

Farmers' Rights in the International Treaty on Plant Genetic Resources for Food and Agriculture

Lesson 3

Implementation of Farmers' Rights



Overview of the lesson

Despite international acknowledgement, and the call to governments to adopt measures to promote and safeguard Farmers' Rights, these are still not promoted or protected by national legal and policy frameworks in most countries. Contracting Parties and many other stakeholders have frequently highlighted the problem of inadequate capacity regarding Farmers' Rights, as well as a lack of common understanding of what these mean, and how to implement them in real terms.

This lesson presents some ideas and practical activities implemented by different stakeholders, aimed at promoting an understanding of Farmers' Rights, and ensuring that they are realized. The examples showcased have been extracted from various publications, as well as from submissions by Contracting Parties and stakeholders. A selection of policies, programmes and projects presented here demonstrate some of the different ways in which the provisions of Farmers' Rights can be put into practice, with varying degrees of success.

Learners are encouraged to share their own experiences, views and perceptions, together with possible approaches for promoting and advocating the realization of Farmers' Rights, in their own country specific context..

Learning Objectives

At the end of this lesson, you will be able to:

1. Explain how to implement the components of Farmers' Rights in the International Treaty at the national level
2. Provide some practical examples of the realization of Farmers' Rights

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1. Article 9, Farmers’ Rights: some practical explanations and progress in the implementation

When implementing Article 9 of the International Treaty, it is important to bear in mind the historical context of Farmers’ Rights, as outlined in Lesson 1. Farmers are custodians and developers of plant genetic resources, so recognizing and rewarding them for their indispensable contribution to the global gene pool and associated knowledge is crucial, in order that they can maintain this role for local and global food security. Farmers’ Rights constitute a cornerstone of the International Treaty. Their realization is a precondition for achieving its three objectives of *conservation, sustainable use, and fair and equitable benefit sharing*.

The components of Farmers’ Rights are:

- i) protection of traditional knowledge;
- ii) the fair and equitable sharing of benefits;
- iii) the right to participate in decision-making; and
- iv) no limitation to rights that farmers have to save, use, exchange and sell farm-saved seed/propagating material.

Despite the many challenges and barriers in the realization of Farmers’ Rights at national level¹, efforts are already underway with regard to implementation of components of Farmers’ Rights in the International Treaty. Progress is being made with regard to the protection of traditional knowledge; equitable benefit sharing; the participation in decision making; and the right of farmers to save, use, exchange and sell farm-saved seed/propagating material. This indicates that there exists an opportunity for sharing and learning from the examples of different countries and stakeholders in putting Farmers’ Rights into practice.

Lesson 2 has provided some explanation for the above components of Farmers’ Rights, additional thoughts to further understand these components are given here, together with some examples of practices that directly or indirectly contributing to the realization of one or more of the components of Farmers’ Rights. These examples are extracted from the results of initiatives, projects, policies and actions implemented by different stakeholders and from different countries. The examples are sorted into four categories: (i) protection of Traditional Knowledge; (2) the fair and equitable sharing of benefits; (3) participate in decision-making; and (4) the right that farmers have to use, exchange and sell farm-saved seed/propagating material.

1.1 Farmers’ Rights in relation to the protection of traditional knowledge

Traditional knowledge (TK) includes expertise in the selection, storage, use and management of seed. This knowledge is vital for understanding the properties or characteristics of plants and varieties, their uses, cultural significance and cultivation practices. Traditional knowledge is disappearing at an alarming pace, alongside genetic erosion. Safeguarding traditional knowledge can involve two approaches:² (1) protection against extinction; and (2) protection against misappropriation.

¹ Stakeholders’ Consultation on Farmers’ Rights: African Position Paper, 27-29 June 2016, Harare, Zimbabwe (<http://www.fao.org/3/a-bq550e.pdf>); Global Consultation on Farmers’ Rights, 27-30 September, 2016, Bali, Indonesia; The Farmers’ Rights Project: resource pages for decision-makers and practitioners (<http://www.farmersrights.org/state/index.html>)

² R. Andersen, 2016. Farmers’ Rights: evolution of the international policy debate and national implementation. *In: Farmers’ Crop Varieties and Farmers’ Rights. Challenges in taxonomy and law* (ed) M. Halewood. Bioversity International, Earthscan from Routledge. pp 136-151

Protecting TK against extinction means ensuring that it is kept alive and developed further. Measures for its protection are considered crucial by farmers who therefore engage in farming practices in which the use of PGRFA, or agrobiodiversity in general, is promoted through community biodiversity management (CBM).³ The best way of protecting traditional knowledge against extinction is to use and share it. Measures for diffusing traditional knowledge can include the organization of seminars, conferences and gatherings among farmers, to share knowledge associated with crop diversity.

One of the practical examples of protecting traditional knowledge by using and sharing is through the Community Seed (gene) Banks, a practice that exists for the last 30 years. These are community-managed seed banks where indigenous, local variety seeds are stored and shared with the members. This is very vital for sharing not only seed and varieties, but also the associated knowledge in conservation and the cultivation of crops. They perform multiple functions, depending on the objectives set by their own members. These might include undertaking awareness-raising and educational activities; documenting TK and information; collecting, distributing and exchanging seeds; sharing knowledge and experience; promoting agro-ecological practices; conducting participatory crop improvement experiments; networking and policy advocacy; and many other activities related to seed conservation.

1.2 Farmers' Rights to participate equitably in the sharing of benefits

Mechanisms for benefit sharing may vary, depending upon the type of benefits, the specific conditions in the country and the stakeholders involved. The benefit sharing mechanism must be flexible, as it should be determined by the partners involved in benefit sharing, and will vary on a case-by-case basis. Benefits to be shared may be influenced by numerous factors, including the extent of sharing, and the nature of the final product development. Most regulations envisage forms of direct benefit sharing between the 'owners' and 'buyers' of genetic resources, often upon prior informed consent on mutually agreed terms, as set out in the CBD and its Nagoya Protocol.⁴ Under the International Treaty, facilitated access to genetic resources that are included in the Multilateral Systems is itself recognized as a major benefit of the system. Means of benefit sharing arising from the use of PGRFA that are to be shared on a 'fair and equitable' basis were presented in Lesson 2.⁵

To interpret this provision of Farmers' Rights, some guidance can be found in Article 13 of the International Treaty on the Multilateral System of Access and Benefit-sharing, the most important benefits are the following:

- 1) facilitated access to plant genetic resources for food and agriculture
- 2) the exchange of information: this includes catalogues and inventories, information on technologies and results of technical, scientific and socio-economic research on PGRFA including data on characterization, evaluation and information on use.
- 3) access to and transfer of technology: Contracting Parties agree to provide or facilitate access to technologies for the conservation, characterization, evaluation and use of PGRFA. The International Treaty lists various means by which transfer of technology is to be carried out, including participation in

³ Community Biodiversity Management is a methodology for promoting conservation and the sustainable utilization of biodiversity at local level, with an emphasis on agrobiodiversity or plant genetic resources. CBM distinguishes itself from other strategies that target *in situ* conservation, or on-farm management, by its focus on increasing the decision-making power of communities and securing access to and control over their biological and genetic resources for sustainable livelihood management. Source: Community Biodiversity Management: promoting resilience and the conservation of plant genetic resources. (eds) W.S. de Boef, A. Subedi, N. Perono, M. Thijssen, and E. O'Keefe, 2013. Earthscan from Routledge.

⁴ 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, UNEP/CBD/COP/DEC/X/1 of 29 October 2010.

⁵ According to paragraph (b) of Article 9.2 of the International Treaty, measures that Contracting Parties should take, as appropriate and subject to their national legislation, include those to ensure the right of farmers "to equitably participate in sharing benefits arising from the utilization of plant genetic resources for food and agriculture".

crop-based or thematic networks and partnerships, commercial joint ventures, human resources development and through making research facilities available. Access to technology, including that protected by IPR, is to be provided and/or facilitated under fair and most-favorable terms, including on concessional and preferential terms where mutually agreed. Access to these technologies is provided while respecting applicable property rights and access laws.

4) capacity-building: the International Treaty gives priority to programmes for scientific education and training in the conservation and use of PGRFA, to the development of facilities for conserving and using PGRFA and to the carrying out of joint scientific research.

Article 13 specifies that benefits arising from the use of plant genetic resources for food and agriculture PGRFA that are shared under the Multilateral System should flow primarily, directly and indirectly, to farmers in all countries, especially in developing countries and countries with economies in transition, who conserve and sustainably utilize PGRFA.

The most frequently mentioned form of sharing includes the following⁶:

- Conservation activities, including local gene banks and community seed banks;
- Access to seed and propagating material, and related information, and the strengthening of farmers’ or informal seed systems;
- Enhanced utilization of farmers’ varieties, including value adding and market access;
- Participatory plant breeding/crop improvement and its variations in methods that facilitate collaboration between farmers and scientists;
- Community biodiversity management that aims to contribute to the empowerment of communities assuming responsibilities in the conservation and use of PGR, which are in turn transformed into actions that guide the communities towards asserting their Farmers’ Rights.

The Benefit-sharing Fund of the International Treaty, which was launched in 2009, is also relevant for provisions on Farmers’ Rights. Its financial resources are distributed directly and indirectly to farmers who are conserving and sustainably using PGR.

Bilateral and multilateral development cooperation represents another source of benefit sharing, which supports many biodiversity conservation development programmes and projects at local level.

1.3 Farmers’ Rights to participate equitably in decision-making

The participation of farmers in the development of laws, regulations, policies and programmes related to plant genetic resources is critically important. Farmers are the key actors and ideally, policies and programmes that target them should take into account their situation and perspectives as points of departure. In many countries, mechanisms for participation include extensive use of public hearings at various stages in the process of policy development. Farmers’ participation is also relevant in the implementation of laws and regulations, or in what may be referred to as PGRFA governance. Consultative processes of various kinds are central, and the stronger the representation of farmers and farmers’ organizations, the greater the legitimacy of results, and the more likely that they will lead to effective measures for the conservation and sustainable use of PGRFA, as well as the realization of Farmers’ Rights. Of fundamental importance is the need to raise awareness and enhance understanding and capacity-building among farmers, policy-makers and decision-makers alike on this issue, and to ensure their participation in the decision-making process.

⁶ Electronic Survey on the Implementation of Farmers’ Rights - Report, 2017; R. Andersen, 2016. Farmers’ Rights: evolution of the international policy debate and national implementation. *In: Farmers’ Crop Varieties and Farmers’ Rights. Challenges in taxonomy and law* (ed) M. Halewood. Bioversity International, Earthscan from Routledge. pp 136-151

Community seed/gene banks offer another mechanism for implementing farmer participation in decision-making. Community seed banks have multiple functions. They promote recognition of farmers' knowledge systems and seed resources, encourage participation in decision-making and benefit sharing, and could encourage the development of supportive policy and seed regulatory frameworks. Community seed bank practices and participatory plant breeding activities build on existing, and mostly informal forms of access and benefit sharing, while adding new elements. Depending on the purpose agreed by members, a community seed bank may engage in participatory plant breeding and variety selection, which can strengthen access to and availability of improved seeds and increase diversity. In participatory plant breeding, farmers, researchers, local consumers and other actors join forces in a continuous, highly dynamic and complex process of selection and exchange of seeds, and interactions between farmers and seed producers, research institutions and other relevant stakeholders. Benefits are generated throughout the process of collaboration and are shared dynamically and at all times among the diverse stakeholders.

