



Solanum lichtensteinii Willd (South Africa)
Credit Livhuwani Auldren Nkuna,

Showcasing crop wild relative conservation planning in the SADC region

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In situ Conservation and Use of Crop Wild Relatives in Three ACP countries of SADC Region (2014 - 2016)

In partnership with:

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BIRMINGHAM



agriculture,
forestry & fisheries

Department:
Agriculture, Forestry and Fisheries
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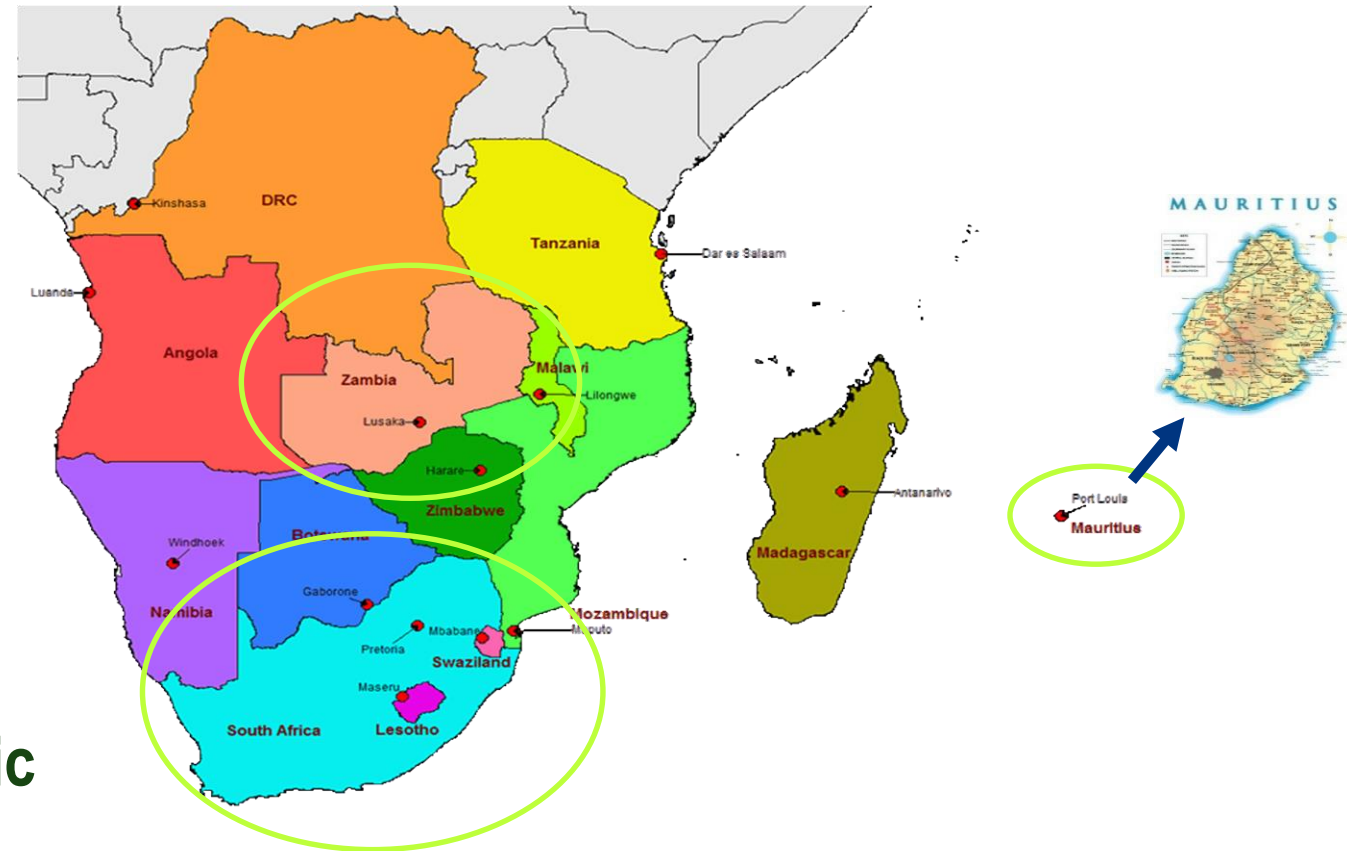
In situ Conservation and Use of Crop Wild Relatives in Mauritius, South Africa and Zambia

Overall objective:

Enhance link between conservation and use of crop wild relatives for regional food security and impact of climate change

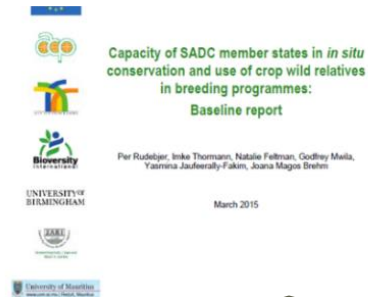
Specific objectives:

- **Enhance the scientific capacities.**
- **Develop exemplar National Strategic and Action Plans**



CAPACITY BUILDING

To assess and improve capacities on *in situ* conservation and use of CWR in the SADC region



Training needs assessment



Training workshops



Skype and face-to-face meetings



TEMPLATE FOR THE PREPARATION OF A NATIONAL STRATEGIC ACTION PLAN FOR THE CONSERVATION AND SUSTAINABLE USE OF CROP WILD RELATIVES

