

National crop wild relatives *in situ* conservation planning and application

Joana Magos Brehm, José M. Iriondo and Nigel Maxted

2nd International Workshop on Plant Genetic Resources

8–10 October 2025, Mediterranean Agronomic Institute of Chania, Greece

NATIONAL CONSERVATION PLANNING

Efficient conservation planning is critical to maintain PGR diversity for current and future use.

A network of *in situ* conservation areas that conserve priority PGR.

A collection of *ex situ* accessions of genetically representative population samples in genebanks.

A network of stakeholders, led by a CWR National Focal Point, that ensures CWR are effectively and efficiently conserved.



NATIONAL FOCAL POINTS FOR *IN SITU* CONSERVATION OF CWR

Coordinated and systematic conservation efforts

Organizes and aligns conservation activities for greater impact and efficiency.

Facilitating collaboration

Connects government, research institutions, local communities, and other stakeholders to promote teamwork and collective decision-making for CWR planning, implementation and management.

Supporting sustainable strategies

Helps promote and enhance data sharing and policy development, ensuring effective strategies for sustainable CWR conservation.



STRATEGIC FRAMEWORK FOR *IN SITU* CWR CONSERVATION PLANNING



IDENTIFY AND PRIORITIZE CWR

- Compile a comprehensive **checklist** of CWR.
- Select **priority** CWR: Use specific data and expert advice to identify CWR diversity of high agricultural and conservation value.



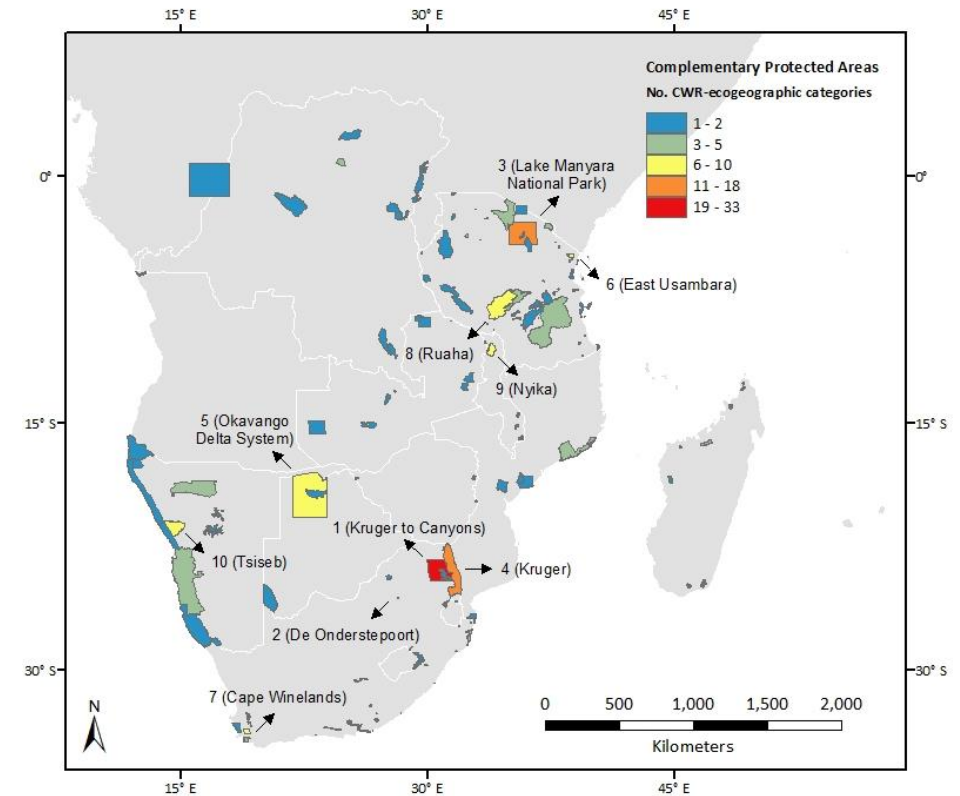
MAP AND ASSESS CONSERVATION NEEDS

- Determine the geographic **distribution** of priority CWR: Design and implement a national database of priority CWR populations (**National Inventory**).
- Identify conservation **gaps** in CWR diversity and areas lacking protection or management.



IDENTIFY POTENTIAL SITES FOR *IN SITU* CONSERVATION

- **Characterize** the populations of priority CWR **genomically** across their ecogeographic range.
- Locate **hotspot complementary sites** using genomic, ecogeographic and climate change data, both within and outside PA.



