



# Crop Wild Relatives – A manual of *in situ* conservation ©

## A Call to Action:

## Developing National CWR Strategies and Action Plans

### The Message:

Most countries' biodiversity strategies and action plans do not specifically refer to crop wild relatives (CWR) or even to the *in situ* conservation of targeted species. Given the unique nature of CWR conservation, it is **desirable for countries to develop a separate national strategy and action plan specifically for CWR conservation and use.**

### KEY DEFINITIONS

#### Strategy:

A long-term approach to solving a problem.

#### Action Plan:

A detailed explanation of how the strategy will be implemented and how its targets will be met.

### WHY DEVELOP A STRATEGY?

A national strategy is needed to provide a coherent approach to CWR conservation and utilization.

The strategy should seek to:

- Ensure coordination of planning and implementation of CWR conservation so activities are harmonized between stakeholders;
- Institutionalize (or formalize) the practice of CWR conservation by embedding it in national planning mechanisms; and
- Promote public awareness of the importance and value of CWR and their conservation.

### Steps to developing a national strategy/action plan:

1. Provide the background context for CWR.
2. Compile a national inventory of CWR and lists of other potential economically important target species and their conservation status.
3. Review existing national CWR data sources and assess the current status of CWR conservation in the country.
4. Select a list of priority CWR species for conservation action - A national action plan and strategy for CWR should elaborate a list of CWR (the long list) and then prioritize those that will be the subject of conservation actions in the short-, medium- and long-term.
5. Make a baseline assessment of the ecogeographic status and undertake a threat assessment for priority species.
6. Undertake a gap analysis to establish gaps in conservation measures.
7. Outline proposals for *in situ* conservation action (including threat management), both within and outside of protected areas.
8. Make proposals for the sampling and storage of priority species requiring *ex situ* conservation.
9. Make proposals for other actions to safeguard CWR outside protected areas.
10. Make proposals for complementary *ex situ* conservation.
11. Review the policy framework for CWR conservation and the changes needed - Undertake an analysis of national policy documents.
12. Review legal framework for CWR conservation and determine what further action required.
13. Assess budget and funding issues and develop a financing plan.
14. Make proposals for ensuring and raising national awareness of the importance of conserving and using CWR sustainably.
15. Devise a capacity development plan.
16. Make arrangements for strategy implementation and allocate management responsibilities to relevant parties.

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## CHALLENGES TO BE AWARE OF

Problems may arise during the preparation of the national strategies due to the following:

- the fact that limited prior models or experience can be called upon;
- the need to involve or consult with many different national institutions that normally do not work together;
- the lack of institutions specialized in conservation and monitoring, especially at the species level;
- a generally low level of appreciation of the importance and issues involved in CWR conservation.

### Who should be involved?

Relevant government department(s) with a mandate for CWR conservation may wish to establish a **Working Group** or **Task Force** to oversee the drafting of the national action plan. It may be useful to identify a **national focal point** responsible for coordinating CWR-related activities. Individuals from other relevant sectors should also be involved to ensure ownership of the final action plan.

## CASE STUDY: Turkey's National Action Plan

The Turkish National Plan for *in situ* conservation of plant genetic diversity is the first of its kind and focuses on selected CWR species of herbaceous and woody plants and important forest trees.

The Plan establishes Gene Management Zones (GMZs) for target species throughout the country, which are accepted as one of the most effective means of *in situ* conservation. GMZs allow for evolutionary changes and continuity of genetic diversity in target species. Alternatives for the selection criteria, management responsibility and policy for GMZs, as well as the methods for utilization of genetic material from GMZs, will also be developed. With the implementation of the Plan, plant genetic resources threatened by various environmental problems will be efficiently conserved and managed *in situ*.

## DATA STANDARDS

A major difficulty in working with taxonomic, ecological and geographical information is the lack of consistency, not just in terminology, but in the ways plants and the literature about them are cited, as well as the application of geographical terms.

The **Biodiversity Information Standards** (TDWG - formerly known as Taxonomic Database Working Group) has developed standards and protocols for sharing biodiversity data. Standards are available from the TDWG website (<http://www.tdwg.org/standards/>). The **Darwin Core (DwC)** is a set of data standards with a glossary of terms aimed at facilitating the discovery, retrieval and integration of information about organisms, and their occurrence in nature, as documented by observations, specimens and samples (<http://rs.tdwg.org/dwc/>). The **Simple Darwin Core [SIMPLEDWC]** is a way to use the terms to share data about taxa and their occurrences in a simple format (<http://rs.tdwg.org/dwc/terms/simple/index.htm>).

