainable economies. Government-funded participatory research encourages farmers to adopt biodiversity-enhancing practices, with financial and technical assistance emphasizing the importance of sustainability.

5.6.3.3 Monetary benefits

- *Conservation-driven financial incentives*

National governments in North America have established large-scale frameworks to directly support farmers through financial incentives, subsidies and sustainability-linked payments. Canada has implemented a multi-billion, five-year agricultural support programme designed to bolster the competitiveness and adaptability of its agrifood sector. This initiative, known as the Sustainable Agricultural Partnership, includes the Resilient Agricultural Landscape Programme, which allocates a multi-million dollar budget specifically to help farmers adopt land conservation and climate-smart agricultural practices. Farmers participating in this programme receive payments that offset the costs of sustainable land management, while improving the long-term economic viability of their farms.

The United States of America has embedded financial support for biodiversity and conservation directly into its agricultural policy framework. Two major programmes – the Agricultural Conservation Easement Program and the Environmental Quality Incentive Program – offer both financial and technical assistance to farmers who adopt land stewardship strategies that contribute to ecological balance and long-term productivity. These initiatives directly inject financial resources into rural economies, while aligning productivity with ecological stewardship.

- *Targeted funding for Indigenous communities*

A landmark initiative in Canada, Indigenous-led Conservation Support Funding, allocates substantial financial resources to ecosystem protection, sustainable economies and Indigenous leadership in conservation. This funding empowers Indigenous communities by reinforcing their leadership in ecosystem stewardship, enabling the development of sustainable economies rooted in cultural values and ecological knowledge and fostering place-based economies that are anchored in traditional ecological knowledge.

5.6.4 The right of farmers to participate in making decisions, at national level, on matters related to the conservation and sustainable use of PGRFA (Article 9.2c)

Both Canada and the United States of America have adopted measures to protect the right of farmers to participate in making decisions, at national level, on matters related to the conservation and sustainable use of PGRFA.

- *Institutional mechanisms for farmers' participation*

National legislation and policies in North America incorporate mechanisms such as advisory committees, regulatory frameworks and formal research collaborations to involve farmers. For example, in the United States of America, legal instruments, including executive orders, reinforce the necessity of consulting tribal governments on federal policies that affect their lands and resources through the establishment of the Indian Agricultural Resource Management Planning programme. In Canada, participation and representation of farmers and Indigenous communities are covered by administrative, policy and legal measures, such as representation in technical committees related to PGRFA, in the revision of national seed policy and in consultations on national seed legislation.

Box 5.14
Representation of farmers in various decision-making bodies

- Federal Advisory Committee – National Agricultural Research, Extension, Education, and Economics Advisory Board

The United States Government has several federal advisory committees that provide opportunities for farmers to participate in making decisions relative to the conservation and sustainable use of plant genetic resources, including the National Agricultural Research, Extension, Education, and Economics Advisory Board (NAREEEAB), established in 1996. This provides advice to the Secretary of Agriculture and landgrant colleges and universities on top priorities and policies for food and agricultural research, education, extension and economics.

- The United States Department of Agriculture Crop Germplasm Committees

The Crop Germplasm Committees (CGCs), established under the United States Department of Agriculture, comprise a cross-section of National Plant Germplasm System (NPGS) users, including farmers, who provide technical support to NPGS gene banks and collections. They serve as subject matter experts to guide curatorial staff on best practices, including priorities and techniques for characterizing the collections. They also help review proposals that fund plant explorations and evaluate grants for scientific rigor. The first CGCs were established in the mid-1980s as outgrowths of commodity-specific crop improvement/breeding conferences; while initial CGCs primarily covered the major agricultural commodities (grains, oilseeds), there are currently 43 CGCs representing almost all major and minor crops of economic importance in the United States of America. Each committee includes a chair and members from government agencies, universities and commercial interest groups, such as commodity groups and farmers/producers, who volunteer their time and expertise to support the NPGS.

- Federal Advisory Committee – Plant Variety Protection Board

The United States Government has several federal advisory committees that provide opportunities for farmers to participate in making decisions related to the conservation and sustainable use of plant genetic resources, including the Plant Variety Protection Board (PVPB), established in 1970. The PVPB advises the Secretary of Agriculture concerning the adoption of rules and regulations to facilitate the proper administration of the PVP Act; makes advisory decisions for the Secretary on appeals concerning decisions on applications by the Plant Variety Protection Office and on requests for emergency public-interest compulsory licences; and advises the Secretary on any other matters under the rules and regulations.

- Plant Breeders' Rights Advisory Committee

The Canadian Plant Breeders' Rights Act, which was enacted in 1991 – and specifically section 73 – requires that the Minister of Agriculture and Agri-Food form an Advisory Committee consisting of representatives of various associations and enterprises involved in the value chain (such as plant breeders, horticulturists, seed dealers, farmers and other persons the minister considers appropriate). The measure is intended to involve the farming community, as well as other representatives, in the administration of the Canadian intellectual property regime for the protection of new plant varieties. It thus ensures that legislative, policy, and procedural decisions surrounding the administration of the Plant Breeders' Rights Act, are made respecting the interests of all value chain members, including farmers, and that they benefit the value chain as a whole. The advice comes in various forms; it may be communicated to the Plant Breeders' Rights Commissioner via an annual face-to-face meeting, or in written format. The outcomes of this

measure/practice are reflected in the impacts of the decisions taken by the Advisory Committee, or the policies implemented, for example, improved access to new plant varieties for Canadian farmers.

Source: Extracted from the Inventory submission from Canada and the United States of America. FAO. 2025. Accessed 29 May 2025. https://glis.fao.org/glis/csures/inv-list.

- *Participatory governance structures*

In both countries, advisory committees and working groups serve as important platforms for farmers to engage in governance processes and shape agricultural biodiversity policies and initiatives. For example, in the United States of America, farmers contribute through dedicated bodies such as the PVPB and NAREEEAB, which provide oversight on matters related to conservation and sustainable use of plant genetic resources. Additionally, the Crop Germplasm Committees enable farmers to provide technical input on the conservation of plant genetic resources by advising national gene banks and collections.

- *Public consultations and legislative processes*

Public consultations in Canada allow stakeholders, including farmers, to provide input during processes of policy development, seed legislation, regulatory amendments and legislative changes on agricultural and environmental policies affecting PGRFA at local and national levels. In this country, the Truth and Reconciliation Commission's Calls to Action have also influenced legislative efforts by emphasizing the need to integrate Indigenous perspectives into regulatory and policy development, particularly in biodiversity and agriculture.

- *Farmer-led research and community-based decision-making*

In Canada, participatory research and community-led initiatives enable farmers to influence research priorities and outcomes in PGRFA conservation. Farmers collaborate with government agencies, universities and research organizations to develop research priorities and outcomes for the conservation and use of PGRFA.

Decision-making processes regarding conservation of biodiversity, including PGRFA, also involve Indigenous and local communities, ensuring that traditional knowledge relevant to PGRFA and localized agricultural practices are incorporated into conservation efforts.

- *Farmer organizations and advocacy groups*

Farmer organizations in Canada play an instrumental role in representing farmers' interests in national decision-making processes related to PGRFA by advocating for policies that reflect the needs of farming communities through consultations, advisory committees and participatory research. However, participation is often informal or indirect, limiting the influence of farmers on policy outcomes. Efforts to strengthen these participatory mechanisms, including more structured inclusion of diverse farming communities, are necessary to ensure more equitable and effective decision-making in PGRFA conservation and sustainable use.

- *Communications and publications*

In Canada, an essential component of encouraging farmer participation is enhancing awareness through effective communication and publication at both local and national levels.

Experiences and lessons learned

Experiences shared in the implementation of representation and participation of farmers in the various committees related to PGRFA were described as follows:

- The primary objective of PBR is to promote investment and innovation in the development of new plant varieties, which benefits both farmers and breeders. Therefore, it is essential that farmers and breeders work collaboratively in decision-making processes to fully leverage the advantages provided by the PBR intellectual property framework. From Canada's perspective, involving farmers, breeders (both public and private) and other stakeholders in the value chain, such as seed growers, ensures a well-balanced representation of views and interests.

- In the United States of America, there are currently 43 CGCs representing nearly all economically significant crops. Each committee comprises a chairperson and members from government agencies, universities and commercial interest groups, such as commodity groups and farmers/producers, who volunteer to support the NPGS. These committees benefit from a diverse range of perspectives and experiences, including various scientific disciplines, public and private sectors, farmers and scientists, as well as representatives from different geographical regions across the country.

5.6.5 The rights of farmers to save, use, exchange and sell farm-saved seed, subject to national law and as appropriate (Article 9.3)

Both reporting countries from North America have taken measures to protect the rights of farmers to save, use, exchange and sell farm-saved seed.

- *Legal and policy frameworks*

In this region, the rights of farmers to save, use, exchange and sell farm-saved seed and propagating material are subject to legal and regulatory frameworks that balance farmers' rights with plant breeders' interests, seed quality control and agricultural innovation. While farmers retain the ability to save, use, exchange and sell farm-saved seed and propagating material, their rights are not absolute. These practices are governed by national legal frameworks that regulate seed quality, intellectual property rights and market access.

