



The International Treaty
ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE



Conservation and Sustainable Use under the International Treaty





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This is the second educational module in a series of training materials for the implementation of the International Treaty on Plant Genetic Resources for Food and Agriculture

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
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Foreword

The challenges we face are substantial: about one billion people are suffering from chronic hunger and malnutrition, while it is predicted that world food production needs to increase by 70 percent by 2050, relying on a natural resource base that is reaching its limits and with climate change adding further pressures on agriculture and acting as a main driver of crop diversity loss.

The good news is that a range of approaches and tools to overcome these challenges are within our reach. The food security of millions of resource-poor smallholder farmers in developing countries relies on diverse cropping systems as risk management strategies against pests and severe weather conditions. The need to adopt ecologically sound agricultural practices is being increasingly recognized by producers in industrialized countries. Many cost-effective techniques have been developed to conserve crop genetic resources safely in facilities such as gene banks, as well as in the surroundings where they have developed their distinctive traits. Modern plant breeding is essential for global food security in the context of climate change. Varieties that achieve higher yields and are resistant to pests and extreme weather events need to be developed. At the same time, the traditional knowledge of farmers is crucial for the development of varieties that are adapted to local conditions. Increasing linkages between gene banks, plant breeders and farmers is of particular importance to strengthen the continuum of conservation and sustainable use of crop diversity.

The International Treaty provides the agreed policy framework for concerted conservation efforts on farms and in gene banks, and for the promotion of measures for the sustainable use of crop diversity through research, plant breeding and cultivation. The Contracting Parties of the International Treaty have created a global gene pool of more than 1.3 million samples of crop genetic material that they govern collectively. This gene pool constitutes the basis of over 80 percent of the world's food derived from plants, and it is becoming our most important tool for adapting agriculture to climate change. Furthermore, the International Treaty's Benefit-sharing Fund directly supports projects that focus on climate change adaptation through on-farm management and sustainable use of crop diversity.

Ratification of the International Treaty by over 127 countries proves that most governments have recognized the importance of agricultural biodiversity for sustained food security, and are aware of the threats to crop genetic resources as well as the need to develop specific policies to ensure their conservation and wider use.

However, it is fundamental that the legal provisions of the International Treaty are translated into effective measures at international, regional, national and local level. The need for capacity development to that end has been voiced by a large number of Contracting Parties and other stakeholder groups. This educational module is one means by which the Secretariat seeks to strengthen stakeholders' capacities to promote conservation and sustainable use of crop diversity.

We are confident that these training materials will make a substantial contribution to the effective implementation of the International Treaty.



Shakeel Bhatti
Secretary

International Treaty on Plant Genetic Resources for Food and Agriculture

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Introduction

Capacity development is crucial for the effective promotion of the objectives of the International Treaty. This educational module is a tool that helps strengthening the development of both technical and functional capacities necessary for the implementation of the International Treaty among its key stakeholders, in particular in the area of conservation and sustainable use of plant genetic resources for food and agriculture (PGRFA).

FAO's Corporate Strategy on Capacity Development defines 'capacity development' as the process of unleashing, strengthening and maintaining the ability of people, organizations and society as a whole to manage their affairs successfully. The FAO capacity development framework is based on the enhancement of technical and functional capacities across the three dimensions of individuals, organizations and the enabling environment.

Functional capacities refer to policy and normative capacities, knowledge management, partnering and programme implementation capacities. In the context of the International Treaty, this type of capacities is required to enable Contracting Parties, civil society organizations and other relevant institutions and key actors, to engage in policy dialogues and establish programmes and projects for the conservation and sustainable use of PGRFA. The various stakeholders that work in crop conservation and use in their daily activities, such as agricultural researchers, gene bank personnel, breeders and farmers, require technical capacities to carry out their respective roles in the conservation and the sustainable use of PGRFA.

National civil servants involved in the establishment of programmes to implement the international instruments that their governments have ratified often need to become fully acquainted with the technical details of these instruments. Technical stakeholders, in turn, often are not familiar with all legal aspects of the international policy framework within which they operate, and require further training. This educational module therefore aims at strengthening both technical and functional capacities, by presenting different conservation techniques and measures to promote the sustainable use of PGRFA, explaining the legal provisions of the International Treaty and providing examples of how these can be implemented by different stakeholder groups.

The module is designed to strengthen stakeholders' capacities for the operation of the International Treaty and to enhance information and raise awareness among other interested parties, including academia and the media. The material can be used for self-learning purposes, as a reference work on the International Treaty, and as an information resource for the development of awareness-raising material. Thus, it addresses the three capacity development dimensions of individuals, organizations and the enabling environment.

Development Process of this Module

The main features of the development process for this educational module were the following:

- The main target learner groups and their learning needs were identified.
- A draft curriculum outline with learning objectives and lesson outlines responding to these needs was designed by the Secretariat of the International Treaty.
- A support group of experts representing different stakeholders and target learner groups was established.
- Through an electronic consultation the support group provided guidance in shaping the outlines of the lessons and suggested possible authors and peer reviewers.
- Knowledgeable experts in the relevant technical areas were invited to act as authors and peer reviewers of the lessons.
- A peer review process was set up in order to ensure correctness, coherence and balance of the lessons.
- The Secretariat of the International Treaty coordinated the inputs of the peer reviewers into the draft lessons and ensured the editing and publication of the module.