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## CASE STUDY: Crop Wild Relatives of Armenia

Outline of the CWR Conservation National Action Plan, Republic of Armenia - *Executive Summary*

### 1. Conservation of CWRs varieties in Armenia

#### 1.1 In-situ conservation

1.1.1 In-situ conservation of CWRs in SPAs

1.1.2 In-situ conservation of CWR outside of SPAs

#### 1.2 Ex-situ conservation

1.3 International agreements and cooperation National legal frameworks

1.4 National Legal Framework

1.5 Biodiversity National Strategy and Action Plan

1.6. Stakeholders related to CWRs

1.6.1 Ministry of Nature Protection of RA (MoNP)

1.6.2 Ministry of Agriculture (MoA)

1.6.3. Ministry of Economy (MoE)

1.6.4 State Regional Administrative Bodies (Marz Administrations)

1.6.5 Local Self Administrative Bodies (LSAB)

1.6.6 Scientific Educational Institutions

1.6 Current status of CWR conservation

1.7 Use of CWRs

1.8 Threats

1.9 CWR Information System

1.9.1 CWR International Information System

1.9.2 CWR National Information System

### 2. National Goals and Objectives

Literature

Annexes

N1 Schedule for the Implementation of the National Action Plan of the Republic Of Armenia for the Conservation of CWR (2007-2011)

N2 CWR Species and Family Quantitative Distribution Growing in the Territory of Armenia

N3 List of Endemic CWR of the Republic of Armenia

## DATA SOURCES FOR CWR CONSERVATION

**Inventories of CWR** occurring in protected areas and ongoing actions to conserve these may be available in management plans, scientific literature and from the managers of the protected areas.

**Information on the existence of accessions of CWR** in national and local genebanks, botanic gardens and arboreta should be reviewed and recorded.

**Information on *ex situ* collections** may be obtained from the *ex situ* collection database which is a component of FAO's World Information and Early Warning System of Plant Genetic Resources for Food and Agriculture: <http://apps3.fao.org/wiews/wiews.jsp>.

**Passport and phenotypic information** for many *ex situ* collection holdings will become available through a single portal (Genesys) to be launched in early 2011, by Bioversity International, the Global Crop Diversity Trust and the Secretariat of the International Treaty on Plant Genetic Resources for Food and Agriculture.

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## DATA SOURCES FOR THE NATIONAL CWR INVENTORY

The backbone of a national CWR strategy is the inventory or listing of CWR. The main source of data for the inventory will be the national **Flora(s)**. For most countries, one or more standard Floras exist: these are acknowledged by botanists in the country or region as the most reliable sources of information on the occurring plants. If the country does not have a comprehensive Flora or even a catalogue, cooperation with local taxonomists should be sought.

Another invaluable source of information is **herbarium material**, which can be found nationally, as well as internationally. Progress has been made in digitizing herbarium material, which involves capturing data such as plant species names, names of collectors, date of collection, and other descriptive and ecological data from the specimens' labels, and scanning images of the specimens themselves for digital storage.

Major initiatives in the digitizing of herbaria collections:

**The Mellon Foundation:**

[http://www.mellon.org/internet/grant\\_programs/programs/conservation#current](http://www.mellon.org/internet/grant_programs/programs/conservation#current)

**The African Plants Initiative (API):**

[http://www.aluka.org/action/doBrowse?sa=1&sa\\_sel=](http://www.aluka.org/action/doBrowse?sa=1&sa_sel=)

**The Latin America Plant Initiative (LAPI) and the Global Plant Initiative (GPI):** <http://www.rbge.org.uk/science/herbarium/digitisation-of-collections/the-latin-american-plants-initiative-and-global-types-initiative>

For a **Case Study of the East African Herbarium (EA) Digitization Process** see:

<http://www.e-biosphere09.org/posters/H21.pdf>

**The Royal Botanic Gardens Kew:** <http://apps.kew.org/herbcat/gotoProjects.do>

**HerbCat**, a relational database that stores information about the specimens, including collection details and naming history:  
<http://apps.kew.org/herbcat/navigator.do>.

### Databases and information systems

- International Plant Names Index (IPNI); [www.ipni.org](http://www.ipni.org)
- electronic Plant Information Centre (ePIC); <http://epic.kew.org/index.htm>
- World Checklist of Monocotyledons; [www.kew.org/wcsp/monocots](http://www.kew.org/wcsp/monocots)