In Canada, while the Seeds Act and Plant Breeders' Rights Act set regulatory parameters for seed quality and intellectual property protection, they also allow for certain farmer exemptions. In this country, seed legislation seeks to maintain seed quality, protect plant health and regulate the trade of seeds that meet established safety and quality standards, while ensuring that farmers can still engage in traditional seed-saving practices under specific conditions. Although such laws place restrictions on certain seed-saving practices, they also aim to uphold public policy goals to help maintain the integrity of the agriculture sector, prevent the spread of plant diseases and support long-term economic sustainability. Similarly, specific exemptions in the Plant Breeders' Rights Act such as the Breeders' Exemption, the Private and Non-commercial Use Exemption and the Experimental Purposes Exemption, ensure that farmers can continue certain traditional practices, including the adaptation of locally suitable seed varieties, while fostering agricultural diversity and innovation.

In the United States of America, PVP law grants farmers the right to save and use seed from protected varieties on their own farms, unless restricted by contractual agreements with breeders. This balance between breeder protection and farmer autonomy enables seed saving under specific conditions, ensuring that traditional practices can persist alongside modern breeding systems. Additionally, the Federal Seed Act supports seed quality standards, which indirectly influence the practices of seed saving and exchange by regulating the labelling and sale of seeds.

- *Information and communication*

Canada reports having a system that facilitates communication between government and the stakeholders or clients requesting information.

5.6.6 Gaps and needs with regard to the realization of Farmers' Rights

No gaps and needs were reported for this region.

5.6.7 Measures or factors limiting the realization of Farmers' Rights

No measures or factors limiting the realization of Farmers' Rights were reported by respondents from this region.

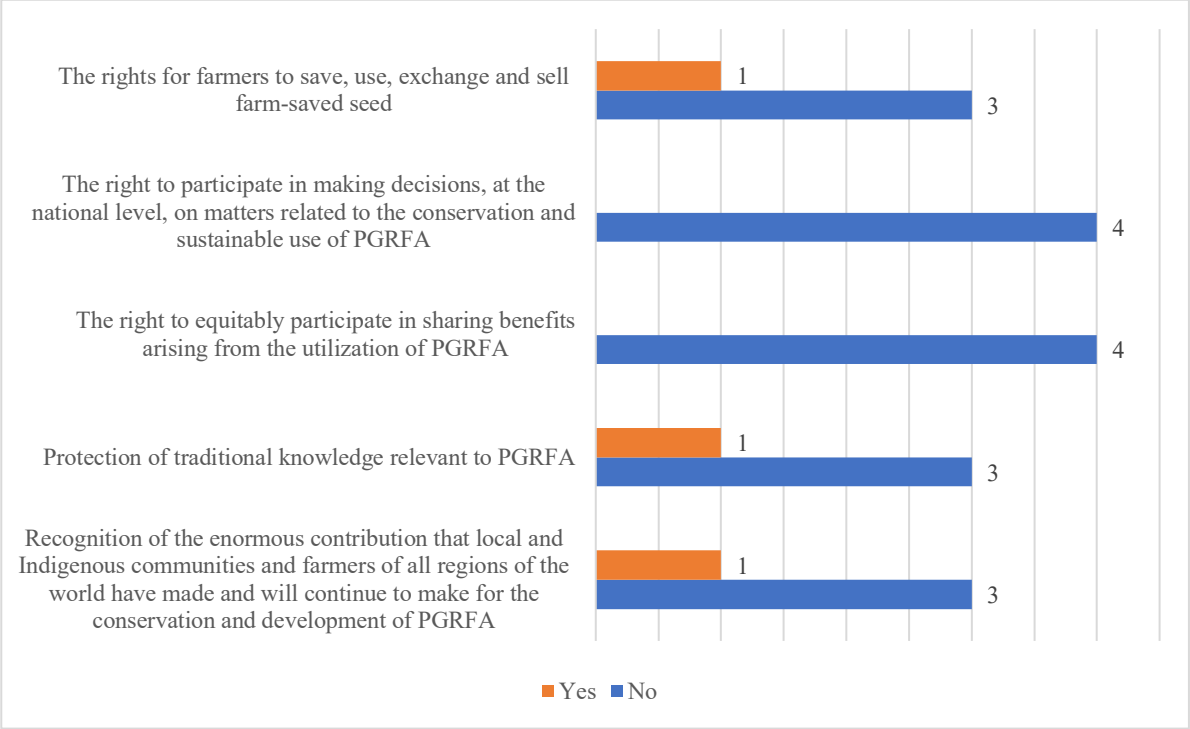
5.7 SOUTH WEST PACIFIC

There are 16 countries in the South West Pacific region, including 10 that are Contracting Parties to the International Treaty and one that has signed it. By April 2025, a total of four countries from this region had submitted a national compliance report to the Secretariat of the International Treaty.[343]

The following information summarizes that found in the four national reports submitted to the Secretariat of the International Treaty, including responses from the multistakeholder survey (12 respondents from 5 countries),[344] the Inventory (2 submissions covering Fiji, Papua New Guinea and Samoa) and details from the projects funded under the BSF, with recipients covering 8 countries.[345]

Among the four countries from the South West Pacific that have submitted a national compliance report, only Australia reports having taken measures to protect and promote Farmers' Rights (25 percent of reporting countries from this region), as illustrated in Figure 5.41.

Figure 5.41
Number of reporting countries from South West Pacific (n = 4) that have taken measures in relation to:



Source: Author's own elaboration

In this region, matters related to PGRFA are usually included in broader laws, policies, plans and strategies governing biodiversity, as is the case in Fiji and Papua New Guinea.

PROVISIONS OF ARTICLE 9

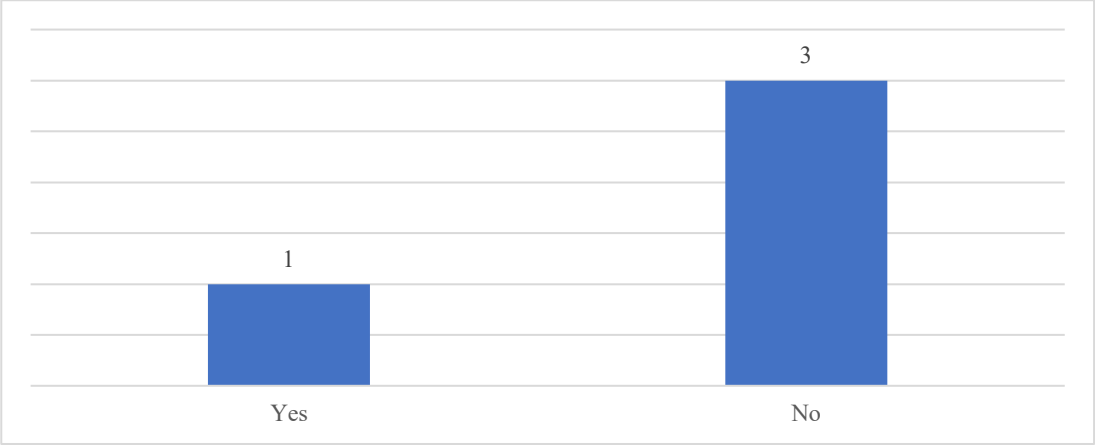
5.7.1 Recognition of the enormous contribution of farmers' and local and Indigenous communities' contribution to PGRFA conservation and development (Article 9.1)

Australia reports having taken measures to recognize the contribution of farmers and local and Indigenous communities to PGRFA conservation and development. However, this recognition has not been formally recognized in legal texts. In this country, the establishment of Indigenous Protected Areas (IPAs) has

[343] Australia, Cook Islands, Fiji, Papua New Guinea.
[344] Australia, Cook Islands, Fiji, Papua New Guinea, Tonga.
[345] Cook Islands, Fiji, Kiribati, Marshall Islands, Palau, Papua New Guinea, Samoa, Tonga. Based on the list available from the second to fifth cycle, including recipient as one country or multicountry, ongoing and completed projects.

supported voluntary land management by Indigenous Peoples, drawing upon both traditional and scientific knowledge to support *in situ* conservation of Wild Crop Relatives.