1.4 Farmers' Rights to save, use, exchange and sell farm-saved seed

Article 9.3 states that nothing in the relevant article 'shall be interpreted to limit any rights that farmers have to save, use, exchange and sell farm-saved seed/propagating material, subject to national law and as appropriate'. The preamble notes that 'the rights... to save, use, exchange and sell farm-saved seed and other propagating material... are fundamental to the realization of Farmers' Rights.' This indicates the importance of the issue, but does not give any clear guidance. Farmers are granted rights in this direction subject to state sovereignty. Countries are free to define the legal space they deem sufficient for farmers regarding their rights to save, use, exchange and sell farm-saved seed. However, countries' scope for defining such legal space for farmers is generally restricted by other international commitments. Most countries in the world are members of the World Trade Organization (WTO), and are thus obliged to implement the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement). The TRIPS Agreement states that all WTO member countries must protect plant varieties, either by patents, or by an effective *sui generis* system (a system of its own kind), or a combination. The limits to a *sui generis* system and the meaning of an 'effective' *sui generis* system are not explicitly defined in the text. In other words, the countries have to introduce some sort of plant breeders' rights.

The importance of conserving and using plant genetic resources

The value of both traditional farmers' varieties and wild relatives of cultivated plants in crop improvement and agricultural development cannot be overemphasized. There are many examples of this, highlighted below by a few examples.

Traditional farmers' varieties have provided many individual traits that have been introduced into existing, improved breeding lines:

- One local variety of wheat that is found in Turkey, collected by J. R. Harlan in 1948, was ignored for many years because of its many negative agricultural characteristics. But in the 1980s it was discovered that the variety carries genes that are resistant to many disease causing fungi. It has since been used as a source of resistance to a range of diseases.
- The primitive Japanese dwarf wheat variety, Norin 10, introduced into America in 1946, had a key role in the genetic improvement of wheat during the so-called 'Green Revolution'. It was used as a donor of the genes that are responsible for dwarfism, which allow increased nitrogen uptake and therefore increased production in intensive farming systems

- Wild relatives of current crop plants, although agronomically undesirable, might also have acquired many desirable characteristics as a result of their long exposure to natural selection, and can therefore make very useful contributions to crop improvement:
- An outstanding example is the genus *Lycopersicon*, in which many wild species can be crossed with the cultivated tomato *L. esculentum* and have been successfully used as donors of fungus-resistant genes (*L. hirsutum* and *L. peruvianum*), nematode-resistant genes (*L. peruvianum*), insect-resistant genes (*L. hirsutum*), genes for quality improvement (*L. chmielewskii*), and genes for adaptation to adverse environments (*L. cheesmaniae*).
- Wild forms of *Beta* collected in the 1920s were used in the 1980s in California as a source of resistance to rhizomania, a devastating sugar-beet root disease. Meanwhile, it was found that the collections also show *Erwinia* root-rot resistance, sugar-beet root maggot tolerance, and moderate leaf-spot resistance.

These examples show that genetic material that once seemed to be of no particular value has proved to be crucial in crop improvement. The concept of ‘usefulness’ is a relative one, which might vary according to the needs and the information available.

Source: Extracted from J. Esquinas-Alcázar. *Protecting crop genetic diversity for food security: political, ethical and technical challenges*. *Nature Reviews Genetics* 6, 946-953 (December 2005) at: <http://www.nature.com/nrg/journal/v6/n12/pdf/nrg1729.pdf> or <http://www.farmersrights.org/pdf/2006%20Art.JEA%20in%20Nature,%20English.pdf>

Some practical examples of realization of Farmers’ Rights

Since the adoption of the International Treaty, progress on the implementation of Farmers’ Rights at national level has been very limited⁷ and many countries face a number of challenges.⁸ Despite this situation, many development organizations and funding institutions now require recipient government institutions (or project implementers) to establish meaningful and effective local communities and farmer-centred measures for the implementation of projects, or insist that target beneficiaries should be first and foremost small-scale farmers and local communities⁹. Aside from a focus on farmer-centred

⁷ Benefit-sharing and Farmers’ Rights by E. Tsiuomani (<http://www.benelexblog.law.ed.ac.uk/2014/05/13/benefit-sharing-and-farmers-rights/>)

⁸ Stakeholders’ Consultation on Farmers’ Rights: African Position Paper, 27-29 June 2016, Harare, Zimbabwe (<http://www.fao.org/3/a-bq550e.pdf>); Electronic Survey on the Implementation of Farmers’ Rights - Report 2017.

⁹ For example, Multilateral and bilateral funding institutions, such as:

- (i) Global Environment Facility (GEF), established on the eve of the 1992 Rio Earth Summit, is a catalyst for action on the environment — and much more. A financial mechanism for 5 major international environmental conventions: The Minamata Convention on Mercury, the Stockholm Convention on Persistent Organic Pollutants, UNCBD, UNCCD, UNFCCC. GEF funding helps reduce poverty, strengthen governance and achieve greater equality between women and men. Website: www.thegef.org
- (ii) The International Fund for Agricultural Development (IFAD) is dedicated to eradicating rural poverty in developing countries. IFAD’s Strategic Framework 2016-2025 is aimed at catalysing country and global progress towards the following overarching goal: rural people overcome poverty and achieve food security through remunerative, sustainable and resilient livelihoods. IFAD supported programmes is consistently aim to target and benefit the largest number of poor rural people possible, empower them socially and economically, and promote gender equality. Website: www.ifad.org
- (iii) FAO’s mandate is to raise the levels of nutrition, improve agricultural productivity, better the lives of rural populations and contribute to the growth of the world economy.
- (iv) Development Fund of Norway, supports small scale farmers in their fight against hunger and poverty. Website: <http://www.utviklingsfondet.no/en>
- (v) Swiss Development Cooperation, provides support to small farmers of both genders for the efficient use of natural resources conserving them for future generations, this all in the context of social and economic changes and the impact of climate change. Website: <https://www.eda.admin.ch/deza/en/home/themes-sdc/agriculture-food-security.html>

projects, there is increasing interest in the issue of Farmers' Rights, with a growing body of literature and substantial work carried out at different levels by a wide range of experts, including agronomists, anthropologists, biologists, scientists, lawyers, farmers, development practitioners and activists. These studies have examined Farmers' Rights from various angles, among them the conceptual foundation of FR, attributes of FR, and laws and policies related to them.

In addition, an increasing number of development projects and initiatives demonstrate Farmers' Rights on the ground, either directly or indirectly. Some practitioners believe that to advocate for the realization of Farmers' Rights, it is better to demonstrate how they can be implemented in practice, on the ground. Such an approach not only achieves the project's objectives, goes the argument, but also enables the results to feed into policy bodies, either at national or local level. The core idea in implementation of these development projects is that it serves as an entry point to raise awareness and understanding of Farmers' Rights, as well as enacting the initiative itself.

In the following sections of this lesson, several examples are showcased of how to implement and realize Article 9 on Farmers' Rights. These have been extracted from various publications, as well as from submissions by Contracting Parties and stakeholders.

2.1 Protection of traditional knowledge

Seed Mothers

The Adivasi communities of Odisha, India, have experienced substantial losses of many natural resources from their area. These are key elements in ensuring people's food and livelihood security. Many farmers from the Adivasi communities have lost diverse varieties of traditional local crops, such as millet-based mixed crops, while trying out market seeds. As a result, these small-scale, marginal farmers have become food insecure. As their investments in farming have increased, so has the debt burden on farmers.

As a change agent, ORRISSA NGO promoted agriculture in these villages, encouraging improved practices based on modern farming approaches, with support received from MISEREOR Germany. However, conventional support, such as market seeds, chemical fertilizer and pesticides, small irrigation pumps, post-harvest machines and farm tools, did not yield any sustainable results. It was found that the farmers could not sustain the efforts and build value using these inputs. The challenge lay in understanding why farmers were not adopting modern practices.

Community consultations revealed that traditional farming still holds ground. The village level farmers' groups recognized the inherent knowledge of Adivasi women with respect to traditional farming wisdom. The male dominated Adivasi People's Organizations identified resourceful Adivasi women in the villages and gave them the name of Seed Mothers. These Seed Mothers proved to be the key to helping the ORRISSA team challenge the assumptions of modern farming methods and stimulate new learning from the community.

The initial challenge was to restore dignity to local seeds, and practices associated with them. Another important hurdle to overcome involved adding objective value to traditional practices in the minds of young farmers. Seed Mothers mobilized the community at village level. They also gathered knowledge from fellow farmers.

Source: Extracted from Family Farming Knowledge Platform. Website : <http://www.fao.org/family-farming/detail/en/c/425702/>

India's Traditional Knowledge and Digital Library

(vi) And many more...

Traditional knowledge is integral to the identity of most local communities. It is a key constituent of a community’s social and physical environment, so safeguarding it is of paramount importance. The preservation, protection and promotion of traditional knowledge-based innovations and practices of local communities is particularly important for developing countries. Their rich endowment of TK and biodiversity plays a critical role in their health care, food security, culture, religion, identity, environment, trade and development. The Traditional Knowledge Digital Library (TKDL) is a pioneer initiative launched in India to prevent misappropriation of the country’s traditional medicinal knowledge by international patent offices. The health care needs of more than 70 percent of the population, and the livelihoods of millions of Indian people depend on traditional medicinal knowledge. TKDL’s genesis dates back to Indian efforts to revoke a patent on the wound healing properties of turmeric at the United States Patent & Trademark Office (USPTO).

The Traditional Knowledge Digital Library is translated into five languages: English, French, German, Japanese and Spanish, using information technology tools and an innovative classification system – Traditional Knowledge Resource Classification (TKRC).

India has successfully concluded TKDL Access Agreements with the Canadian Intellectual Property Office (CIPO), European Patent Office (EPO), German Patent Office (GPO), IP Australia, the Japan Patent Office (JPO), the United Kingdom Patent & Trademark Office (UKPTO) and USPTO, amongst others. TKDL Access Agreements have inbuilt safeguards on non-disclosure, so as to protect India’s interests against any possible misuse. Under the agreement, the patent examiners at international patent offices can utilize TKDL for patent search and examination purposes only, and cannot reveal the content to any third party, unless this is required for citation.

TKDL is proving to be an effective deterrent against biopiracy and is being recognized as a global leader in the area of traditional knowledge protection. The system has attracted wide international interest, particularly in countries that are rich in traditional knowledge, by demonstrating the advantages of taking a proactive approach and the power of strong deterrence. The idea is not to restrict the use of traditional knowledge, but to ensure that patents are not wrongfully granted due to lack of access to prior art for patent examiners. Currently, many countries have started establishing their own TKDL.