The main target learner groups correspond broadly to the stakeholders of the International Treaty. Their needs were initially identified by means of a survey on capacity development needs carried out by the Secretariat, taking into account existing tools and materials, as well as the needs and gaps expressed in different resolutions of the Governing Body of the International Treaty, the Reports on the State of the World's Plant Genetic Resources for Food and Agriculture and the Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture.

The support group of experts was established following the criteria of technical expertise in capacity development methodologies and the subject matters of conservation and sustainable use of PGRFA. In addition, the group responded to the criteria of regional balance.

The first module of this series (“Introduction to the International Treaty on Plant Genetic Resources for Food and Agriculture”) was presented to Contracting Party delegates and other stakeholders in a launching event on the occasion of the Fourth Session of the Governing Body of the International Treaty in March 2011. The Governing Body welcomed the educational modules and encouraged the Secretariat to continue its work on training materials, including through collaborations with Bioversity International and other relevant institutions.

Target Learner Groups

As a capacity development tool for the effective implementation of the International Treaty, this module is targeted mainly at the International Treaty's stakeholder groups. In addition, the module also represents a valuable resource for the media and academia which play a particular role in raising awareness on the importance of the International Treaty for food security and climate change adaptation by popularizing it among the general public.

The main learner groups thus include:

- Policy makers and their staff;
- Civil servants;
- Gene bank staff;
- Plant breeders;
- Farmers' organizations;
- other civil society organizations;
- Media; and
- Academia.

The specific target learner groups are indicated at the outset of each lesson.

How to Use this Module

The range of different stakeholders involved in the implementation of the International Treaty is very broad, with different stakeholders having different backgrounds and roles and thus different learning needs.

Whereas Module I of this series of educational modules was designed for newcomers to the International Treaty and the crop diversity policy area from all learner groups, each lesson of this module is targeted at a more specific set of target learner groups.

Lesson 1, for example, focuses on technical aspects of conservation and sustainable use of PGRFA, which will be particularly relevant for civil servants that do not have a technical background in genetics or plant breeding. Lessons 2 and 3, in turn, explain the legal provisions of the International Treaty and decisions of its Governing Body, which will be useful to technical persons involved in gene bank management and plant breeding wishing to improve their understanding of the legal framework they are working in. Lesson 4 has something to offer for each one of the learner groups, as it brings all stakeholders together in the context of a fictitious Contracting Party.

This module builds on Educational Module I, in particular on sub-section 4.2.1. of its lesson 4 (Main Components and Governance of the International Treaty). However, learners that already have some basic knowledge of the International Treaty will be able to begin directly with the lessons of Module II. Each lesson contains cross-references to relevant other lessons.

The lessons are composed as follows:

- **Learning objectives** presenting the knowledge that learners will acquire throughout their lecture are indicated at the outset of each lesson.
- **Target learner groups** have been defined for each lesson. They are indicated on the same page as the learning objectives. Although the lessons have been designed for specific target learner groups, each of them may contain relevant information for learners of other groups, too. The lessons are cross-referenced accordingly.
- **Overview of the lesson.** Each lesson provides an overview of about one page, presenting the topics that are dealt with on the subsequent pages.
- **Key points to remember** are brought together after the main sections of the lessons in order to help learners remember the main contents and messages.
- **Cross-references** to related content of the other lessons and relevant internet resources are also indicated for each main section of the lessons.
- **Conclusive summary.** Each lesson ends with a conclusive summary of about one page, summarizing the key points of the lesson.
- **Bibliographic references** on which the lessons are based and that are useful for further reading on the topic can be found at the end of each lesson. For ease of reference Internet links are provided for the resources, where available.

Overview

LESSON 1

What is Conservation and Sustainable Use?

Page 1

This lesson familiarizes learners with the technical background on conservation and sustainable use of plant genetic resources for food and agriculture (PGRFA). It discusses the importance of crop diversity for global food security and presents complementary conservation methods and their relative advantages and disadvantages. The lesson further elaborates on the concept of sustainable use of crop diversity, and highlights the linkage between conservation and sustainable use.

LESSON 2

The Provisions of Articles 5 and 6 of the International Treaty

Page 43

Lesson 2 explains the measures to promote conservation and sustainable use of PGRFA as contained in the provisions of articles 5 and 6 of the International Treaty in detail. It indicates for each measure the corresponding priority activities of the Second Global Plan of Action where detailed policy recommendations can be found. The lesson is further illustrated with examples of projects supported by the Benefit-sharing Fund that focus on on-farm management and sustainable use.

LESSON 3

Further Components of the International Treaty Supporting Conservation and Sustainable Use

Page 81

Complementary to lesson 2, this lesson provides the learner with insight on further components of the International Treaty that directly support articles 5 and 6. It focuses in particular on the role of the Second Global Plan of Action as a key instrument for the implementation of the provisions on conservation and sustainable use of the International Treaty, and presents the main decisions of the Governing Body with regard to conservation and sustainable use of PGRFA.

LESSON 4

Options and Examples for Implementation of Articles 5 and 6 from a Users' Perspective

Page 105

This lesson illustrates a range of options for the implementation of articles 5 and 6 of the International Treaty, presenting concrete activities that contribute to the conservation and sustainable use of crop genetic resources. The lesson takes the learner to the fictitious country of Develania where a number of Develanian stakeholders, including a gene bank manager, a plant breeder, a chairman of a farmers' association and a chef, guide the learner through their respective activities.