Figure 5.42
Number of reporting countries from South West Pacific (n = 4) that have taken measures to recognize the enormous contribution of farmers and local and Indigenous communities to PGRFA conservation and development



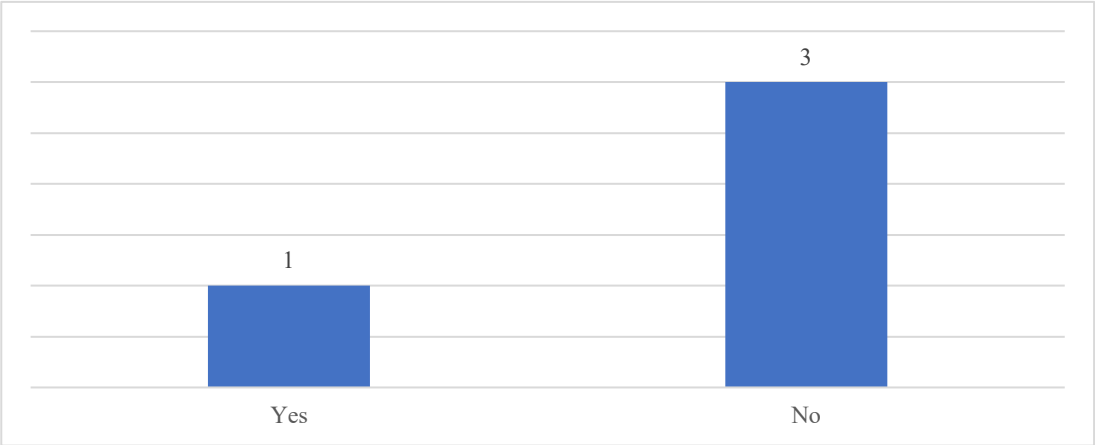
Source: Author's own elaboration

In addition, Fiji has implemented a project designed to acknowledge farmers and local and Indigenous communities by promoting genetic diversity in agricultural fields through PPB. The project documented best practices that led to increased genetic diversity in the farm fields, while fostering positive perceptions among the farmers and communities involved in the initiative.

5.7.2 The protection of traditional knowledge relevant to PGRFA (Article 9.2a)

Among the four reporting countries from this region, Australia reports having taken measures to protect farmers' traditional knowledge relevant to PGRFA.

Figure 5.43
Number of reporting countries from South West Pacific (n = 4) that have taken measures to protect traditional knowledge relevant to PGRFA



Source: Author's own elaboration

Countries in the region generally lack dedicated legislation that recognizes or protects traditional knowledge relevant to PGRFA. In Australia, formal mechanisms such as Indigenous Protected Areas are established under national legislation to empower communities in managing their lands, thereby embedding traditional knowledge relevant to PGRFA within legal frameworks. Broader regional strategies, including those

embedded in national biodiversity and conservation plans, also integrate the protection of traditional knowledge relevant to PGRFA, such as in Papua New Guinea.

In Australia, the documentation and protection of knowledge systems are also supported through formal initiatives promoting the native food sector and engaging Indigenous communities in ethical partnerships. In Papua New Guinea, where formal legislation and policies are less developed, community-based initiatives have emerged as key mechanisms for collecting and documenting traditional knowledge relevant to PGRFA, often with support from international agencies and NGOs.

5.7.3 The right of farmers to participate in benefit-sharing (Article 9.2b)

No country from the South West Pacific reports having taken measures in relation to the right of farmers to equitably participate in sharing benefits arising from the utilization of PGRFA. However, some important steps have been taken in the region, as shown in the next section.

5.7.3.1 Legal and policy frameworks on access and benefit-sharing

Fiji and Papua New Guinea have made efforts to align with the objectives of the International Treaty and drafted national ABS policies under the broader scope of the CBD, but lack enforceable laws to operationalize them. In Papua New Guinea, a new national ABS policy spanning a ten-year period seeks to address this gap and provide a framework for benefit-sharing related to PGRFA use, although its implementation remains at an early stage.

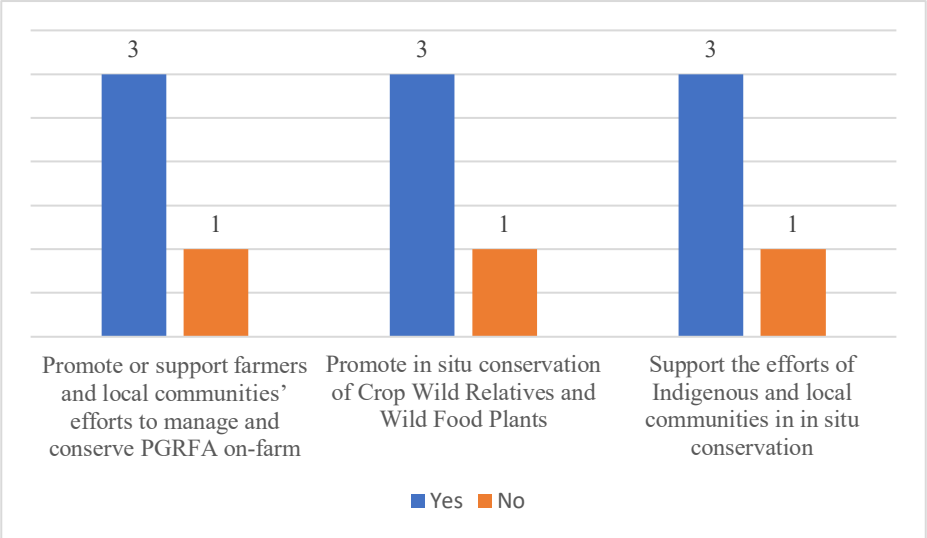
In Australia, participation in the Multilateral System is supported by exempting International Treaty-listed materials from general access restrictions under biodiversity access laws. Collections from national gene banks are made available under the Standard Material Transfer Agreement and these institutions are supported by national agricultural research strategies and biodiversity conservation laws.

5.7.3.2 Non-monetary benefits

A. Supporting farmers and local communities' efforts to manage and conserve PGRFA on-farm and *in situ*

Three reporting countries from the South West Pacific: Australia, Fiji and Papua New Guinea, have promoted or supported farmers and local communities' efforts to manage and conserve PGRFA on-farm. These three countries have also promoted *in situ* conservation of CWR and WFP and supported the efforts of Indigenous and local communities in *in situ* conservation.

Figure 5.44
Number of reporting countries from South West Pacific (n = 4) that have taken measures to:



Source: Author's own elaboration

Australia and Papua New Guinea have adopted broad environmental protection acts and biodiversity conservation strategies that guide the management of Wild Crop Relatives and native species. In these two countries, national policies have established protected area designations such as Indigenous Protected Areas and National Reserve Systems, which empower local communities to engage actively in the conservation of their lands and resources.

In Fiji and Papua New Guinea, *in situ* and on-farm conservation of local crops is promoted through the BSF to increase PGRFA diversity and strengthen the resilience of Pacific agricultural systems.[346]

- *Facilitation of farmers' access to a diversity of PGRFA*

In some contexts, government-run agricultural programmes support farmers' access to improved plant materials. For instance, in Fiji, the Ministry of Agriculture engages with private fruit tree and vegetable nurseries to ensure that true-to-type varieties are maintained for farmers' use, while supporting the reintroduction of traditional cultivars to farmers on demand. In this country, government-led awareness and training programmes promote the conservation and use of traditional varieties. In Papua New Guinea, national agricultural research institutes promote *in situ* conservation of key crops such as sweet potato and expanding collections. In contrast, Fiji reports that private sector involvement in seed production and conservation remains limited, requiring public sector leadership to maintain diversity and access. In Australia, domestic conservation efforts have focused on adapting crops to changing environmental conditions rather than on the maintenance of diverse seed systems, which restricts the conservation of traditional varieties.

- *Community engagement and participatory management of PGRFA*

Community efforts to maintain traditional varieties and knowledge systems exist in at least three reporting countries from the region: Australia, Fiji and Papua New Guinea. In Australia, a growing social movement dedicated to the conservation of traditional crop varieties has seen the increasing engagement and involvement of small-scale farmers through organizations such as the Seed Savers' Network. In Papua New Guinea, local farmers were engaged to maintain accessions of wild banana species in their gardens as part of conservation missions.

Australia's National Reserve System, which includes more than 10 500 protected areas covering almost 20 percent of the country, manages a programme that assists Indigenous communities to voluntarily dedicate their land or sea country as IPAs. By supporting the conservation efforts of Indigenous communities and combining traditional and contemporary knowledge into a framework to leverage partnerships with conservation and commercial organizations, IPAs support *in situ* conservation of Wild Crop Relatives while providing employment, education and training opportunities for Indigenous People. In Fiji, a few areas covering Wild Crop Relatives have been declared as protected areas by non-profit environmental organizations such as Conservation International and Birdlife International and linkages have been promoted among the objectives of the International Treaty and the CBD and conservation work undertaken by NGOs.

- *Institutional and research support*

National strategies and biodiversity policies encourage community-based conservation. This includes efforts to maintain local varieties through public programmes.