Source: Extracted from India TKDL website <http://www.tkdil.res.in>

European Union’s Community Plant Variety Rights (CVPR)

The European Union (EU) has been a member of UPOV since 29 July 2005. The EU legislation on Community Plant Variety Rights (CPVR) has been aligned with the UPOV 1991 AC since 1994. As regards the International Treaty, the EU has been a Contracting Party since 31 March 2004. The International Treaty has not been transposed as such into EU legislation, and there is no overarching EU strategy on plant genetic resources. However, the conservation of genetic resources as related to farmers is integrated into various EU legislative frameworks and strategies. These include:

Community Plant Variety Office (CPVO)

EU’s intellectual protection regime for plant varieties, in force since 1995, can be considered as a success. CPVO manages the world's biggest regime of variety protection. Over the past 20 years, CPVO has granted over 30 000 Community plant variety rights to varieties of more than 1700 plant species. Today, around 2500 applications/year are received of which 93% are made on-line and around 25 000 rights are currently in force. More information can be found on the following website: <http://www.cpvo.europa.eu>.

Agricultural exemption (farm-saved seed)

An important provision of the CPVR legislation relating to Farmers' Rights concerns agricultural exemption. In order to safeguard agricultural production, and the legitimate interests of both farmers and breeders, farmers are authorized to use for propagation purposes in the field, on their own holding, the product of the harvest of a variety which is covered by a CPVR. The exemption concerns a list of species of several agricultural crops: fodder plants, cereals, potatoes and oil and fibre plants, which are commonly used as farm-saved seed in the EU. Six conditions are laid down, including equitable remuneration for the holder of the CPVR and derogation to small-scale farmers for payment. In principle, 50 percent of the amounts charged for the licensed production are used for remuneration. Other conditions concern monitoring compliance as a matter of exclusive competence of holders, and an obligation to provide information on request of the holder by farmers and suppliers of processing services, or by official bodies involved in the monitoring of agricultural production. Detailed procedures are laid down in the implementing rules (Commission Regulation (EC) No 1768/95).

The CPVR legislation should not be confused with the EU legislation on the marketing of plant reproductive material (12 basic Directives), which regulates the general market access of varieties and plant reproductive material. Technical requirements on variety registration and certification are laid down, so as to ensure their identity, health and quality. The EU plant variety database includes around 40 000 plant varieties of agricultural and vegetable species for EU farmers and growers to use. Specific legislation on conservation varieties has been introduced, with less stringent rules, to support in situ conservation and use of plant genetic resources in the spirit of the International Treaty. The derogatory rules concern varieties traditionally grown in certain regions, threatened by genetic erosion and varieties with no intrinsic value for commercial production, but developed under particular conditions. Currently, around 1 160 such varieties are listed in the EU Common Catalogues.

Common Agricultural Policy

In the framework of EU legislation on the Common Agricultural Policy, a number of measures contribute to the objectives of the International Treaty. For example, community programmes on the conservation, characterization, collection and utilization of genetic resources in agriculture are provided for in Council Regulation (EC) No 870/2004. This facilitates the conservation and development of plant genetic resources (<http://ec.europa.eu/agriculture/genetic-resources>). In addition, the protection of traditional knowledge is implemented through rules on the protection of *geographical indications and designations of origin for agricultural products and foodstuffs* through Commission Regulation (EC) No 1898/2006. This specifies the detailed rules of implementation of Council Regulation (EC) No 510/2006 and the rules on quality schemes for agricultural products and foodstuffs (Regulation (EU) No 1151/2012).

Source: Extracted from the presentation and article of Päivi Mannerkorpi, European Commission, DG Health and Food Safety, submitted to the Symposium on possible interrelations between the International Treaty and the International Convention for the Protection of New Varieties of Plants (UPOV convention), held 26 October 2016, WIPO, Geneva, Switzerland (available at <http://www.fao.org/3/a-bq631e.pdf>).

2.2 Farmers' Rights to participate equitably in the sharing of benefits

The Potato Park in Peru: a community biocultural protocol for access and benefit sharing

The Potato Park was developed by Quechua communities in the Peruvian Andes as an initiative to improve local livelihoods and promote biodiversity conservation, while maintaining the integrity of Quechua traditional knowledge systems and collective biocultural heritage. To achieve internal consensus on how to manage external partnerships and share any benefits derived from collectively owned biological diversity and cultural resources in the park, the communities jointly developed a *community biocultural*

protocol for access and benefit sharing. This protocol is an ‘internal governance tool to regulate equitable benefit-sharing among communities and reduce conflicts associated with [access and benefit-sharing] agreements.’ It aims to protect traditional knowledge and genetic resources by ensuring access by researchers or commercial users observes customary values and laws. It allows communities to establish their own rules for access, equitable benefit sharing and the ‘free prior and informed consent’ required for research. In so doing, the initiative ensures that traditional authorities rather than individuals make decisions on access, thereby lessening the risks of unfair exploitation.

The protocol agreement is based on customary norms and three main principles of the Andean worldview: reciprocity, equilibrium and duality. All monetary and non-monetary benefits are distributed by a specially appointed governing body, according to collectively agreed criteria. Any surplus benefits are directed towards maintaining a social safety net according to *ayllu* – a traditional understanding of quality of life based on harmony between the human, natural and spiritual world. The protocol represents a model for benefit sharing that supports indigenous communities’ control of their own resources, path to development and biocultural heritage when engaging with external actors.

The protocol is shared among six Quechua communities of the Potato Park, who cultivate about 1 500 varieties of potatoes (for example with frost or drought resistance). This is also the area that is home to the world’s highest number of wild potatoes.

Source: Extracted from the Biocultural Heritage. Website : <http://www.biocultural.iied.org/about-biocultural-heritage>

Costa Rica’s local potato species solve global problems: identification of useful potato germplasm adapted to biotic and abiotic stress caused by global climate change

Although the Andes are known as the home of a large part of the genetic variation of potatoes, Costa Rica also has unique species and varieties, including wild relatives, that have not yet been characterized or exploited for breeding, but are known to be adapted to adverse cold, heat and drought conditions. This gives them the opportunity to play an important role in efforts to achieve food security, and address looming challenges associated with changing climates.

The International Treaty Benefit-sharing Fund Project¹⁰ recognized that over the past three decades, Costa Rica and other Latin American countries have been subject to climate related impacts and increased El Niño activities. This not only affects today’s food harvests, it affects harvests of the future. The weather conditions have brought high rainfall and humidity and led to increased fungal diseases in potato. This has combined to heighten the vulnerability of Costa Rican farmers to natural disasters. Projected climate change scenarios show global potato yields declining by 18 to 32 percent, compared with 9 to 18 percent in the case of adapted varieties.

The Agronomic Research Center (CIA) of the University of Costa Rica is taking advantage of the high variability of Costa Rica’s potato wild relatives – which are the most important source of genetic diversity – by crossbreeding them with cultured varieties, creating new varieties with the potential to adapt to extreme conditions. However, the survival of wild relatives is itself under threat from climate change, making the project’s efforts to identify and conserve them even more critical.

Germplasm collected by the project already includes 45 accessions of wild relatives and 13 of cultivated varieties. It also includes 29 accessions of native potato and 23 commercial varieties for comparison and testing, which involves evaluations and results of tolerance to drought, cold and heat. The initial work was conducted through high-tech research facilities in Spain. The knowledge gained has been disseminated to

¹⁰BSF First Round of Project Cycle

farmers in Costa Rica, with the potential to support more than 10 000 Costa Rican beneficiaries, including farmers, industrialists and consumers.

Source: Extracted from the Report on the First Round of the Project Cycle of the Benefit-sharing Fund.
Link: http://www.planttreaty.org/sites/default/files/Report_BSF.pdf

Technology Transfer

Technology transfer is a key element of the Benefit-sharing Fund's priorities, and it is considered by the International Treaty as a primary form of non-monetary benefit-sharing. Several of the projects of the Benefit-sharing Fund's first portfolio had a pronounced technology transfer component.

Part of the ongoing activities of the executing entity of the project in Peru towards which the Benefit-sharing Fund contributed, for example, comprised the transfer of in vitro germplasm management techniques from the International Potato Centre (CIP) to the local "potato guardians" (Papa Arariwas) of the Potato Park. This transfer of technology significantly strengthened the Papa Arariwas' capacities to produce high quality and virus-free planting material for the six indigenous communities of the Potato Park.

The Benefit-sharing Fund further contributed to research activities of the executing entities in Costa Rica and Uruguay that aim at transferring technologies in the form of new potato varieties to local farmers. The Costa Rica project, for example, reported to have developed various breeding lines with high resistance potential to potato blight that are extremely suited for processing, and thus of high value to the potato industry. Similarly, the Uruguay project detected a resistance gene to bacterial wilt in a wild potato relative with high potential to be bred into commercial potato varieties for the use of farmers in the near future.

In Kenya, two improved finger millet varieties with particularly high yields under local conditions and that exhibit resistances to blast disease were multiplied and distributed to over 1000 smallholder farmers.

The transfer of technologies is extremely important as it bears a high multiplier potential for lasting impact in addressing the global challenges of safeguarding biodiversity, strengthening food security and adapting to climate change. In order to further enhance the generation and dissemination of new and sustainable technologies, one of the two funding windows of the third call for proposals of the Benefit-sharing Fund will notably have an increased focus on 'co-development and transfer of technology'.

Source: Extracted from the Report on the First Round of the Project Cycle of the Benefit-sharing Fund.
Link: http://www.planttreaty.org/sites/default/files/Report_BSF.pdf

Use of genetic resources to establish a multi-country programme of evolutionary participatory plant breeding in India and Jordan

Farmers' Knowledge is being used to support and strengthen national participatory plant breeding (PPB) programmes and to start new programmes of evolutionary participatory plant breeding (EPPB) in Iran and Jordan by developing locally adapted varieties of wheat, barley, rice and maize while enhancing biodiversity within and among farmers. Particular attention is being paid during this BSF project to gender differentiated knowledge of local landraces and cultivation practices. A strategy for facilitating women's access to and control over seeds is also being tested and monitored. By proactively involving women farmers, this project seeks to empower those who are traditionally in charge of agronomic practices and entitle them to access and manage relevant PGRFA on a more equitable basis. Jordan's National Center

for Agricultural Research and Extension (NCARE), and NGO. The Centre for Sustainable Development (CENESTA) are working to adapt local crops to climate change, and in so doing, to mitigate its impact on food security from a gender sensitive perspective.