STRATEGIC FRAMEWORK FOR *IN SITU* CWR CONSERVATION PLANNING

SELECT FINAL SITES FOR ACTIVE CONSERVATION

- Verify **presence** of target populations *in situ* and select **manageable sites** (e.g., 1–10 Ha) suitable for conservation in terms of **land use and ownership**.
- Ensure **ecological viability** and long-term **sustainability** of selected populations and their genetic diversity.
- Assess **threats** including environmental, anthropogenic, and climate-related risks.
- Engage with local and regional **authorities** and **local communities**:
 - Involve them in site selection, establishment and future management.
 - Formalize agreements through written documents.
 - Help farmers and landowners engage with CAP incentives.



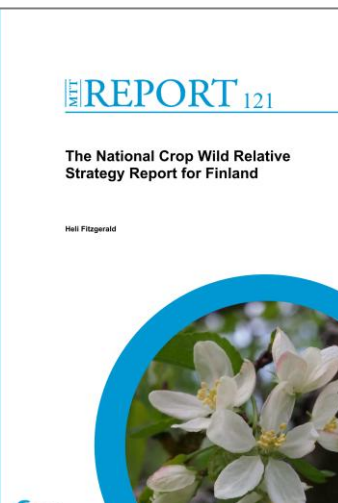
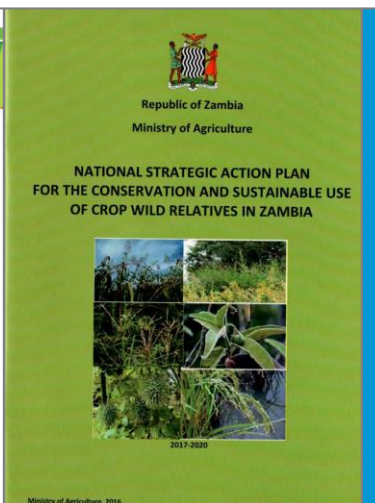
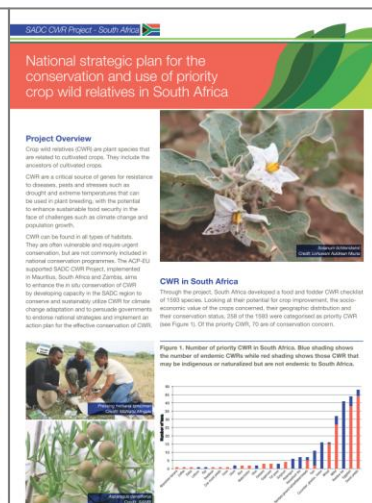
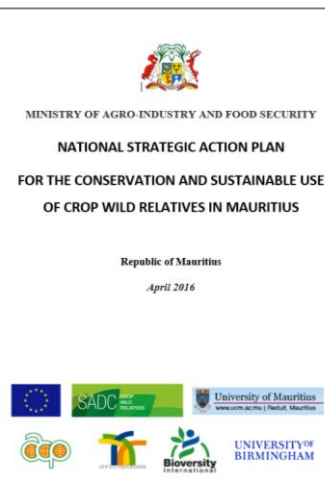
STRATEGIC FRAMEWORK FOR *IN SITU* CWR CONSERVATION PLANNING

BUILD A DATA PIPELINE FOR *IN SITU* CONSERVATION OF CWR

- Integrate occurrence and ecogeographic data, as well as data generated from the *in situ* conservation sites into the **National Inventory**.

PREPARE AND IMPLEMENT CONSERVATION PLANS

- Collaborate** with local communities, researchers, and policymakers.
- Prepare action plans with **monitoring and adaptive management** to ensure long-term conservation success.