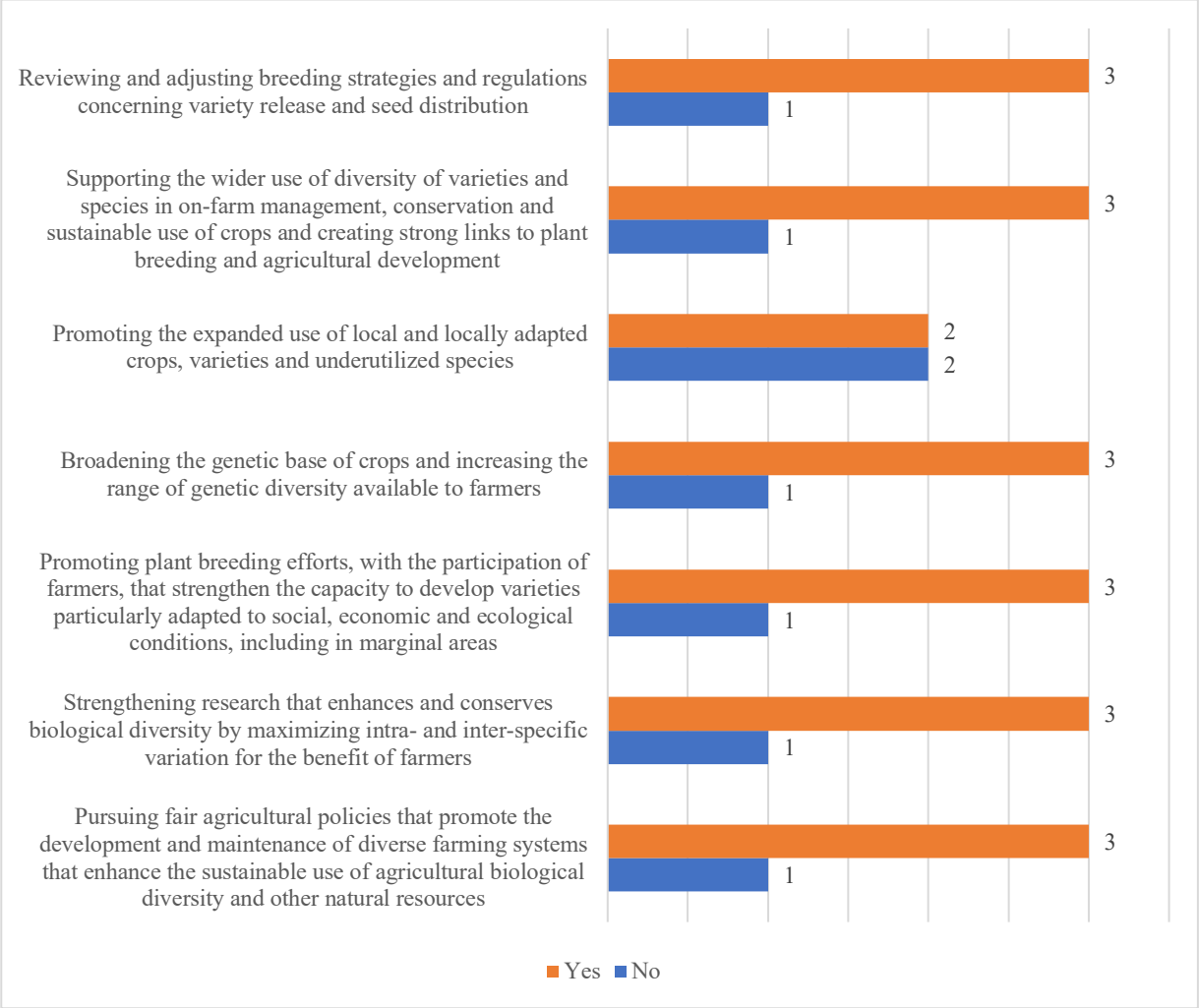
In Papua New Guinea, very few studies have tried to promote the concept of *in situ* conservation of PGRFA. In eight countries,[347] three BSF projects were completed through implementation by national research institutions. These projects aimed to strengthen the resilience of Pacific agricultural systems to climate change through enhanced access to and use of crop diversity. Currently, three BSF projects aimed at increasing crop genetic diversity with the participation of farmers and farming communities are ongoing in three countries: Fiji, Papua New Guinea and Samoa.[348]

[346] Fourth and Fifth BSF cycles
[347] Cook Islands, Fiji, Kiribati, Marshall Islands, Palau, Papua New Guinea, Samoa, Tonga.
[348] Two projects under the fifth cycle and one remaining under the fourth cycle.

B. Supporting the participation of farmers in sustainable use of PGRFA

All four reporting countries from the South West Pacific have taken policy and legal measures that promote the sustainable use of PGRFA, including those illustrated in Figure 5.45.

Figure 5.45
Number of reporting countries from South West Pacific (n = 4) with policy and legal measures in place for:



Source: Author's own elaboration

Depending on the country, these measures are either legally binding, such as the Plant Breeder's Rights Act and revised seed legislation adopted in Australia, or provide guidance, as in Fiji; and/or they relate to the use of biodiversity in general and not PGRFA in particular, as in Papua New Guinea; and/or their implementation is challenging and not well supported, as can be observed in the Cook Islands and Fiji. Papua New Guinea reports that genetic resource management has been identified as a major result area by the national agricultural research institute, leading to the implementation of projects promoting greater use of PGRFA. However, in this country, no seed policy or intellectual property legislation is currently in place, although draft policies have been proposed to address these gaps.

- *Promoting the expanding use of local and locally adapted crops, varieties and underutilized crop species*

Australia promotes the use of native plant genetic resources through its government-funded research and development corporation on rural industries, under which a Three-Year Research, Development & Extension Plan (2015–2018) focused on native foods to support production research aimed at lifting productivity and supply consistency. Within the programme, new species were also investigated for potential to add to the appeal and profitability of the agrifood industry.

However, in Papua New Guinea, the promotion of commercial agriculture tends to drive the cultivation of just a few high-value crop varieties, leading to genetic erosion and the loss of traditional crop diversity.

- *Diversification of farming systems*

Efforts have been made to engage farmers in research and extension activities, particularly in promoting the sustainable use of crop diversity under changing climatic conditions. These include projects implemented by the national agricultural research institute of Papua New Guinea to diversify household food systems by expanding varietal options.

Box 5.15
***In situ* conservation and utilization of sweet potato (Ipomoea batatas) empowers farmers**

One of the benefit-sharing projects in the South West Pacific region is the *in situ* conservation of sweet potato through Family Farm Teams in Papua New Guinea. Partners from the National Agricultural Research Station have successfully assembled 170 working collections of sweet potato, selecting 60 for further evaluation. In the Rigo District, where local communities have traditionally depended on bananas as their sole staple crop, the risk of climate-induced hazards has been significant.

The BSF project promoting the *in situ* conservation and the utilization of sweet potato diversity has inspired local communities. Embracing sweet potato as a promising alternative, farmers have eagerly committed to its cultivation, even before the Participatory Varietal Selection began. As an opportunity crop, sweet potato captivates communities with its adaptability, nutritional benefits and resilience to changing climatic conditions.

Moreover, sweet potato gives hope for farmers seeking sustainable income and nourishment, making its *in situ* conservation a strategic choice for sustainable agriculture. The growing number of households united as Family Farm Teams is diversifying sweet potato farming through the reintroduction of new cultivars and the breeding of elite hybrids in the rural, drought-prone villages of Usurufa, Teptep, Menya and Rigwal.

Almost 700 community members, including schoolchildren, are now embracing sweet potato cultivation, basic breeding methods, varietal selection techniques and on-farm conservation strategies. Across these sites, more than 500 sweet potato varieties, showcasing vibrant colours – orange, yellow, purple and white – are being adopted, all exhibiting climate-resilient traits such as early maturity and drought tolerance. The sweet potato seed systems have flourished, empowered by custodian farmers who nurture this diversity, facilitating the steady sharing of varieties both within and beyond communities. As a result, many farming households are now thriving, enjoying access to an array of varieties that fulfil their food and nutrition needs and an additional source of income for the family.

Sources: The BSF project portfolio. https://www.fao.org/plant-treaty/areas-of-work/benefit-sharing-fund/projects-funded/bsf-details/en/c/1198877/?iso3=PNG. The National, Port Moresby. 3 February 2020. Efforts to conserve sweet potato. [Cited 2 June 2025].

- *Market access and value-addition initiatives*

Efforts to develop markets for native food products and foster community benefits have taken place, but they lack direct benefit-sharing mechanisms or protection for local custodians. In Australia, sector-specific research and commercialization programmes have been initiated for native crops, focusing on recognition and the development of markets for native foods. Similarly, in Fiji, new crop introductions evaluated and commercialized under international cooperation have improved livelihoods and economic activity. Nonetheless, such efforts are generally not framed within a national benefit-sharing policy.

C. Training, capacity building and awareness-raising

In Australia, initiatives embedded within IPAs include education and technical training programmes. In Fiji, government agencies organize workshops and extension activities for on-farm conservation, seed extraction and storage techniques, which enhance farmers' abilities to conserve and improve their genetic resources. In

this country, implementation of the International Treaty has contributed to greater recognition of the importance of farmer involvement.

5.7.3.3 Monetary benefits

- *Funding mechanisms*

In Australia, substantial public financial investments are directed towards natural resource management and sustainable agriculture through successive phases of a national natural resource management programme. Although not exclusively dedicated to plant genetic resources, these funds contribute to the sustainable management of farmlands and the conservation of Wild Crop Relatives through on-farm and *in situ* initiatives. In this country, targeted research and development plans promote native food production by investigating new species and improving productivity, thereby fostering market opportunities and potentially increasing income for farmers.