In this BSF project, farmers are supported in coping with climate change and the impact this has on their lives and food security. It does this by strengthening their agricultural means with solutions such as PPB and EPPB, and by using traditional varieties that were lost in previous decades. Activities include the choice of germplasm, participatory trials in 22 villages, evaluation and selection of varieties that are stable in relation to environmental changes, and which present preferable traits, multiplication and collection. Subsequent base broadening activities will allow farmers to produce specifically adapted improved varieties, thus contributing to increasing the sustainability of their agricultural systems. The project is also contributing to building capacities and skills of national breeding institutes and NGO practitioners in participatory and gender sensitive breeding methodologies, and providing them with a pool of genetic material for further improvement. This will ensure that project outcomes are sustained over time and have a multiplier effect in other regions of the two countries.

Strengthening community-based on-farm conservation and sustainable use of crop diversity in the semi-arid Zambezi-Gwembe Valley of Zambia

Improving the livelihoods of the Zambezi-Gwembe valley resource poor farmers and farming communities is the aim of this BSF project. This is being accomplished through the sustainable management and conservation of sorghum, pearl millet, cowpeas, beans, sweet potato and cassava, which are crucial for the dietary needs and livelihoods of local communities. An important component involves the development of new improved and locally adapted crop varieties.

A strategic programme has been developed on priority landraces for on-farm participatory plant breeding, based on farmers’ knowledge and needs vis-à-vis PGRFA. Farmers and breeders are evaluating gene bank accessions and local varieties in on-farm plots, selecting the ones that show preferable traits and developing new landraces of crop varieties.

A series of farmers’ field days and seed diversity fairs have been organized to facilitate the exchange of information, good practices and seeds for sustainable agricultural practices. More than 1 000 farmers and trainers have formed Farmers’ Seed Clubs and committees for conserving and using crop diversity, sharing and disseminating knowledge and participating in training and capacity-building sessions.

Training of trainees on germplasm characterization tools for the target crops has been conducted with more than 600 farmers, including hands-on practical training on recording phenotypic traits of sorghum, bean, cassava and sweet potato. These initiatives will be replicated at other project sites to promote on-farm PGRFA conservation and sustainable use.

Source: Extracted from Enabling Farmers to Face Climate Change: Second Cycle of the Benefit Sharing Fund Projects, 2014. Available at International Treaty website: <http://www.fao.org/plant-treaty/areas-of-work/benefit-sharing-fund/projects-funded/en/>

On-farm conservation and mining of local faba bean landraces for biotic and abiotic stresses in Morocco

The faba bean is among the most ancient crops in Morocco. It is strongly embedded in traditional cropping systems and the country is one of the most important centres of diversity for faba beans in the Mediterranean Basin. However, with the onset of climate change, frequent droughts, pests and diseases have severely affected the productivity and availability of this crop. The need for *ex situ* and on-farm

conservation is becoming increasingly imperative in order to combat food security and the effects of climate change. Local landraces offer an important gene pool for sources of adaptation and tolerance to many biotic and abiotic stresses. In this context, a BSF project has enhanced on-farm conservation and use of faba bean landraces for food security through an integrated to on-farm and *ex situ* conservation and breeding activities, aimed at achieving better adaptation and management of faba bean.

Project activities have supported the progressive development and implementation of crop adaptation measures for agricultural systems in Morocco, and are helping to establish mechanisms to address the interlinked challenges of food security and climate change.

The involvement of farmers is crucial. Lead farmers representing four major faba bean growing areas were selected in cooperation with the *Centre des Travaux*, which has been working with farming communities in their respective regions for several years. The selection of lead farmers was made in order to identify the various agro-ecological challenges faced by producers in different areas. Under the close guidance of the International Center for Agriculture Research in the Dry Areas (ICARDA), 359 faba bean landraces conserved in the National Gene Bank of Morocco, and 68 accessions collected during project activities, have been cultivated in four different agro-ecological zones.

Men and women farmers and scientists are working together to evaluate varieties and productivity of faba beans resistant to drought and heat stresses. The systematic inclusion of farmers' skills, knowledge and preferences is a key element. The farmers involved in this project will share the knowledge and experience they gain, thereby increasing the potential impact of results. Women farmers' associations and organizations are involved in project activities and information dissemination.

The faba bean project is linked to a similar BSF funded project in Tunisia on on-farm conservation of durum wheat and barley. As a result, there is a regular exchange of information and experience between International Treaty stakeholders in Tunisia and Morocco. Meetings and cross-visits enrich collaborative efforts in the exchange of technology, the promotion of intra and intercountry linkages, research coordination and the dissemination of technology through multidisciplinary teams, made up of national policy-makers, scientists, extension workers and farmers, as end beneficiaries.

Source: Extracted from *Enabling Farmers to Face Climate Change: Second Cycle of the Benefit Sharing Fund Projects*, 2014. Available at International Treaty website: <http://www.fao.org/plant-treaty/areas-of-work/benefit-sharing-fund/projects-funded/en/>

The Douentza project: The Seeds of Survival (SoS) in Mali

The SoS programme was created by USC Canada in 1989 in Ethiopia. The SoS programme is aimed at promoting long-term food security for marginal farming communities in developing countries. It works to combine the knowledge of scientists regarding how to improve local crops, with the traditional knowledge of farmers. A main objective is to support communities involved in the maintenance of crop diversity by improving their capacities through participatory research and experimentation. Central to the SoS programme is the belief that in order to achieve sustainable poverty reduction, the management of diversity should be decentralised and focused on the revenue generation for farmers. In this programme, farmers are seen as experts, and knowledge-sharing is therefore a key component.

From Ethiopia to Mali: The SoS programme in Mali was inspired by the experience of the project in Ethiopia. The starting point in Mali was a result of the training of three USC staff members from Mali during the annual "Seeds of Survival" training sessions in Ethiopia in 1993 and 1995. The SoS approach from Ethiopia was then adapted to the local context in Mali – the Douentza project in Mopti region. It is

situated in the central part of the country and the region’s northernmost district. The district economy is based mainly on agriculture and animal husbandry. Millet production constitutes 85 per cent of the agricultural land used, with several different varieties grown. The local farmers also cultivate other crops, such as sorghum, rice, beans, peanuts and sesame. The SoS project has partners in 18 villages and the crops are divided in three categories: cereals (Pearl millet, sorghum, maize, rice, *fonio*, and wheat); leguminous crops (cowpeas, pigeon peas, ground nut, beans, and Bambara nuts) and vegetables and garden crops (okra, hibiscus, watermelon, eggplant, garlic, onion, pepper, etc). Many stakeholders are involved in the SoS project; work is divided among the groups, such as for seed production, protection and promotion. The groups also work on facilitating seed exchange among communities. USC Canada as donor and responsible for financial and technical support, local government administration, technical services at local level, individual farmers and farmers’ organisations, schools, local associations and NGOs are all part of the SoS stakeholders.

Some of the key activities implemented by SoS project:

- Development of seed-supply systems focusing on conservation and sustainable use: this was done through community-based infrastructure, such as gene banks, to promote diversity by supplying a broad range of varieties to farmers. The gene banks have also contributed to preservation of related traditional knowledge systems. It also motivated many families maintain part of their family seed collection. Likewise, it spurred greater interest in the conservation of local genetic resources through in-situ maintenance. Seed banks have also been established and these have provided farmers with increased seed security in a zone where poor rainfall areas which means sowing must be done four to six times. In this situation, the seed banks are very critical in addressing the lack of rainfall and/or desert locust outbreak and farmers have difficulty in obtaining seeds. In Douentza, the seed banks has contributed to greater solidarity among farmers, communities and villages.
- Fields of Diversity: an activity that promotes awareness and raise local agricultural biodiversity by involving school children and the general population together with scientists in the re-generation or planting of varieties and species that have almost disappeared from the area and monitored closely for assessment. Varieties are then chosen to match the needs of the farmers. Through dialogue and exchange, this approach creates synergy between scientists and farmers, develops confidence in collaboration in maintaining and conserving genetic resources. As a forum for knowledge exchange sharing, it has helped farmers to understand scientific concepts and scientists to understand and recognise farmers’ knowledge. It has also given farmers the opportunity to map their knowledge and to reinforce the capacity of farmers’ organisations.
- Seed Caravan: focuses on raising awareness to underpin the need to safeguard farm-based varieties and thereby promoting agricultural biodiversity conservation.
- Stock exchange: another activity that focuses on the exchange of seeds and knowledge that is conducted before the rainy season starts. It enables seed-producers of farm-based seed and local seed buyers to meet. It allows farmers looking for specific varieties to access the seeds they need. The activity can be seen as an additional means of propagating plant diversity, as well as serving an opportunity to give credit to seed producers for their work.
- Environmental follow up: another central goal of the SoS is the environmental education with focus on sustainable management of biodiversity that is being promoted in the primary schools, including the creation of school arboretums. These can be very relevant and useful teaching tool because they give the pupils practical training in relation to environmental issues. In addition to scientific knowledge, village elders are also invited to share their knowledge and experience with the children, which creates intergenerational dialogue in line with Malian way of safeguarding knowledge orally and contributes to the maintenance of local practices and traditional knowledge.

Through these activities, SoS has brought substantive results since it was initiated in 1994. It focuses on the conservation of local, traditional varieties, the sustainable use of these varieties and the exchange,

protection and promotion of associated knowledge. As a result, the farmers involved have increased their production considerably and are now more aware of the advantages and importance of maintaining local crop diversity and the related traditional knowledge. The SoS project experience from Mali has demonstrated that it is possible to build bridge between farmers and scientists and to bring their occasionally differing perspectives closer together through collaboration and knowledge exchange. When farmers are integrated into development projects as equal partners with expert knowledge of their own, their needs and experience can more easily be taken as the point of departure for activities and that in turn increases the chances of success and sustainability. The SoS activities in Mali illustrates how capacity building can lead to empowerment and successful activities like community gene/seed banks, fairs, environmental education, etc. The farmers have become more confident and valued their own knowledge and traditional practices and their scientific significance. The SoS approach has the potential to contribute greatly towards the realization of Farmers' Rights because it promotes benefit sharing in the form of improved access to seed, increased food security, information dissemination and sharing, and farmer empowerment. In addition, its focus on the role of farmers as custodians of agricultural biodiversity and on activities to promote the maintenance of crop genetic diversity and associated traditional knowledge, contributes to the implementation of Farmers' Rights.

Source: Extracted from M. Goïta, M. Goïta, M. Coulibaly and T. Winge. 2013. Capacity building and farmer empowerment in Mali. *In: Realising Farmers' Rights to genetic resources: Success stories and best practices*, 2013. R. Andersen and T. Winge (Eds). pp. 157-166

Benefiting from diversity – Improved Livelihoods: Maina Thapa's story, a woman farmer from Nepal

Ms Maina Thapa lives with her family on a farm in Chaur village. She is a member of the Pratigya Cooperative, a local farmers' cooperative established in 1991 through a CARE Nepal project to organize farmers and engage them in income-generating activities, including marketing of farm products. When CARE Nepal support was phased out, the NGO Local Initiatives for Biodiversity, Research and Development (LI-BIRD) had taken over to support the cooperative and pilot some development activities. Maina Thapa was one of the beneficiaries and her story illustrates how the livelihoods of the members have improved as a result of their cooperation and activities. Because of her participation in the cooperative and her cultivation of *anadi* rice, Ms Thapa's income has improved considerably and she can now be considered a relatively affluent farmer.