KEY STAKEHOLDERS IN *IN SITU* CWR CONSERVATION PLANNING

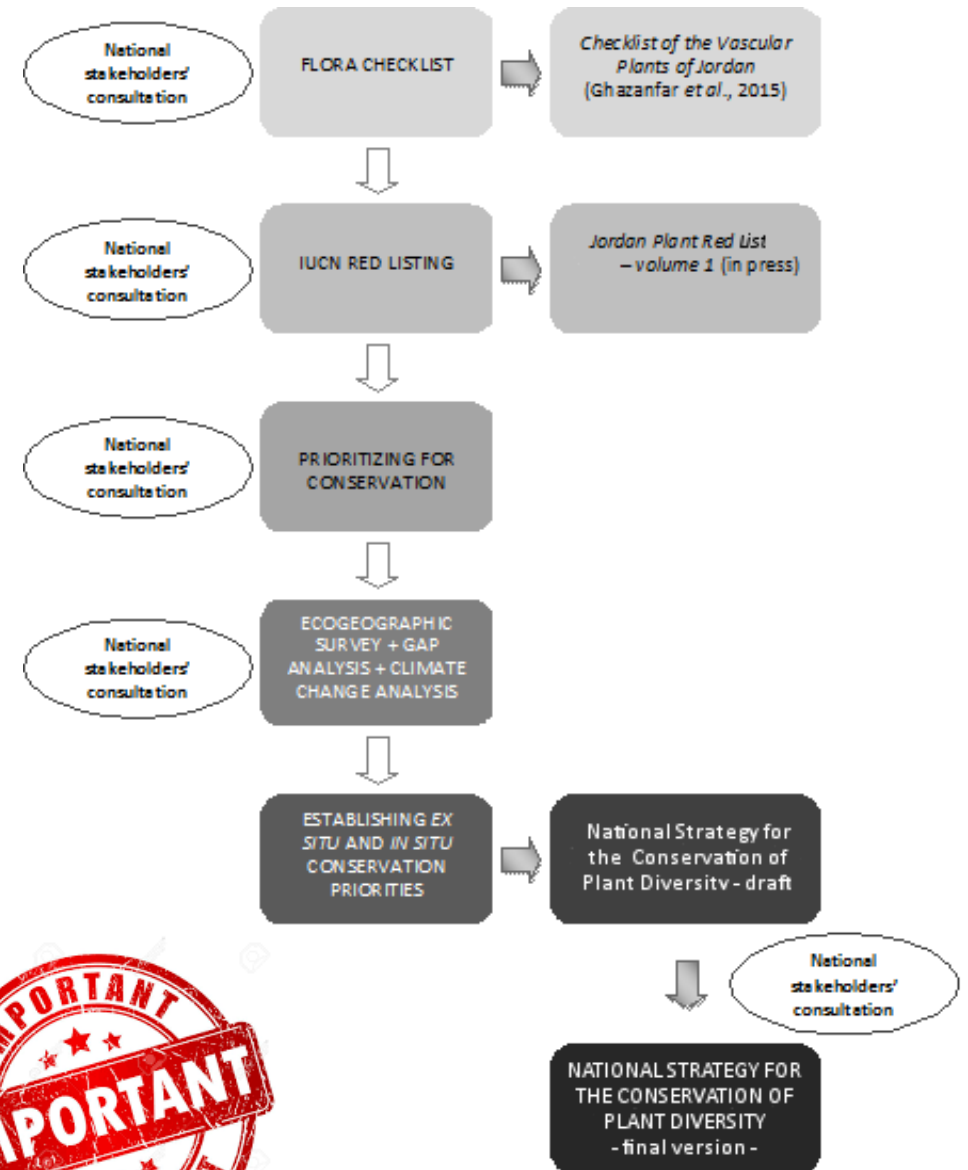
BUILDING THE TEAM

✿ Assemble a multidisciplinary conservation planning team:

- Identify priority CWR and sites for active *in situ* conservation.
- Ensure cross-sector collaboration between agriculture, environment, and research institutions.

🏛 Establish a multi-stakeholder conservation committee to oversee the establishment of conservation sites:

- Include representatives from governmental agencies (environment, agriculture, biodiversity), research institutions and universities, NGOs and civil society organizations, local communities and landowners).
- Define a governance structure to guide decision-making.
- Secure long-term funding and institutional support for sustainability.
- Prioritize conservation actions, assign responsibilities, and establish a realistic timeline.
- Develop a monitoring and evaluation framework to track progress and adapt strategies as needed.



KEY STAKEHOLDERS IN *IN SITU* CWR CONSERVATION PLANNING

COMMUNITY INVOLVEMENT

👉 Involve local communities:

- Build trust and ownership by involving communities early in the planning process.
- Help identify and validate conservation sites, both within and outside PA.
- Ensure that local knowledge and land use practices are integrated into site selection and management.

🌐 Facilitate collaboration

- Regular stakeholder meetings and workshops to share updates and gather feedback.
- Promote transparency and inclusivity in all decision-making processes.
- Encourage co-management models where local communities play an active role in conservation.



Thank you!

Joana Magos Brehm, José M. Iriondo and Nigel Maxted

2nd International Workshop on Plant Genetic Resources

8–10 October 2025, Mediterranean Agronomic Institute of Chania, Greece