- *Incentives*

Australia's policy framework includes economic incentives that indirectly support farmers by enhancing local capacities and market linkages. For example, mechanisms such as IPAs provide employment, education and training opportunities. Another initiative delivers economic benefits by promoting the commercialization of native food plants and by fostering value-added processes in traditional agriculture. Through strategic partnerships with industry associations and lobby groups, these measures aim to create stable market conditions that reward conservation and the sustainable use of genetic resources.

5.7.4 The right of farmers to participate in making decisions, at national level, on matters related to the conservation and sustainable use of PGRFA (Article 9.2c)

Australia has a formal mechanism in place, enabling participatory decision-making, where the establishment of IPAs empowers local and Indigenous communities to directly determine the management of their lands, effectively contributing their traditional practices. Additionally, a peak national body represents all interests in the country's native food and botanical sector by, *inter alia*, supporting engagement with Indigenous Peoples and facilitating research and innovation in this sector.

Elsewhere, no other mechanism exists in the region to promote the participation of farmers in making decisions related to PGRFA. However, in Fiji and Papua New Guinea, consultations are under way on access and benefit-sharing policies and on a national seed policy, providing opportunities to engage with a broad range of stakeholders.

5.7.5 The rights of farmers to save, use, exchange and sell farm-saved seed, subject to national law and as appropriate (Article 9.3)

There are no explicit national laws across the region guaranteeing the rights of farmers to save, use, exchange or sell farm-saved seed. However, in Australia, plant breeders' rights legislation explicitly allows the conditioning and propagation of farm-saved seed, providing farmers with an exemption from infringement of plant breeders' rights for these activities.

Elsewhere in the region, seed legislation and policies have yet to be enacted, and seed-saving practices are supported through informal networks and public extension services, rather than protected by law, as can be observed in Fiji and Papua New Guinea. In Fiji, government programmes support seed distribution, training and maintenance of traditional varieties through nurseries and public research stations.

5.7.6 Gaps and needs with regard to the realization of Farmers' Rights

- Legal and policy frameworks

- The current policy direction is broad and does not specifically address Farmers' Rights or PGRFA.[349] The few existing policies addressing the rights of farmers are anchored in broader sectoral policies.[350]
- The lack of legal measures for the conservation and sustainable use of PGRFA hampers the realization of Farmers' Rights.[351]

- Institutional coordination

- There is a lack of coordinated interagency efforts, which hampers implementation of Farmers' Rights.[352]
- There is a lack of or inadequate support from public institutions for protecting and promoting Farmers' Rights.[353]

- Obstacles to support farmers' efforts in in situ *and on-farm conservation and sustainable use*

- The main objective of domestic conservation and use of PGRFA has been to adapt crops to environmental and climatic conditions, rather than supporting on-farm conservation of genetic diversity.[354]
- Small-scale farmers receive little institutional or legal support to save, use, exchange or sell farm-saved seed.[355]
- Because national conservation programmes and seed laws do not formally recognize or reward farmers' *in situ* stewardship, farmers cannot fully claim their right to share in the benefits that flow from conserving plant genetic resources.[356]
- Policies and incentives that favour large-scale commercial agriculture marginalize farmers' traditional varieties, shrinking the genetic pool they depend on for climate resilience and food security.[357]

- Financial and human resources to support activities that protect and promote Farmers' Rights

- Limited funding, labour sources and technical expertise greatly constrain research, *in situ* conservation and the effective management of germplasm. High costs of travel and monitoring hinder follow-up missions and the lack of a dedicated seed infrastructure further impedes efficient conservation efforts.[358]
- This shortage of resources is compounded by a need for updated equipment and advanced training in conservation techniques, which are often unavailable due to financial constraints.[359]

- Awareness-raising

- Awareness of the International Treaty, Farmers' Rights and PGRFA is limited beyond technical institutions.[360]

[349] Fiji, Papua New Guinea.
[350] Papua New Guinea.
[351] Fiji, Papua New Guinea.
[352] Papua New Guinea.
[353] Fiji, Papua New Guinea.
[354] Australia.
[355] Fiji, Papua New Guinea.
[356] Papua New Guinea.
[357] Papua New Guinea.
[358] Fiji, Papua New Guinea.
[359] Fiji, Papua New Guinea.
[360] Fiji, Papua New Guinea.

- *Socioeconomic constraints*

- Farmers in Papua New Guinea are interested in conserving and using local crop genetic resources, but their socioeconomic status, sociocultural impediments and economic pressures often make it difficult to maintain a diversity of crops or varieties.

5.7.7 Measures or factors limiting the realization of Farmers' Rights

- The respondent from Papua New Guinea indicated that a major limitation is the absence of national policy and legal frameworks that would provide legal certainty on ownership or PGRFA, as well as the lack of any benefit-sharing arrangements, traditional knowledge and others.
- The respondent from Australia reported the lack of enabling legislation to define and protect Indigenous and local knowledge systems and the native and local seed systems.
- Respondents from Australia and Papua New Guinea indicated gender-related factors; women in general have no real rights of resource ownership in the dominant patrilineal cultures of the latter country.
- The respondent from Australia reported a lack of representation of farmers and civil society organizations in the development of national seed/plant laws.

5.8 EFFORTS TO PROMOTE FARMERS RIGHTS ACROSS REGIONS

The information collected from the Inventory (30 submissions from several Contracting Parties and stakeholders)[361] and the responses to the multistakeholder survey (14 respondents from 9 countries)[362] described the efforts made to promote the implementation of Farmers' Rights at global or regional scales. These efforts typically involved technical cooperation and assistance aimed at improving agricultural food production and sustainable agriculture, facilitating farmers' access to a diversity of PGRFA, capacity development, advocacy and awareness-raising, supporting farmers' participation in decision-making related to PGRFA, helping farmers to adapt to climate change and promoting rural development.

The following paragraphs provide some examples of efforts made by Contracting Parties and stakeholders to promote the implementation of Article 9 at both regional and global levels.

PROVISIONS OF ARTICLE 9

5.8.1 Recognition of the enormous contribution of farmers' and local and Indigenous communities' contribution to PGRFA conservation and development (Article 9.1) and the protection of traditional knowledge relevant to PGRFA (Article 9.2a)

- *Initiatives/programmes/project activities promoting recognition of farmers, Indigenous Peoples and local communities, at global scales*

Box 5.16
Promoting recognition of farmers, Indigenous Peoples and local communities through the designation of evolving traditional agricultural systems

Imagine a food basket filled with cereals from a Saharan oasis, potatoes from 4 000 metres up the Peruvian Andes or from a remote Chilean archipelago, and rice from steep terraced hillsides in China or the Philippines. All these foods come from Globally Important Agricultural Heritage Systems (GIAHS). These food systems have developed over millennia in challenging and remote landscapes – and in extreme climates – thanks to the knowledge of farmers and Indigenous Peoples.

FAO's GIAHS programme promotes the international designation of traditional agricultural systems of global importance. The designation of GIAHS promotes the recognition of family farmers, Indigenous Peoples and local communities who have contributed to safeguarding agricultural biodiversity over generations. This designation supports Farmers' Rights by advocating for the protection of traditional knowledge relevant to PGRFA, involving farmers in decision-making processes at various levels, promoting community seed/farmer-managed seed systems, and encouraging sustainable agricultural practices that benefit both communities and the environment.

- Historical importance of traditional agricultural systems

It has been more than 12 000 years since humans transitioned from hunter-gatherer lifestyles. They realized the advantage of saving and planting seeds seasonally, allowing them to settle in one place rather than constantly foraging. This enabled them to focus on building communities and developing agricultural systems adapted to local climates, which allowed them to survive and thrive in their environments. With each generation improving upon previous methods, these systems have preserved indigenous knowledge over centuries, developed new crop varieties and promoted biodiverse crop production. For example, the Indigenous Peoples from the Philippines developed mountain rice terraces and hillside irrigation systems for water-sharing between fields, to grow different rice varieties. Peruvian Andean communities created trenches around fields that absorb daytime heat and release it as steam to protect crops from night-time frost. The Andean and the Amazonian *Chakra* are ancestral biodiverse production systems in Ecuador. The traditional agricultural system in Minas Gerais, Brazil, is one of the most important savannahs in the world. Farmers in desert oases in Algeria, Egypt, the Islamic Republic of Iran, Morocco and Tunisia developed intricate irrigation systems and multilayer gardens using date palms to provide shade for other crops. These systems, found both in developed and developing countries, are efficient and resourceful, sustaining generations with minimal tools. Despite this, they often go unrecognized in the face of rapid development, globalization, urbanization, natural disasters and the effects of climate change. The maintenance and adaptive management of agrobiodiversity are facilitated through transgenerational transmission of genetic resources, which relies on continuous cultivation, selection, preservation and exchanges among families and communities.

[361] Brazil, CGIAR Centers, Chile, Nepal, Netherlands (Kingdom of), Norway, Oxfam-Novib, Peru, Switzerland.
[362] Canada, Chile, China, CGIAR Centers, Kenya, Morocco, Norway, Switzerland, Zambia.