Anadi is a sticky and glutinous rice variety, valued for its nutritional and medicinal properties as well as its role in traditional celebrations. The registry made the Cooperative realise that fewer and fewer farmers were growing this variety and the area under cultivation was gradually shrinking. Members feared that it might disappear from the area and decided to take immediate measures to ensure its continued cultivation by focusing on adding value and marketing.

In collaboration with LI-BIRD, the Pratigya Cooperative developed and carried out promotional activities for *anadi* and other products. They disseminated information on medicinal value, organised workshops and seminars, visited fairs and festivals, advertised on the radio, distributed pamphlets and ensured that their products were readily available. In fact, a majority of the urban population already familiar with the products were unable to find them locally. Establishing links to the urban market was therefore a key ingredient in the Cooperative's success.

As a result of these efforts, the demand for *anadi* rice started to grow and its price could increase. Now, many farmers in the area cultivate *anadi*. The Cooperative's success in this respect shows how local farmer-driven initiatives that focus on market incentives can promote on-farm in-situ conservation of crop genetic resources.

Ms Thapa now produces an average of about 2 tonnes of *anadi* rice (equivalent to 1.17 tones of milled rice) a year because she has been able to access more land. She leases land from the local school, and due to the soil quality of these fields she can grow a large amount of *anadi* rice. Part of the explanation for her growing income is that the price of *anadi* rice, although it varies, is quite high – in 2011 it was 125 rupees per kilo, whereas for the best-quality local varieties in the Pokhara area, such as *jethbudo*, the price was around 80 rupees per kilo and for other rice types around 50 rupees per kilo. This means that even though *anadi* rice can only be grown under certain soil conditions such as heavy clay soil with high water holding capacity and fertility, and despite the relatively low yields compared to many other varieties, Ms Thapa gets a higher income from growing this variety than she would for most other varieties. In 2011, the 130,000 rupees she earned from the sale of 1.04 tonnes of milled rice made up of the biggest part of her income, and altogether almost two thirds of her income came from activities initiated by the Cooperative. This has increased the total income of her family and with increased income means that she can invest the profits she sees fit.

Her increasing success with *anadi* rice ever since she started growing this variety in 2003 as part of the Cooperative’s initiative and the good income it now gives her, has enabled Ms Thapa to pay for electricity and her children’s school fees. She considers herself to be much better off now she was before the establishment of the Cooperative and her own investments in *anadi* cultivation. Previously, she relied mainly on subsistence farming and did not earn very much. After she started growing *anadi* and became involved in the Cooperative’s value addition and to take up a loan to buy a tractor, which she has since managed to pay back. Trusting in her experience and confidence, the Cooperative has given Ms Thapa responsibility for coordinating the collection and processing of *anadi* rice. Ms Thapa appreciates the recognition she receives for her work and enjoys her status as a rather well-known *anadi* farmer in her area.

Source: Extracted from T. Winge, R. Andersen, P. Shrestha, 2013. Benefiting from diversity in Nepal *In: Realising Farmers’ Rights to genetic resources: Success stories and best practices*, 2013. R. Andersen and T. Winge (Eds). pp. 117-133.

Community Seed Fairs in Zimbabwe

Community Technology Development Trust (CTDT), a Zimbabwe-based NGO promoted the idea of Seed Fairs and helped the community to organize Seed Fairs. CTDT believes that Community Seed Fairs can help in diversifying the range of crop varieties available to farmers and can play an important role in the identification of economically viable crops. It can also help in identifying varieties with specific dietary values. Such varieties might still be in use by farmers despite the lack of support from the formal sector, and the seed fairs can help to make them better known. In addition, seed fairs can bring out important knowledge and information necessary for the sustainable management of different varieties. Keeping this traditional knowledge alive requires the conservation of crop diversity at the farm level. Seed fairs facilitate the right of farmers to exchange and sell farm-saved seed and provide incentive structure for the conservation and sustainable use of plant genetic resources for food and agriculture.

How the Community Seed Fair Begun? A seed fair will traditionally offer a venue for local communities to display the crops they grow. The seed fairs initiated by the CTDT in Zimbabwe allow farmers to display their seeds and products, and all stakeholders may buy, sell and exchange seeds. The seed fair provides participants and visitors with opportunities for interacting with other farmers as well as with a broader group of stakeholders.

At the seed fair held in January 2009 in UMP district, Dorothy Chiota described how such fairs are organized and gave her views on the benefits they have brought to her community. Ms Chiota is a member of the UMP seed fair committee; a group of selected farmers that also manages the community seed bank. She narrated how CTDT have started the Seed Fair, when they first visited her area in 1998 and the local farmers were asked to participate in community seed fairs, they were told that these fairs would give them the opportunity to show their seeds to the public and enable them to see and obtain new seeds from other farmers and regions. In the beginning the farmers were reluctant, but after the first seed fair had been held in 1999, farming communities in the region were eager to continue with such events, and after few years, these seed fairs became an annual after-harvest events. Seed Fair's participation increased with more government representatives and other NGOs in addition to the CTDT becoming involved. National and international seed companies display new varieties and sometimes including tools and technologies that have been developed for production and conservation, and the farmers display their seeds. Even though it is called a seed fair, but farmers from the surrounding villages also take advantage of the occasion to bring cattle and other farm animals.

Farmers – the key actors? According to Ms Chiota, in her village, the farmers' groups are key actors to various agricultural activities. These groups were taken as the point of departure when the seed fairs started and now form the basis for village participation. Each participating village has at least one farmers' group and some larger villages have more. Each group member contributes with his or with her crop varieties, so together the group is able to present considerable diversity at the fair. Ms Chiota said that in her village almost everybody attends the fairs:

“We are all farmers, and our children accompany us. The children often help their parents, for example by bringing the seed, mats and other equipment to the site. They participate in the activities like everyone else, both answering questions and asking questions of their own. When we wish to sell or exchange seeds, the children are always very instrumental – why not? They are the future of our communities and heritage.”

There are usually more women participating in the seed fairs than men, and Ms Chiota explained that women are keepers and custodians of seed. The women also tend to arrive earlier at the venue to prepare the seed stands, while the men arrive later. Village-level promotion groups have been established for organizing the seed fairs. These groups consists of traditional leaders, elders and CTDT staff. The promotion group first invites the farmers to general meetings, usually asking representatives from all the surrounding villages. Prior to the fair in 2009, for example, the leaders highlighted the objectives and explained the advantages of the initiative. Most of the organizational details are outlined at these meetings – such as the village where the seed fair will be held and how the day is to be organized e.g. which farmers' group should occupy which seed stand and what sections of the display grounds; roles and responsibilities of every one including cultural presentations – songs and dancings, and other more details. As such, the Seed Fair is really a festive occasion for everybody, with singing and dancing, attracting many people from surrounding villages. The songs portrays the unique characteristics of crops, its important qualities and utilization in terms of social, agronomic and environmental value. Such songs functions as tools to transmit knowledge from one generation to the next and are composed to praise the collective heritage of crop diversity because this diversity offers livelihood opportunities to the population. Ms Chiota notes that the young people are becoming more interested in singing and dancing and the songs have special messages for them.

Ms Chiota furthered explained that quite often the organizers from the CTDT take the back seat in organizing the event. This was important to the farmers, she said, because it increases the understanding that the fair is actually for them:

“We own the seeds that we display, we know what we want to cultivate, we know how to cultivate these seeds year after year, and we own the farms. We make the organizers know this, and we are proud of this sort of ownership.”

There is no better way to help farmers than to empower them. Farmers’ organizational ability and capacity was tested in January 2009, when several rounds of droughts had crippled Zimbabwe’s already struggling food production and the country was desperately trying to cope with the worst cholera crisis in Africa for 15 years – but the farmers of Uzumba Maramba Pfungwe (UMP) district still managed to organize their annual seed fair, thanks to their enhanced organizational skills.

The annual seed fairs organized by farmers in Zimbabwe in collaboration with CTDT have contributed to increased crop diversity by facilitating exchange and sale of locally grown seeds and by providing incentives for the continued maintenance of local varieties. Initiatives like seed fairs help to build local seed distribution systems in a way that *ad hoc* aid interventions fail to do. Through this seed fairs, farmers have learned about varieties and traditional knowledge systems previously unknown to them and commercial seed producers have been able to learn about farmers’ needs, preferences in taste and concerns. The fairs have also created market linkages that might promote processing and value addition; gave farmers opportunities for interaction between and among themselves as well as with other stakeholders. Not only has improved the access to local varieties been crucial to the maintenance of this diversity, it has also contributed to increased food security for smallholder farmers as these crops are more adapted to local conditions and do not require expensive inputs.

Source: Extracted from R. Chakanda, A. Mushita and T. Winge, 2013. Community Seed Fairs in Zimbabwe. *In: Realising Farmers’ Rights to genetic resources: Success stories and best practices*, 2013. R. Andersen and T. Winge (Eds). pp. 117-133.

Vitalizing Local Farming by Means of Treasure Vegetables

In 2009, Hiroshima Prefecture tasked the Agricultural Gene Bank to launch a Project for Vitalizing Local Farming by Means of Treasure Vegetables. The project is a flagship program of the policy that aims to promote utilization of local vegetable as part of its rural development. The project was aimed to select useful vegetable varieties indigenous to Hiroshima Prefecture, with special characteristics such as taste, rare or associated with unique preparation methods and therefore worthy of being classified as “treasure vegetables” and to re-introduce and utilize these valuable plant genetic resources by providing seed to farmers and disseminating information to various vegetable sellers. The project also examined the basic characters of 1 500 accessions stored in the gene bank, with a view to selecting 150 varieties as prospective ‘treasure vegetable’ based on their properties. The project would then encourage farmers and other vegetable producers to cultivate these and make them known to distributors and consumers.

When the project was initiated, the number of farmers in the area was decreasing in line with the general ageing population, processing and distribution of produce were believe to be in danger of going bankrupt in the Hiroshima region. It was hoped that through the work of the gene bank, the cultivation of ‘treasure vegetables’ would catch the interest of younger generations and help to vitalize the region. The project consists of three parts. The project started in 2009 until the end of 2012. The second part of the project is the selection and multiplication of ‘treasure vegetables’. In 2010, out of 50 finalists with excellent properties, five varieties were chosen: the *Aodai* cucumber, *Kan-on* leek, *Yaga chisha* lettuce, *Kawauchi* spinach and *Sasaki-Sangatsu Kodaikon* radish. All these chosen varieties were among the local varieties that had been collected after the establishment of the gene bank, and they all received very good marks during the evaluation process. Since then, five more varieties have been chosen each year. A central and quite unique element of the selection process was the integration of tasting sessions in connection with

the characterization of varieties. Together with farmers and selected consumers, the gene bank staff most familiar with many varieties tasted each variety, usually in cooked and/or pickled form, to examine its characteristics. Historical aspects were also taken into consideration and because part of the objective was to re-invent tradition and find new uses for varieties that had gone out of use, other preparation methods than those traditionally associated with a local variety were also tried. Sensory analysis was also an important tool in this process. The multiplication process for treasure-vegetable seed takes place without the use of fertilizer, and cultivating conditions differ from variety to variety. The third part of the project is the promotion of the selected varieties in order to increase their cultivation and seed production is also utilized for this purpose. To create interest in the local varieties and get interested growers involved in the selection process, presentations are held at the gene bank farm twice a year. Between 20 and 30 varieties can now be seen growing there. In connection with these presentations, staff members talk with promotional work, restaurant managers, local shop owners and others have now become interested in introducing the traditional varieties, and some have developed new recipes to promote value addition and consumption.

Based on this experience, the project has shown that it is very important to provide farmers with detailed information on the properties and cultivation methods of the various local vegetable varieties went out of use. It is therefore necessary to distribute detailed knowledge along with the seeds, as the methods for cultivating these local varieties tend to differ from those used in the cultivation of modern varieties. For example, many of the local varieties have quite specific needs when it comes to the use of fertilizers and water, and the ideal production conditions must therefore be made known to all potential growers. Importantly, most of the traditional varieties do not respond to excess application of water and fertilizers as most modern varieties do. In addition, when farmers grow local varieties they must be mindful of weather conditions, as the different varieties may require specific conditions when it comes to soil quality and the timing of sowing. Traditional knowledge regarding these aspects, now backed up by the research results of the gene bank, has proved essential to those wishing to grow these vegetables. The curator of the gene bank, Tatsuoki Funakoshi opined that since the local vegetable varieties have been usually grown with very little fertilizer, the seed therefore is better suited to organic farming than seed from modern varieties, and also may have the ability to adapt well to climate change.

As this story from Hiroshima Prefecture in Japan shows, it is possible to promote realization of Farmers' Rights when different stakeholders work together. Farmers play a very important role with regard to maintenance of local varieties and the associated knowledge systems and the exchange of seed and knowledge is crucial. In this project, the search campaign for local varieties and the identification of particularly interesting and valuable vegetable varieties, along with a system of seed loans and dissemination of information, has provided a local vegetable growers with greater incentives and opportunities for cultivating local varieties. The experience of the Hiroshima Agricultural Gene Bank in this project highlights the importance of disseminating traditional knowledge along with seed, to enable successful cultivation of local varieties and to match varieties to the right locations as well as to disseminate information about processing and preparation methods, thus keeping the knowledge protected and alive. The project also shows that it can be central to focus on traditional varieties with traits that will be appreciated by consumers and to create a market for traditional varieties through promotional activities in order to succeed with the maintenance of agricultural diversity.

Source: Extracted from Y. Nishikawa and T. Winge, 2013. *The Hiroshima Agricultural Gene Bank In: Realising Farmers' Rights to genetic resources: Success stories and best practices*, 2013. R. Andersen and T. Winge (Eds). pp. 167-178

2.3 Farmers' Rights to participate equitably in decision-making

Engagement of farmers' organizations and relevant stakeholders in Norway

In Norway, farmers and their organizations have a wide range of channels for ensuring participation in and influence on policy processes. Annual negotiations are organized between the Government and farmers’ unions to discuss the Agricultural Act. For example, in the field of genetic resources, *Felleskjøpet*, a farmers’ cooperative, is one of the owners of the only breeding company in Norway, Graminor AS, and is also the main distributor of seeds. There are also projects on developing new varieties of forage, involving a high level of farmer participation. Farmers are represented on the advisory board on plant genetic resources at the Norwegian Genetic Resource Centre. The Centre maintains close working relationships with both the major farmers’ cooperatives and farmers’ unions, as well as with the smaller number of farmers who are more actively involved with issues directly related to seed diversity and cultivation of traditional varieties. During the past few years, farmers cultivating traditional varieties have become more organized through networking and the setting up of cooperatives. This has made them become more visible and easier for the Government to ensure that they are involved in various processes.

The Norwegian Government places a strong emphasis on the conservation and management of genetic resources, which also includes a number of measures to implement Farmers’ Rights. In addition, Norway plays a significant role in promoting transparency and participation: at International Treaty meetings, Norway has often provided funding support through Norwegian NGOs, to enable the participation of farmers’ organizations. It has also co-organized international consultations and dialogues with governments, different NGOs, international governmental organizations and other relevant stakeholders of the International Treaty.

Source: International Treaty website submission from Norway: <http://www.fao.org/3/a-bb921e.pdf>

2.4 Farmers’ Rights to save, use, exchange and sell farm-saved seed

Norway’s path to ensuring Farmers’ Rights in the European context

Norway has maintained a high profile in international efforts to maintain crop genetic diversity – as a driving force in the negotiations leading up to the International Treaty; as a bridge-builder between North and South; as a financial contributor to international processes and tasks; and not least, by realising the Svalbard Global Seed Vault.

Norway has also suffered crop genetic erosion and substantial efforts are being made to save and conserved what is left, through the Nordic Genetic Resource Center (NordGen) established by the Nordic countries and through the Norwegian Genetic Resource Centre. The main challenges to farmers’ contribution to the genetic pool in Norway relate to formal regulations on Farmers’ Rights to save, use, exchange and sell farm-saved seed. Although compared to other farmers in Europe, they are far better off due to the importance placed on Farmers’ Rights by the Norwegian government.

Very few of Norway’s older landraces of cereals, potatoes and vegetables have been preserved for future generations. Almost all have now disappeared. For fruit and berries the picture is brighter, but very little breeding and development have been done in this area, so diversity is threatened all the same. In earlier times there was an abundance of original Norwegian meadow plants, but also here, much has vanished. The modernization of agriculture has undoubtedly resulted in greater efficiency in production, but it has also led to considerable genetic erosion.

Perhaps one of the most remarkable achievements of Norway to protect Farmers’ Rights is its decision to reject the stricter plant breeder’s rights: Norwegian legislation on plant breeders’ rights was adopted in 1993 and led to membership in UPOV. While a few changes have been made to the law since then, they

have been insignificant. This has meant that Norway's farmers are entitled to save seed from their own harvest of protected varieties for use the following season. The law does not prevent farmers from exchanging seeds among themselves except that they cannot sell seeds of protected varieties. This seems to be generally accepted among farmers as a legitimate way of ensuring breeder's rights. In 2005, the Norwegian government decided to reject a proposed amendment to the law that would have brought about a significant expansion in the rights of plant breeders. Although Norway was a member of the UPOV under the 1978 Act of the Convention, the new law would have set the stage for the Norwegian membership under the 1991 Act of the Convention, which is far more rigorous. When the government rejected the bill, one main argument was precisely the need to take Farmers' Rights into account.

As a member of EU, Norwegian government went through different processes following the different or series of EU directives concerning conservation varieties, plant variety release, and seed marketing (i.e. Commission Directives 2008/62/EC; 2009/145/EC; 2010/60/EU) where Norway would need to adopt and implement. Nevertheless, Norway has gone further than its counterparts in most countries in Europe in accommodating Farmers' Rights to save, use, exchange and sell seed and propagating material. Farmers are still allowed to save seed of varieties protected by plant breeders' rights, and they may use the seed in the following season and exchange it among themselves. By contrast, in most other countries in Europe, farmers may not exchange seed materials among themselves, and saving seed of such varieties and using it in the following season is prohibited or requires a licence. To make it happen, the role of government sector, civil society and farmers' organisations, other stakeholders and researchers are highlighted. The continuous dialogues, meetings and maintaining contacts among themselves facilitated and proved constructive and positive, fostering a shared understanding of the needs and challenges that the regulations may pose for biodiversity farming, as well as on how the authorities would manage to combine considerations for the Norwegian opinions with the country's obligations under the European Economic Area Directives.

Norway's experience with regulations on variety release and seed marketing highlights the great challenges that the current trend of seed regulation poses to the further conservation and sustainable use of crop genetic resources in line with the Treaty. The stakeholders' consultation and dialogues are in ensuring regulations that seek to accommodate all concerns and thereby creating legal space for farmers, even under the difficult framework. As regard plant variety protection legislation, it is clear that Norway managed to support breeding industry while at the same time ensuring farmers' and breeders' rights are balanced in a way conducive to the conservation and sustainable use of crop genetic resources.

Source: Extracted from

R. Andersen, 2013. Norway's path to ensuring Farmers' Rights in the European context. *In*: Realising Farmers' Rights to genetic resources: Success stories and best practices, 2013. R. Andersen and T. Winge (Eds). pp 23-39.

Participatory plant breeding in Honduras: Seeds, knowledge and diversity

In Honduras, farmers are constantly experimenting with indigenous varieties, adapting them to suit their emerging needs. They select varieties not only for productivity, but also for higher nutrition, better cooking and storage traits, and the plant's ability to adapt to changing growing conditions. Women play a leading role in selecting for traits, as they are the keepers of seeds, possessing a more intimate knowledge of plant characteristics and how they might perform in different conditions.

To promote this practice, the Foundation for Participatory Research with Honduran Farmers (FIPAH) supports farmer research teams known as CIALs (Comite de Investigacion Agricola Local) for participatory

plant breeding, with the aim of establishing and securing seed supply through on-farm conservation, household vegetable gardens and cooperative grain storage systems. These objectives are being met through community run seed and gene banks. The goal is to foster a significant improvement in farmer access to diverse and high quality, locally adapted seeds, and preserve crop genetic resources, so as to further enhance farmer knowledge and experience with those seeds.

In October 2006, farmers of Santa Cruz CIAL, in the mountainous Yoro region, released two varieties of corn that they had developed, based on a local or landrace variety that produces large cobs. However, their height had become a problem in a region that is increasingly vulnerable to hurricanes. Large cobs are genetically linked to tall stalks which, over time, produced taller and taller corn plants. Although beneficial for animal fodder, these run the risk of being knocked over by winds. Through a participatory breeding process, farmers were able to produce two improved varieties – Santa Cruz and Capulin Mejorado – that are shorter, with a higher yield and still adapted to high altitude conditions. One of the agricultural experts who developed these corn varieties is Simeona Perez, a farmer in the Santa Cruz region. In most cases, small-scale farmers have been largely ignored by government and agricultural scientists, and so Simeona, Amalia, Pedro, Fatima and others took matters into their own hands. With USC¹¹-FIPAH's support, their farmer research team (CIAL) developed corn varieties that could withstand the annual bouts of heavy rain and winds which – beginning with Hurricane Mitch in 1998 – have become a constant sign of climate change in the region, causing crop failure by flattening the corn in fields. Through continuous selection and breeding, farmers in Santa Cruz and CIAL succeeded in reducing the stature of Capulin and Santa Cruz corn, while increasing average yields. Capulin is an indigenous corn variety that already grows well in high altitudes. The release of this corn coincided with one of the heaviest hurricane seasons on record. As a result of the quality of the seed, combined with conservation practices, the farmers were hardly affected.