As of July 2025, FAO had designated 99 GIAHS sites in 29 countries, highlighting reservoirs of biodiversity for food and agriculture and promoting the protection of traditional knowledge relevant to PGRFA and unique agricultural practices developed by farmers, peasants and Indigenous communities. These systems are living heritage sites maintained by communities with agrobiodiversity of global importance, traditional knowledge relevant to PGRFA, diverse cultures and remarkable landscapes.

The GIAHS programme fosters greater awareness about promoting recognition of the work of farmers and Indigenous communities, while highlighting the importance of conserving and sustainably using PGRFA, which is vital for global and local food security, nutrition and resilience against climate change. Article 9 of the International Treaty provides for the promotion and protection of Farmers' Rights related to PGRFA. Realizing these rights through various measures, such as the GIAHS designation and its adaptive management, allows farmers and farming communities to continue their role as developers and custodians of PGRFA, ensuring food security for future generations.

Sources: Extracted from the FAO GIAHS website; https://www.fao.org/giahs/en. the Inventory, submission from Brazil, Chile, Peru, the Philippines. Accessed 29 May 2025. https://glis.fao.org/glis/csures/inv-list.

Multistakeholder Survey responses

- Promotion of Article 9 implementation through Technical Cooperation and Development Assistance

- The project "Improving seed systems for smallholder farmers' food security" is funded by the Swiss Agency for Development and Cooperation and implemented by Bioversity International in the Plurinational State of Bolivia, Burkina Faso, Nepal, Uganda and Uzbekistan. The project aims to reduce the vulnerability of smallholders by improving their access to diverse and adaptive crop varieties and quality seeds. It started in 2013 and the second phase was implemented from 2017 to 2021. The project was focused on enhancing the capacity of smallholders and related institutions to produce quality seeds, developing seed marketing models and improving seed quality through alternative quality assurance mechanisms. It also emphasizes policy-related interventions, such as registering farmers' promising varieties and developing quality assurance mechanisms for farmers' seed systems.[363]
- Community-based agrobiodiversity systems for the realization of Farmers' Rights is an initiative facilitated by the Development Fund (DF) of Norway. For approximately 20 years, the DF has collaborated with local organizations in Ethiopia, Guatemala, Honduras, Malawi, Nepal and Nicaragua to support Farmers' Rights through the conservation and sustainable use of PGRFA. These programmes began between 2003 and 2009, involving joint planning with farmers' groups, civil society organizations and research institutions. The main objective was to strengthen community-based agrobiodiversity systems, aiming to improve food security and climate resilience using an integrated approach. Activities included participatory plant breeding, participatory varietal selection, recovery of lost crop varieties, establishment of community seed banks, capacity building regarding Farmers' Rights, encouragement of farmer participation in decision-making, and advocacy at local, national and international levels. Reported outcomes were enhanced food security and livelihoods among rural households experiencing poverty. More than 46 000 farmers and their families accessed seeds through a network of 81 CSBs. Additionally, 69 new crop varieties were developed via PPB, which led to yield increases of at least 25 percent for maize, beans, sorghum, rice and wheat. Civil society and farmer organizations reported increased involvement in local decision-making, with some engagement in national platforms.[364]
- The 'Access to Seeds Index', developed by the Access to Seeds Foundation, measures and compares the efforts of the world's leading seed companies to enhance the productivity of smallholder farmers. From 2015 to 2018, the foundation conducted a study, which profiles 54 seed-producing cooperatives that were identified in 20 countries of West and Central Africa. It shows that seed-producing cooperatives play a key role in improving access to quality seeds in the region. Cooperatives often partner with national and international research institutes to select and test improved varieties and with seed companies to distribute their seeds nationally and regionally through the seed companies' channels. The study identified strong examples of seed-producing cooperatives in four countries (Burkina Faso, Mali, Niger and Senegal). The situation in eight other countries (Benin, Cameroon, Côte d'Ivoire, the Democratic Republic of the Congo, Guinea, Liberia,

[363] Inventory (Switzerland).
[364] Inventory (Development Fund, Norway).

Sierra Leone and Togo) can be characterized as promising. In four countries (Gabon, Ghana, Guinea Bissau and Republic of the Congo) no seed-producing cooperatives were identified that are formally recognized. A key outcome was an enhanced understanding of the role that cooperatives play within seed systems, as they are increasingly being formally recognized as certified seed producers.[365]

Box 5.17
Support to on-farm management of PGRFA

The Canadian International Food Security Research Fund (CIFSRF) has provided a CAD 124.5 million research for development programme implemented by the International Development Research Centre and Global Affairs Canada (GAC) since 2009. CIFSRF has contributed to the development of more productive, sustainable and gender-sensitive agricultural techniques for women subsistence farmers, with the ultimate goal of making food sources more secure and accessible and the food produced more nutritious for poor households – particularly for women and girls, who face the heaviest burden of chronic hunger and malnutrition in developing countries. The Canadian International Food Security Research Fund has contributed directly to capacity building on PGRFA, including for: i) the sustainable production and use of underutilized vegetables to enhance rural food security in Nigeria (to assess 18 varieties of indigenous vegetables harvested in the wild and commonly consumed in southwest Nigeria, to determine their production potential, nutritional content, drought tolerance and disease resistance); and ii) the synergistic use of fertilizer micro-dosing and indigenous vegetable production to enhance food and economic security of West African farmers (to promote innovation in field production practices including fertilizer micro-dosing and optimum water management, innovation in food processing and value addition).

Canada provided CAD 8.2 million (2012–2020) to promote regional opportunities for produce through enterprise and linkages. Canada's contribution supported economic growth in the Caribbean through increased sales of fresh produce by small-scale local farmers to high-value markets. The project helped small farmers in Barbados, Dominica, Grenada, Guyana, Jamaica, St. Lucia, St. Vincent and the Grenadines and Trinidad and Tobago to increase the quality and quantity of fresh, regionally grown fruits and vegetables, linking them to buyers such as regional grocery chains, cruise lines, airlines, hotels and restaurants.

Canada contributed CAD 14.9 million (2015–2020) to scale up the CSO–USC Canada's "Seeds of Survival" programme in Central America and Africa. USC (now SeedChange) works with smallholder farmers (women, men and youth) in Africa, South and Central America, Asia and Canada to strengthen their knowledge and their food and seed systems through participatory plant breeding, community seed banks and agroecological practices. This project reached an estimated 293 communities and over 44 000 beneficiaries, improving their food security and climate resilience, with particularly strong results in Ethiopia and Honduras.

Source: Diederichsen A. and Davidson C. (Eds.) 2022. Canada's Country Report for the Third Report on the State of the World's Plant Genetic Resources for Food and Agriculture. Ottawa, Agriculture and Agri-Food Canada.

5.8.2. The right of farmers to participate in benefit-sharing (Article 9.2b)

- *CGIAR Center activities in facilitating and promoting the realization of Farmers' Rights at global and regional levels*

CGIAR has been actively engaged in advocating for Farmers' Rights through a range of initiatives and partnerships.[366] A primary focus is on responsible governance and collaboration with farmers to tackle the challenges associated with agricultural biodiversity conservation and management. Another significant aspect of CGIAR's work is community-based management and empowerment of smallholder farmers by conserving and sustainably using agricultural biodiversity, The organization also engages in initiatives to gather information and exchange best practices on the implementation of Farmers' Rights at national, regional and global levels. Some examples of CGIAR programmes and projects are as follows:[367]

- *The Biodiversity for Food and Agriculture* programme. The Alliance of Bioversity and CIAT (Alliance) manages a portfolio of 58 projects valued at over USD 55 million. These projects are carried out in collaboration with partner organizations operating at local, provincial, national or regional levels within the target countries and regions. Partners include government agencies, public research institutions, NGOs, civil society or farmers' organizations and private companies. Each project includes activities aimed at supporting farmers and farming communities in the development,

[365] Inventory (Kingdom of the Netherlands, Item 5.2).
[366] CGIAR is a global partnership that unites international organizations engaged in research on food security, comprising 15 international Research Centers.
[367] CGIAR Centers submissions to the Inventory, and responses to the Multistakeholder Survey on the implementation of Article 9.

management, conservation and sustainable use of PGRFA. The programme components include training sessions, farmer consultations, characterization and evaluation of plant varieties, selection and breeding, community seed banks, communal seed multiplication and distribution, farmer involvement in policy and law development and participation in multistakeholder platforms related to market development. All Alliance partners contribute various resources to these activities, such as funding (from their own sources or from project allocations), expertise, technologies, equipment, facilities and time. While contributions from national-level partners are often more visible, local organizations also play a critical role. For instance, in several countries – including Colombia, Ghana, India, Kenya, South Africa and Uganda – local authorities and institutions have facilitated the establishment of community seed banks by providing land, construction materials and labour.