Currently, 60 CIALS (farmer research teams) and 11 youth CIALS are operating in 5 districts of Honduras. They directly reach about 12 000 people in various communities through seed exchanges and access to grain stocks. These farmers have enhanced biodiversity and increased productivity of local corn varieties by 20 to 30 percent, while making varieties hardier and more adaptable to climate change.

Source: Extracted from the Global Forum on Food Security and Nutrition. Honduras case: http://www.fao.org/fsnforum/sites/default/files/file/cfs_consultation/km.fao.org/fileadmin/user_upload/CFS_consultation/file_comments/Honduras%20-%20Growing%20Resilience.pdf

India's Protection of Plant Varieties and Farmers' Rights Act

India is among the first countries in the world to have passed legislation granting Farmers' Rights, providing inspiration for stakeholders involved in similar legislation processes in several other countries. This legislation is called the Protection of Plant Varieties and Farmers' Rights Act (PPVFR Act of 2001), which established the necessary legal space for farmers to continue maintaining their traditional varieties and practices in addition to introducing plant breeder's rights. The PPVFR Act stands as the most far-reaching legislation to date with regard to establishing rights of farmers.¹² It that was established by India's

¹¹ USC CANADA How we grow food matters founded in 1945 as the Unitarian Service Committee, is an NGO that promote vibrant family farms, strong rural communities and healthy ecosystems around the world. With engaged Canadians and partners in Africa, Asia, and Latin America, we support programs, training and policies that strengthen biodiversity, food sovereignty and the rights of those at the heart of resilient food systems – women, indigenous peoples and small-scale farmers. Website: <http://usc-canada.org/>

¹² Andersen, Regine and Tone Winge. 2009. *The Plant Treaty and Farmers' Rights: Implementation Issues for South Asia*.

VI+48. Kathmandu: South Asia Watch on Trade, Economics & Environment (SAWTEE).

Central Government under the Protection of Plant Varieties and Farmers' Rights Act, 2001. The Authority grants exclusive rights to breeders and farmers who have bred, evolved or developed any variety.

The Act confers three concurrent rights – to breeders, farmers and researchers. Regarding Farmers' Rights, the Act recognizes the farmer as cultivator, conserver and breeder. It establishes nine specific rights for farmers:

- **Rights to Seed:** The PPVFR Act gives farmers the right to save, use, exchange or sell seed in the same manner as they were entitled to before the Act (Article 39). However, the right to sell seed is restricted, as farmers may not sell seed of protected varieties in branded packages. The legal space for farmers in this regard is nevertheless much broader than in other legislations on plant variety protection and can be seen as a very good way to realise the rights of breeders.

- **Right to Register Varieties:** Farmers as well as commercial breeders can apply for intellectual property rights over the varieties they breed (Article 39). The criteria for registration of farmers' varieties are also similar to those of breeders (genetic distinctness, uniformity, stability) but importantly, novelty is not a requirement. This possibility of obtaining intellectual property rights over farmers' varieties is a unique aspect of India's law. A 'farmer' variety is defined as a 'variety which has been traditionally cultivated and evolved by farmers in their fields; or is a wild relative or landrace of a variety about which the farmers possess common knowledge' (Article 2.L).

- **Right to Reward and Recognition:** The Act provides for the establishment of a National Gene Fund through which farmers who have played a role in the conservation of varietal development of plants can be recognised and rewarded (Article 45). The fee collected under the Fund can be used for support and reward farmers engaged in conservation.

- **Right to Benefit Sharing:** The centralised National Gene Fund is intended to facilitate benefit sharing (Article 26). The Protection of Plant Varieties and Farmers' Rights Authority that oversees implementation of the Act is required to publish the registered varieties and invite claims for benefit sharing. Any person or group of persons or firm or governmental or nongovernmental organization can submit claims to benefit sharing.

- **Right to Information and Compensation for Crop Failure:** The Act provides that the breeder must give information about expected performance of the registered variety (Article 39.2). If the material fails to perform, farmers may claim compensation under the Act. This provision is intended to ensure that seed companies do not make exaggerated claims about the performance (yield, pest resistance). It enables farmers to apply to authority for compensation if they suffer losses due to the failure of the variety to meet the targets claimed by seed companies.

- **Right to Compensation for Undisclosed Use of Traditional Varieties:** If it can be established that the breeder has failed to disclose that the source of a variety belongs to a particular community, compensation can be granted through the Gene Fund (Article 28). Any NGO, individual or government institution may file a claim for the compensation on behalf of the local community if the breeder has not acknowledged use of the traditional knowledge or resources of the community.

- **Right to Adequate Availability of Registered Material:** The breeder is required to provide adequate supply of seeds or material of the variety to the public at reasonable prices. If the breeder fails to do so after three years of registration of a variety, any person can apply for the authority to the Authority for a Compulsory License (Article 47). Such compulsory licenses revoke the exclusive right given to the breeder and enable third parties to produce, distribute or sell the registered variety.

- **Right to Free Services:** The Act exempts farmers from paying fees for the registration of a variety, for conducting tests on varieties, for renewal of registration, for opposition and for fees on all legal proceedings under the Act (Article 44).

- **Protection from legal infringement in case of lack in case of lack of awareness:** Recognising the low literacy levels in India, the Act provides safeguards against innocent infringement on the part of farmers (Article 42). Farmers who unknowingly violate the rights of a breeder shall not be punished if they can prove that they were not aware of the existence of breeder's rights.

India's PPVFR has been highly successful in protecting Farmers' Rights and more so it has tried to uphold the legal space for farmers to save, use, exchange and sell farm-saved seed. The type of awards provided under the PPVFR Act are: *Plant Genome Savior Awards*: The Authority confers the Plant Genome Savior Awards on farmers who have engaged in conservation, improvement and preservation of genetic resources of economic plants and their wild relatives, particularly in areas identified as agrobiodiversity hotspots. Another award is the [Plant Genome Savior Community Award](#), which is made annually from the Gene Fund. The Authority also confers a Plant Genome Savior Farmer Reward and Farmer Recognition award to farmers engaged in the conservation of genetic resources of landraces and wild relatives of economic plants, and their improvement through selection and preservation. Material selected and preserved in this manner has been used as gene donors in varieties registerable under the PPVFR Act, 2001.

Sources: Protection of Plant Varieties & Farmers' Rights Authority of India, Available at <http://plantaauthority.gov.in/PGSFR.htm> (Accessed on 24 November 2016); Combining Farmers' Rights and plant variety protection in Indian Law. T. Winge, R. Andersen and A. Ramanna-Pathak *In: Realising Farmers' Rights to genetic resources: Success stories and best practices*, 2013. R. Andersen and T. Winge (Eds). pp 55-61.

Community seed banks: The Paraíba in Brazil

In Paraíba, community seed banks have been supported by a network of farmers and community associations, small cooperatives, unions, parishes and local NGO Articulação do Semi-Árido Paraíbano, whose main objectives are to strengthen local biodiverse farming systems and promote social equity and local sustainable development. Currently, Paraíba has a network of more than 240 seed banks, involving 6 561 farmer families in 63 municipalities. They conserve seeds of more than 300 varieties of maize, common beans, fava beans, cassava, sunflower and peanuts, as well as forage and fruit species. Farmers use the banks for several purposes: food, feed, fibre and medicinal purposes. They function not only as facilities for the safe storage of seeds, but also as places where local farmers' organizations can meet to discuss political issues and exchange seeds and traditional knowledge.

This network has gained political influence and one of its main achievements was the approval of Law 7.298/2002, which established a Community Seed Bank Programme to allow Paraíba's state government to buy seeds of local varieties for distribution among farmers and seed banks. Previously, only certified seeds of improved varieties could be used for this purpose. The law has also allowed farmers to use seeds of local varieties to produce food and sell it (through contracts with state government agencies) to public schools and hospitals. Between 2004 and 2010, more than 180 tons of food was produced in Paraíba, using the seeds of 73 local varieties. Before the approval of this law, seeds of local varieties were not recognized by the Brazilian Legislation. They were considered to be mere 'grains' of low quality, and were excluded from official seed programmes.

Paraíba's successful pioneering experience with community seed banks, followed by the initiatives of other Brazilian states, helped to convince the national congress to allow for the use and production of local, traditional and creole seeds in the Federal Seed Law (10711/2003), approved on 5 August 2003, and to regulate Brazil's formal seed system. Law 10711/2003 states that "*local, traditional and creole cultivars are: varieties developed, adapted or produced by family farmers, agrarian reform settlers of indigenous peoples, with well-established phenotypical characteristics, that are recognized by their respective communities and in which, according to the Ministry of Agriculture, and considering also social, cultural and environmental descriptors, are not characterized as substantially similar to commercial cultivars.*"

The Law also states that the registration in the National Registry of Cultivars of local, traditional or creole cultivars by family farmers, agrarian reform settlers or indigenous peoples is not mandatory. This exemption recognizes the issues surrounding local varieties and the difficulty of farmers in meeting the

requirements of national registration. It also allows seed distribution, exchange and trading to take place among family farmers, agrarian reform settlers and indigenous peoples.

Source: Extracted from Santilli, J. Community seed banks and Brazilian Law. In R. Vernooy, P. Shrestha & B. Sthapit, eds. *Community Seed banks: origins, evolution and prospects*, pp. 237-240. Rome, Bioversity International.

Philippines

The MASIPAG Experience

The goal of Magsasaka at Siyentipiko para sa Pag-Unlad ng Agricultura (MASIPAG) or Farmer-Scientist Partnership for Development is to empower resource-poor farmers and improve their quality of life by bringing back the traditional varieties, improving and minimizing the production costs. Since 1985, MASIPAG has worked towards a sustainable use and management of biodiversity through farmers' control of genetic and biological resources, agricultural production and associated knowledge. Farmer empowerment is one of the core principles of MASIPAG. Guided by a 'farmer-led' or 'bottom-up' approach, its work puts farmers' needs, priorities and aspiration at the centre, and implies an underlying respect for farmers' diverse knowledge and capacities. What started as a small breeding programme is now a nationwide movement that promotes traditional knowledge systems; conserving, developing and maintaining plant (and livestock) diversity and empowering farmers.

MASIPAG programs include:

- (i) *Collection, Identification, Maintenance, Multiplication and Evaluation (CIMME)* of cultivars of rice and corn, indigenous vegetables, poultry and livestock breeds. CIMME ensures that collected species and varieties are maintained in on-field seed banks for farmers' access:
- (ii) *Breeding*: Farmers select and breed rice, corn and livestock, enabling them to develop cultivars/breeds from traditional varieties and stocks that are adapted to local conditions and whose resistance are enhanced against adverse conditions such as drought, soil and water salinity, and pests and diseases.
- (iii) *Developing Sustainable Agro-Ecosystems*. Encourages farmers to shift from monocropping to diversified and integrated farming systems; from chemical to organic farming; and focusing from the individual farm ecosystem to community/agro-ecosystem wide conversion. Technical support and information is provided on critical aspects such as soil fertility management, alternative pest management, cropping systems, diversification and farm integration.
- (iv) *Documentation and Dissemination of Farmer Developed/Adapted Technologies (FDATs)*. The reaffirmation, systematization and practical application of local knowledge systems in agriculture, giving members additional farm management options.
- (v) *Local Processing and Marketing Support* to member organizations
- (vi) *Education and Training*: Enables network members to acquire knowledge, skills and attitudes to make them better equipped in sustaining their program and activities at the farm organization and provincial levels. On-farm trainings are based on needs analysis and responsive to the farmers' actual situation.
- (vii) *Program/Project Benefit Monitoring and Evaluation System (PPBMES)*: An internal database system for monitoring progress and assessing the socio-economic impacts of the projects, serving as basis for improving program efficiency and effectiveness.
- (viii) *Network Strengthening and Consolidation*: promotes building capacities of the various levels of MASIPAG — the member organizations, Regional Project Management Teams, regional and national secretariats, and the Board of Trustees.

(ix) *Linkaging and Advocacy*: MASIPAG takes an active stand on national and global issues that affect the food security and sovereignty of resource-poor Filipino farmers. MASIPAG also links with local, national and international groups working on farmers’ rights and sustainable agriculture. They collected and maintained more than 1,313 traditional rice varieties and bred 1,299 new MASIPAG rice varieties that are specifically adapted to local soils and climate conditions. Each year, these rice varieties are grown and are further developed on almost 200 trial farms. The farmers learn how to assess their varieties, how to choose those which are best-adapted to the natural conditions of their plot of land and how to identify which seeds can best be used for breeding new varieties. With support from scientists, the farmers themselves have become breeders and experts. The MASIPAG members exchange their knowledge and seeds which resulted in a knowledge partnership based on an equal footing, taking the needs at the grassroots level into consideration and increasing the self-confidence of the farmers. As of 2017, there are more than 30,000 MASIPAG farmers in 563 member organizations. MASIPAG promotes diversification of crops and rice varieties to prevent a total crop failure. On choosing rice variety, the criteria is not only given to yield potentials but also to adaptation to local conditions. Since the farmers are largely independent from external inputs and as the great variety of products they cultivate enables them to compensate for crop failures, they are able to increase their income and earn more than the conventional farms. The food security and health of MASIPAG families has also improved. The success of MASIPAG movement shows how Farmers’ Rights through local solutions can be achieved.

Sources:

- Extracted from MASIPAG website
- <http://www.fao.org/liaison/34704-07eac1ef8191d9e44323b1513813a1d02.pdf>
- http://www.globalagriculture.org/fileadmin/files/weltagrarbericht/EnglishBrochure/BrochureIA_ASTD_en_web_small.pdf (page 45)

These are just some examples of the many practical activities currently being undertaken in an attempt to promote or realize Farmers’ Rights at country level. Learners are encouraged to express their ideas, opinions and thoughts in identifying tools, approaches and strategies to enhance understanding of Farmers’ Rights, and how to better implement provisions aimed at supporting them.

Further reading: Current programmes, initiatives/projects and publications that promote awareness

How to implement Article 9, Farmers' Rights in your country? What are the basic steps required? Where to begin, and what are possible entry points for discussions on Farmers' Rights? A number of organizations are currently undertaking work directly or indirectly relevant to implementation of Farmers' Rights.

This section provides sources that can offer learners, decision-makers and practitioners better perspectives of the conceptual framework of understanding Farmers' Rights, as well as practical examples of work on the ground.

3.1 Book publication: Realizing Farmers' Rights to Crop Genetic Resources: success stories and best practices

Published in 2013, edited by Regine Andersen and Tone Winge, this book shows the necessity of realizing Farmers' rights for poverty alleviation and food security, the practical possibilities of doing so, and the potential gains for development and society at large. It provides decision-makers and practitioners with a conceptual framework for understanding Farmers' rights through illustrating success stories and best practices that have resulted in substantial achievements to one or more measures to protect Farmers' Rights as set out in the International Treaty. Examples provided covers: the rights of farmers to save, use, exchange and sell farm-saved seed; the protection of traditional knowledge; benefit- sharing; and participation in decision-making. The examples represent different regions and localities, including Europe, Asia, Africa and Latin America, as well as various categories of stakeholders and types of initiatives and policies are presented in detailed manner.

3.2 Relevant Programmes and Initiatives

- i. **The Farmers' Rights: Resource pages for decision-makers and practitioners:** <http://www.farmersrights.org>. This website contains a wealth of information specifically related to Farmers' Rights, including advice on how to realize these rights. The portal was launched in 2008 by [Fridtjof Nansen Institute](#) (FNI), as part of its [Farmers' Rights Project](#). It contains lessons learned and best practices, as well as literature and publications at global, regional and national level. In 2015, the responsibility for maintaining and updating the website was taken over by [Oikos - Organic Norway](#).
- ii. **Family Farming Knowledge Platform:** <http://www.fao.org/family-farming/en/>. This website presents quality information on family farming from all over the world, including national laws and regulations, public policies, best practices, relevant data and statistics, research, articles and publications about family farming. Although not all information is relevant to Farmers' Rights, many of the resources are directly linked to this issue, for example, agro-ecology, small-scale family farmers, indigenous peoples and mountain family farming.
- iii. **Indigenous peoples' and community conserved territories and areas (ICCAs) and its online Registry and Data:** <http://www.iccaconsortium.org/>. ICCA Consortium Members and partners supports conservation of nature, sustainable livelihoods and the respect of collective rights. The ICCA Registry and data is an online platform where indigenous peoples and/or local communities provide data, case studies, maps, photos and stories relating to their ICCAs.
- iv. **FAO Biodiversity Programmes and Projects.** Many of these projects (global, regional, and national) promote conservation and sustainable use management of agricultural biodiversity, while improving rural livelihoods and capacity- building for small- scale farmers and local communities. It also promotes mainstreaming of conservation and sustainable management of biodiversity into national plans and programmes. Most of these projects are described putting farmers and local communities at the heart of the natural resources management, they use and employ multi-stakeholders participatory processes (for example, e.g. Globally Important Agricultural Heritage Systems (GIAHS) have demonstrated lessons learned in empowering rural communities and promoting recognition of farmers and local communities (<http://www.fao.org/giahs/en/>).

- v. **FAO’s work on Indigenous Peoples:** <http://www.fao.org/indigenous-peoples/en/>. Several FAO projects relate to indigenous peoples, promoting their biological and cultural diversity as the underpinnings of food and livelihood security. Indigenous peoples are also farmers and custodians of biodiversity. The FAO Six Pillars of work on indigenous peoples are relevant to or could support the promotion of Farmers’ Rights, i.e. free, prior and informed consent; advocacy and capacity-building; coordination; indicators for food security; indigenous food systems; and voluntary guidelines on the governance of tenure.
- vi. **The Adaptation for Smallholder Agriculture Programme (ASAP) of the International Fund for Agricultural Development (IFAD):** https://www.ifad.org/en/topic/asap/tags/climate_change/2782790. This was launched in 2012, channelling climate finance to smallholder farmers, to enable them to access information tools and technologies that can strengthen their resilience to climate change. ASAP has become the largest global financing source dedicated to supporting the adaptation of poor smallholder farmers to climate change. The programme is working in more than thirty developing countries, using climate finance to make rural development programmes more climate resilient, by supporting crop diversification and other farming practices that can help to increase productivity, while at the same time minimizing climate change risks.
- vii. **Indigenous Peoples Assistance Facility (IPAF) of IFAD:** <https://www.ifad.org/topic/ipaf/>. This facility is dedicated to strengthening indigenous peoples' communities and organizations. It does so by financing small projects that foster their self-driven development in the framework of the UN Declaration on the Rights of Indigenous Peoples, and generating lessons learned and approaches for replication and upscaling. The facility invites applications from indigenous peoples' organizations and communities, as well as from organizations that work with them, for grants to fund projects, innovative approaches and partnerships to promote the development of indigenous peoples and help them to fulfil their aspirations. Although the facility has wider coverage than Farmers’ Rights *per se*, IPAF presents a number of interesting lessons learned that are relevant to Farmers’ Rights. These include promotion of protection of traditional knowledge related to genetic resources, promotion of traditional food crops, conservation of agricultural biodiversity, and enhanced participation in decision-making
- viii. **UNDP-GEF Small Grants Programme (SGP) and the Satoyama Initiative – Community Development and Knowledge Management** (<https://comdeksproject.com/>). This initiative promotes community development promoting the vision of “societies in harmony with nature”. COMDEKS support activities in the fields that aims for developing sound biodiversity management and sustainable livelihood activities with local communities to main, rebuild and revitalize socio-ecological production landscapes. It leverage existing experiences, resources, and networks to support sustainable landscape level management approaches by using UNDP small grants delivery mechanisms, including the SGP, to provide financing and technical assistance to community organizations. It also support capacity building, documentation of traditional knowledge and governance systems, replication and up-scaling of lessons learnt and best practices through the regional workshops.

Conclusion

For generations, farmers, indigenous and local communities have been creating and managing crop diversity throughout the world, and this has been acknowledged by the international community since the 1980s. Recognition of Farmers’ Rights is clearly manifested in Article 9 of the International Treaty. This gives national governments the responsibility to implement Farmers’ Rights through provisions on: (i) protection of traditional knowledge; (ii) the fair and equitable sharing of benefits; (iii) the right to participate in in decision-making; and (iv) rights that farmers have to save, use, exchange and sell farm-saved seed/propagating material.

A wide range of case studies, some of which are presented here, shows that there are many different ways in which individuals, practitioners, institutions, organizations and other stakeholders can contribute to enhancing an understanding of Farmers' Rights – and promote their realization, according to their abilities and capacities.

Key points to remember

- Farmers’ Rights are the rights of millions of farmers throughout the world, particularly in developing countries whose agriculture is based on the cultivation of traditional varieties or varieties that farmers themselves preserve and improve.
- In order that they may continue to fulfill their role as stewards of crop genetic diversity, farmers, they need to be supported and build their capacities.
- The implementation of Farmers’ Rights in accordance to the International Treaty is now in the process, as illustrated in the various examples. In a number of countries, the national (or local authorities) have identified their way to implement some measures that protect the farmers.
- Regarding benefit sharing mechanisms, rewards for farmers will vary. Types of benefits may include facilitated access to plant genetic resources for food and agriculture; the exchange of information; access to and transfer of technology; capacity-building; and the sharing of monetary and other benefits arising from commercialization of PGRFA.
- Farmer-scientist collaboration, capacity building, community based approaches and participatory approaches are some of the important features of projects that has contributed to the realization of Farmers’ Rights.
- There are a number of ways to promote implementation of Farmers’ Rights provisions, including but not limited to:
 - programmes for on-farm conservation of PGRFA;
 - setting up of community seed/gene banks and registers of varieties;
 - technical training to improve farmers’ knowledge on breeding and broadening the plant genetic base;
 - niche marketing of products from diverse crops.

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