- *Germplasm collection in 'gap areas' of the West and Central African region.* In 2013, the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), in collaboration with national agricultural research institutions, launched a project to address gaps in ICRISAT gene bank collections and improve germplasm utilization for food and agriculture. The initiative focused primarily on collection missions for pearl millet, sorghum and groundnut. Additionally, national partners collected other crops outside ICRISAT's core mandate, such as cowpea, okra, sesame, Bambara groundnut and maize. Comprehensive training was provided to participating staff in collection and conservation methodologies, incorporating topics such as Farmers' Rights and traditional knowledge. Notable achievements include the collections of 5 057 germplasm accessions and the distribution of seed samples to various stakeholders – including researchers, breeders, farmers' organizations, agro-dealers, processors and students – in Africa, Europe and the United States of America. Key lessons from the project underscore the necessity of maintaining communication and obtaining consent from local communities, fostering trust with partners and securing approval from local authorities.
- *Participatory tree domestication of indigenous tree species*. Since 1990, the World Agroforestry Centre (ICRAF), together with national research, education and training institutions, as well as farmers and farmers' organizations, has developed a decentralized approach for participatory tree domestication to improve indigenous tree species in the African Sahel region and to encourage their cultivation. Core components include priority-setting exercises carried out since the early 1990s, through which farmers identified preferred tree species, based on criteria such as nutritional, medicinal and income-generating values. Furthermore, potential 'plus mother trees' with the preferred characteristics were identified. Tree improvement based on these accessions is being carried out through Rural Resource Centres, where farmers are trained in how to propagate and manage the seedlings in the nurseries; seedlings are established on community/farmers' land, and farmers are actively involved in the evaluation. Improved material is owned by the communities and farmers can freely distribute it among themselves. A value chain training component on fruit processing and related business skills is also incorporated to enhance the economic benefits from indigenous tree cultivation. Key outcomes include improved skills of farmers in tree propagation and management, conservation and sustainable use of tree genetic resources and enhanced recognition and use of traditional knowledge.

5.8.3. The right of farmers to participate in making decisions, at national level, on matters related to the conservation and sustainable use of PGRFA (Article 9.2c)

- Consultations involving farmers' organizations and various stakeholders

- *Global and regional consultations on Farmers' Rights.* Norway, in cooperation with research organizations of the respective host country and the Fridtjof Nansen Institute, has been involved in three global consultations on Farmers' Rights, which took place in Lusaka in 2007, Addis Ababa in 2010 and in Bali, Indonesia in 2016. All consultations sought to involve a wide range of participants, representing various stakeholders and regions. All consultations shared the purpose of producing constructive proposals to the sessions of the Governing Body regarding how to further enhance the implementation of Farmers' Rights. The second consultation consisted of an email-based survey and an international conference with regional components, allowing more experts and stakeholders to participate. Participants actively engaged and shared views, experiences and examples of best

practices relating to the implementation of Farmers' Rights and discussed issues affecting their realization. Besides providing information to Contracting Parties and the Governing Body, these consultations have also strengthened the national implementation of Farmers' Rights in some countries and contributed to awareness-raising among government representatives and other stakeholders. The documented experiences could therefore serve as examples of options for encouraging, guiding and promoting the realization of Farmers' Rights.[368]

5.8.4. The rights of farmers to save, use, exchange and sell farm-saved seed, subject to national law and as appropriate (Article 9.3)

- Strengthening the role of farmers and farming communities in farmer-managed seed system

- *The Sowing Diversity=Harvesting Security (SD=HS)* programmes started in 2014 as a joint effort of civil society organization Oxfam, acting as coordinator, and its partners, including NGOs, farmer organizations, public institutions and government agencies. The overall objective is to contribute to the realization of Farmers' Rights and Sustainable Development Goal 2 by enhancing small-scale farmers' and Indigenous People's capacities to access, develop and use PGRFA to improve food and nutrition security under conditions of climate change. SD=HS builds on the expansion and institutionalization of the FFS approach to strengthen the role and capacity of farmers in the management, research and conservation of PGRFA, and supporting farmer-managed seed enterprises and enhancing nutritional knowledge and utilization of minor crops and underutilized plant species. Between 2014 and 2018, SD=HS established over 1 050 self-sustaining FFS in 5 countries and reached approximately 150 000 households in Asia, Africa and Latin America. The second phase of the programme started in 2019, which focuses on policy work. SD=HS II has aimed to ensure that Indigenous Peoples and smallholder farmers enjoy their rights and gain capacity to access, develop and use PGRFA to improve food and nutrition security under climate change conditions. Core components of the SD=HS local-to-global policy work include policy and legal measures that support the implementation of Farmers' Rights. One key finding is that Farmers' Rights cannot be realized if the role of farmers' seed systems is not fully understood and supported by (inter)national policies, legislation and mechanisms. For example, some national seed laws allow only certified seeds of registered varieties to be marketed or exchanged, which negatively affects farmers' seed systems and ignores opportunities to leverage the skills and entrepreneurship of smallholder seed producers. Establishing legal frameworks that suit the needs and capacities of farmers can enhance the production of quality seeds of both modern and traditional varieties and provide a major pathway to increase crop diversity in farmers' fields, to adapt to climate change and contribute to several SDGs.[369]

5.8.5 Advocacy, awareness-raising and sharing information resources on Farmers' Rights

- Advocacy and awareness-raising campaigns to promote the importance of crop diversity in achieving food security at global level

- *Putting farmers and Indigenous Peoples' access to crop diversity at centre in seed policy and practice.* The measure is a game-changing solution presented to the UN Food System Summit 2021 and calling for a fundamental rethink of how seed system development is supported globally. The proposal is to ensure and promote – through legislation, seed policies and action – farmers' access to a diversity of well adapted varieties of crops that meet agroecological, nutritional and cultural needs and preferences. Farmers' seed systems are key to providing farmers with access to both local varieties developed over millennia of farmer selection and varieties developed with modern plant breeding. This initiative calls for a bottom-up demand-driven approach to seed security to complement the currently dominant top-down supply-side approach, thereby supporting farmers' agency and recognizing farmers' seed systems contribution to global food security.[370]

[368] Inventory (Norway).
[369] Inventory (Oxfam Novib).
[370] Inventory (Norway).

- *Food Forever Initiative.* In 2017, the Global Crop Diversity Trust (Crop Trust) launched the 'Food Forever Initiative' in cooperation with several 'champions' from the public and private sector. The aim of the initiative is to rally the support necessary from all stakeholders, ranging from politicians, farmers, chefs, businesses to individuals, to drive positive changes in the way we conserve, grow, sell and consume crop and livestock diversity. Specific attention is given to the role of smallholder farmers and how their access to quality seeds and markets can be improved. 'Food Forever Champions' have agreed to join as advocates for this important cause. They are experts and leaders from all walks of life who are driven to speak out about the importance of food diversity. Partners of the initiative contribute, with their work, to implementing SDG Target 2.5, which specifically addresses the need for maintaining genetic diversity of seeds, cultivated plants, farmed and domesticated animals and their related wild species, including through the implementation of related international agreements. Together, the Crop Trust and the Government of the Kingdom of the Netherlands supply the initiative's secretariat functions. Financial support is provided by the Governments of Germany, the Kingdom of the Netherlands, Norway and Switzerland.[371]
- *Global Symposium on Farmers' Rights.* In response to a request from the Ninth Session of the Governing Body, the Secretary organized the First Global Symposium on Farmers' Rights in 2023, in New Delhi, hosted by the Government of India. The symposium aimed to provide a forum to share knowledge and experiences regarding innovative approaches, effective policies, best practices, and lessons learned in the implementation of Farmers' Rights, as set out in Article 9 of the International Treaty. It was designed to contribute to a better understanding, by Contracting Parties and interested stakeholders, of the challenges and opportunities for the effective implementation of Farmers' Rights and to gather insights and ideas for future work to promote the implementation of Farmers' Rights, as provided in the International Treaty.[372] Building upon the success of the first global symposium, the Government of the Philippines has offered to host the Second Global Symposium on Farmers' Rights in 2025 in Manila, the Philippines. The second global symposium will continue the important dialogue around information sharing of national measures, best practices, and the promotion and utilization of the *Options for encouraging, guiding and promoting the realization of Farmers' Rights*.[373]
- *Information database and literature references on Farmers' Rights*
- *The Farmers' Rights website.* This website has been developed to facilitate the realization of Farmers' Rights in relation to seed and crop genetic resources by providing research-based guidance. It serves as a valuable resource for decision-makers, practitioners, and others who engage with the implementation of Farmers' Rights as articulated in the International Treaty on Plant Genetic Resources for Food and Agriculture. Additionally, it functions as an informative platform for researchers, journalists, and interested parties. Here, you will find comprehensive insights regarding the concept of Farmers' Rights and their significance. The website offers an overview of the various components of Farmers' Rights and traces their historical development. It includes detailed information about the numerous options available for the realization of these rights and outlines actions that can be taken at the national level to facilitate this process. Furthermore, you will find an in-depth account of the negotiations pertaining to Farmers' Rights under the International Treaty, as well as the various processes that have unfolded during inter-sessional periods. The website boasts an extensive literature repository, encompassing research related to Farmers' Rights and allied issues, complete with summaries and links to original sources. Users are also invited to learn about the research projects that underpin this website and access associated publications. An events calendar is provided to keep users informed of upcoming events related to Farmers' Rights. The initial version of this website was established and maintained as part of the Farmers' Rights Project at the Fridtjof Nansen Institute (FNI), with financial support from the sectorial GTZ (now GIZ) project People, Food, and Biodiversity, implemented on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ). This new website builds upon material systematically compiled between 2005 and 2012, covering topics likewise addressed by the previous version. It has undergone a complete redesign and update and is intended to be continuously enhanced. The website

[371] Inventory (Kingdom of the Netherlands, Item 1.2).
[372] Proceedings of the Global Symposium on Farmers' Rights, available at: https://www.fao.org/3/cd5620en/cd5620en.pdf
[373] Second Global Symposium on Farmers' Rights, 16 – 19 September 2025, Manila, Philippines

relies on contributions from its users, and therefore, users are encouraged to share relevant information with the website team.[374]

These examples are not exhaustive, but they illustrate the efforts undertaken by Contracting Parties, international organizations and other stakeholders to promote and support the implementation of Farmers' Rights. As reflected in the examples, activities have included fostering partnerships, facilitating access to PGRFA, supporting the conservation and sustainable use of PGRFA, building capacity among farmers as well as Indigenous and local communities, and implementing community-based strategies to encourage sustainable and resilient agricultural practices.

[374] https://www.farmersrights.org/

SECTION 6. CONCLUSION

The Assessment of the state of implementation of Article 9 of the International Treaty provides a consolidated overview of the diverse measures, experiences, as well as gaps and needs encountered by Contracting Parties and stakeholders since the International Treaty's entry into force. It highlights the crucial contributions of farmers, Indigenous Peoples and local communities to the conservation and sustainable use of PGRFA and reflects the broad commitment to upholding and promoting their rights to these resources.

6.1 Key findings

All regions have taken steps to implement Farmers' Rights, reflecting diverse legal, cultural and socioeconomic contexts. Measures include recognition of farmers' contributions, protection of traditional knowledge, benefit-sharing initiatives, participatory governance and support for farmers' seed systems. Some countries have adopted comprehensive policies, while others rely on project-based or community-led initiatives. However, implementation is often ad hoc or dependent on external funding. Comprehensive standalone Farmers' Rights legislation remains rare, with most provisions embedded in broader legal frameworks.

Recognition of farmers' and local and Indigenous communities' contributions:

Across all regions, recognition of the enormous contribution of farmers and local and Indigenous communities to conserving and developing plant genetic resources is increasingly being acknowledged, often through awards, community seed banks, seed or biodiversity fairs, agricultural heritage designations and conservation programmes.

Protection of traditional knowledge relevant to PGRFA:

ABS frameworks, biodiversity strategies, Indigenous-led conservation areas, community registers, documentation initiatives, biocultural protocols and other community-based initiatives to safeguard traditional knowledge relevant to PGRFA have been adopted in many countries. However, effective protection is often hampered by limited enforcement, resource constraints and the ongoing erosion of traditional agricultural practices.

Benefit-sharing:

Non-monetary benefits, such as access to genetic resources from *ex situ* collections, access to technology and information that strengthen Farmers' Rights and support traditional knowledge relevant to PGRFA, participatory plant breeding, capacity building, support for community seed systems, market development for products derived from native varieties and landraces, and the promotion of their consumption, are the most common forms of benefit-sharing. While legal provisions for monetary benefit-sharing exist in some regions, practical implementation remains limited in some contexts.

Participation in decision-making:

Mechanisms for the full and active participation of farmers and local and Indigenous communities in policymaking and decision-making processes are being developed, including advisory bodies, technical committees, multistakeholder platforms and community governance structures. However, ensuring meaningful participation remains a key challenge. In addition, the participation of women farmers in policy fora remains limited in some contexts. Strengthening inclusive and consistent participation remains a priority.

Farmers' rights to save, use, exchange and sell farm-saved seed:

The right to save, use, exchange and sell seed is recognized to varying degrees across regions. Traditional seed-saving, using, sharing and exchanging practices continue, often through farmer-managed seed systems, but are frequently constrained by regulatory frameworks that favour formal seed systems and plant breeders' rights in many regions.

Gaps and needs:

Fragmented legal frameworks, limited institutional coordination, insufficient and often non-permanent financial and technical resources, regulatory and market barriers to farmer-managed seed systems and low public awareness continue to impede progress towards the realization of Farmers' Rights. Socioeconomic inequalities including, in some regions, gender-related barriers, unequal access to land and other constraints, are further limitations.

While the issue of digital sequence information (DSI) has not been widely addressed in this assessment – due to the lack of reference to it in the various sources used to compile data and information – its relevance to the realization of Farmers' Rights is increasingly recognized. In particular, the use of DSI derived from traditional varieties conserved by farmers and local and Indigenous communities, in the absence of appropriate regulatory frameworks, may allow benefit-sharing obligations under Article 9(2)(b) to be bypassed. This raises concerns about the lack of recognition of or compensation for the historical and ongoing contributions of farmers and local and Indigenous communities to the conservation and sustainable use of PGRFA.

The experiences and measures gathered through this assessment underscore the importance of tailored, context-specific approaches to implementing Farmers' Rights. Successful initiatives often combine legal recognition with farmers and community empowerment, capacity building and sustained financial and institutional support mechanisms.

6.2 Prospects and plans for further implementation of Farmers' Rights

Through the multistakeholder survey, respondents were invited to indicate prospects and plans relevant to the implementation of Farmers' Rights among three broad categories that are indicated below.

6.2.1 Common prospects and plans across all regions

The survey revealed a high degree of convergence across regions regarding the prospects and plans for further implementation of Farmers' Rights. Unless otherwise specified, the following examples of prospects and plans for further implementation of Farmers' Rights reflect common priorities that were identified or selected by respondents across all regions.

(i) Awareness-raising, outreaching and communication

- Promote recognition of local and Indigenous communities and farmers' contributions to the conservation and sustainable use of PGRFA, such as awards and recognition of custodian/guardian farmers.
- Promote annual events to raise awareness of the importance of PGRFA and the role of farmers in the conservation and sustainable use of crop genetic diversity.
- Encourage sharing and dissemination of measures and practices and submission to the *Inventory*.
- Use, promote and disseminate the *Options for encouraging, guiding, and promoting the realization of Farmers' Rights as set out in Article 9 of the International Treaty*; organize global, regional, national and local/community sharing of experiences, practices and lessons learned.

(ii) Capacity development, training and technical cooperation

- Promote regional exchanges on practical implementation of Farmers' Rights and the relevance of South-South cooperation, North-South cooperation.
- Conduct training, capacity development and awareness-raising for new themes/topics that can protect and promote Farmers' Rights as set out in Article 9, such as: PGRFA data management and governance, fairness in research partnerships, impact of new technologies on Farmers' Rights, implementation of human rights instruments and declarations.
- Develop local/national/regional programmes/projects encouraging partnerships/strengthening cooperation among different actors to engage in South-South cooperation.

(iii) National implementation of Farmers' Rights

- Raise awareness and build capacity among farmers, policymakers, institutions and stakeholders on the implementation of Farmers' Rights.
- Encourage collaboration and coordination across various sectors (such as agriculture, environment, education, rural development, trade/commerce/enterprise and other relevant sectors) to protect and promote implementation of the different provisions of Article 9.
- Support farmers' participation in decision-making at local, national and subregional, regional and international levels.
- Review national measures that affect the realization of Farmers' Rights, in particular legislation concerning variety release and seed distribution, to protect, promote and realize Farmers' Rights, as set out in Article 9 of the International Treaty, as appropriate and subject to national legislation.
- Promote sustainable biodiverse production systems and facilitate participatory approaches such as community seed banks, community biodiversity registries, participatory plant breeding and seed fairs, including to provide legal recognition of such approaches as tools for realizing Farmer's Rights.

6.2.2 Additional suggestions by respondents from Europe

Several respondents from Europe provided additional suggestions for further implementation of Farmers' Rights. These are presented below, in no particular order:

- Support through programmes and projects

- Continue to support the implementation of Farmers' Rights through programmes and projects at local, national, regional and global levels.

- Rights-based approaches

- Support rights-based approaches, such as the United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas (UNDROP), which includes the right to seeds and contributes to the implementation of Article 9 of the International Treaty.

- Access to high-quality seeds

- Continue to highlight the importance of ensuring the availability of high-quality seeds of improved varieties, and promote access to seeds of choice and good quality to prevent crop failures and enhance economic benefits.

- National programme/strategies on PGRFA

- Review and monitor national programmes and strategies on PGRFA, which inherently include several principles or activities related to Farmers' Rights. It also suggested to pursue the further development of framework conditions for placing seed and propagating material on the market, considering the impacts on on-farm management.

- Knowledge-sharing, education and awareness

- Promote knowledge-sharing on the cultivation and propagation of landraces, including plant health aspects and regulations on seed exchange.
- Support organizations that promote education and raise awareness on plant genetic resources.

- Strengthening Farmers' Rights

Strengthen and support Farmers' Rights to use and sell self-bred seeds and livestock within relevant areas, and ensure that these rights are reflected in regulations, and actively participate in discussions and the development of international agreements related to this matter.