Ehsan Dulloo, Joana Magos Brehm, Shelagh Kell, Imke Thormann and Nigel Maxted

Templates



Online toolkit

Interactive toolkit for CWR conservation planning

Conservation Toolkit - Interactive to X

www.cropwildrelatives.org/conservation-toolkit/ 90%

ENTER

Zea mays L. subsp. *mexicana* (Schrad.) H.H. Iltis (teosinte), primary genetic relative of maize, with confirmed use in yield improvement, Mexico © César del Ángel Hernández-Galero

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ACP SUC PROGRAMME

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<http://www.cropwildrelatives.org/conservation-toolkit/>

Overview – 3 countries



2 CWR of Indian olive



3 CWR Coffee



49 CWR Sweet potato



48 CWR of eggplant



2 CWR of Fig



2 CWR of Fonio



9 CWR of Cowpea



5 CWR of Rice



32 CWR of millets



5 CWR of Yam

PRIORITIZATION CRITERIA

PRIORITY CWR

PRIORITY CWR RELATED CROPS

MAURITIUS

Economic Value
Use potential
Relative Distribution
Occurrence status
IUCN Red list Categories

13 in Mauritius
10 in Rodrigues

MAURITIUS: coffee (*Coffea*), olive (*Olea*), fig (*Ficus*), Indian olive (*Elaeocarpus*), fonio (*Digitaria*)
RODRIGUES: Aloe, millets (*Digitaria*, *Panicum*), Asparagus, sweet potato (*Ipomoea*), olive (*Olea*), fig (*Ficus*)

SOUTH AFRICA

Socio-Economic Value
Use potential
Relative Distribution
Occurrence status
IUCN Red list Categories
+Nationalcategories

292 taxa

Sweet potato (*Ipomoea*), eggplant (*Solanum*), rooibos tea (*Aspalathus*), millets (*Digitaria*, *Echinochloa*, *Eleusine*, *Panicum*, *Paspalum*, *Setaria*), cucumber/gherkin and melon (*Cucumis*), yam (*Dioscorea*), etc

ZAMBIA

Economic Value
Use potential
Relative Distribution
Occurrence status
IUCN Red list Categories

34 taxa

Cowpea (*Vigna*), yam (*Dioscorea*), rice (*Oryza*), Sorghum, cucumber/melon (*Cucumis*), millet (*Eleusine*), sweet potato (*Ipomoea*), Pearl millet (*Pennisetum*), eggplant (*Solanum*)

Regional CWR in situ conservation strategies (SADC)

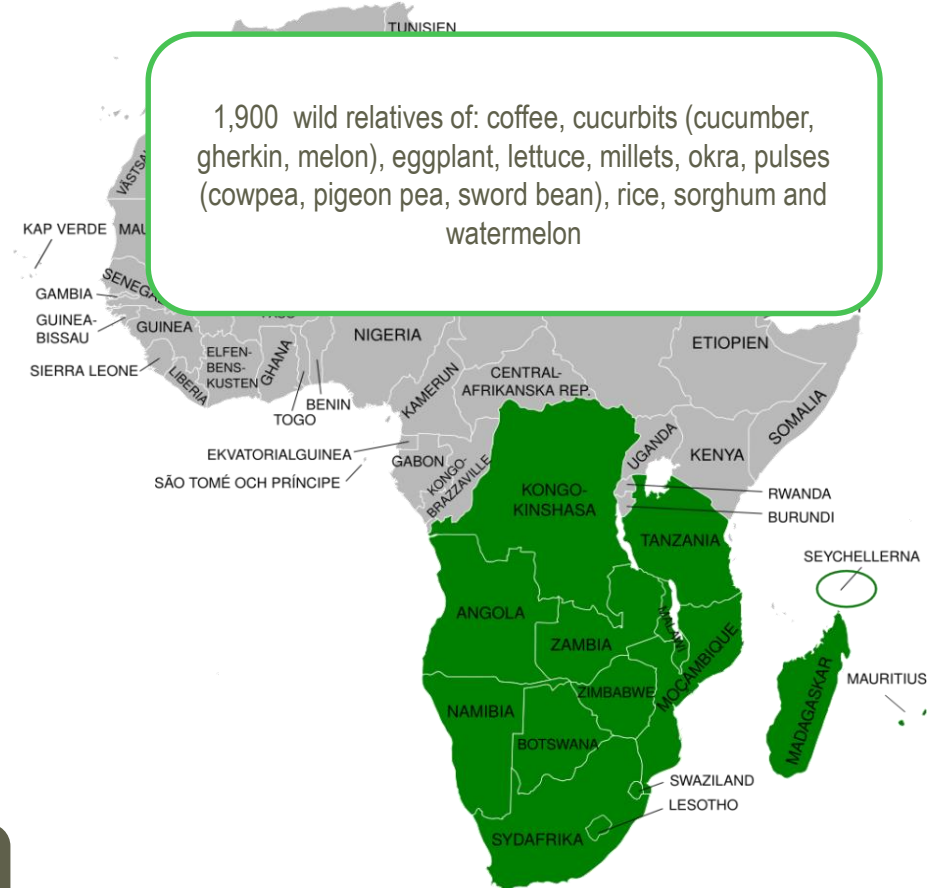
(Allen *et al.* submitted)

Development of food and beverage
CWR checklist for the SADC region

Prioritization of CWR for conservation
action – 745 CWR species related to 64
human food and beverage crops; 100
priority conservation actions.

Identification of hotspots and priority
sites for *in situ* conservation and *ex situ*
collection (diversity analysis)

Initiation of a Regional Strategy for
CWR conservation in the SADC region



(SADC Crop Wild Relative project
<http://www.cropwildrelatives.org/sadc-cwr-project/>)

GAP ANALYSIS

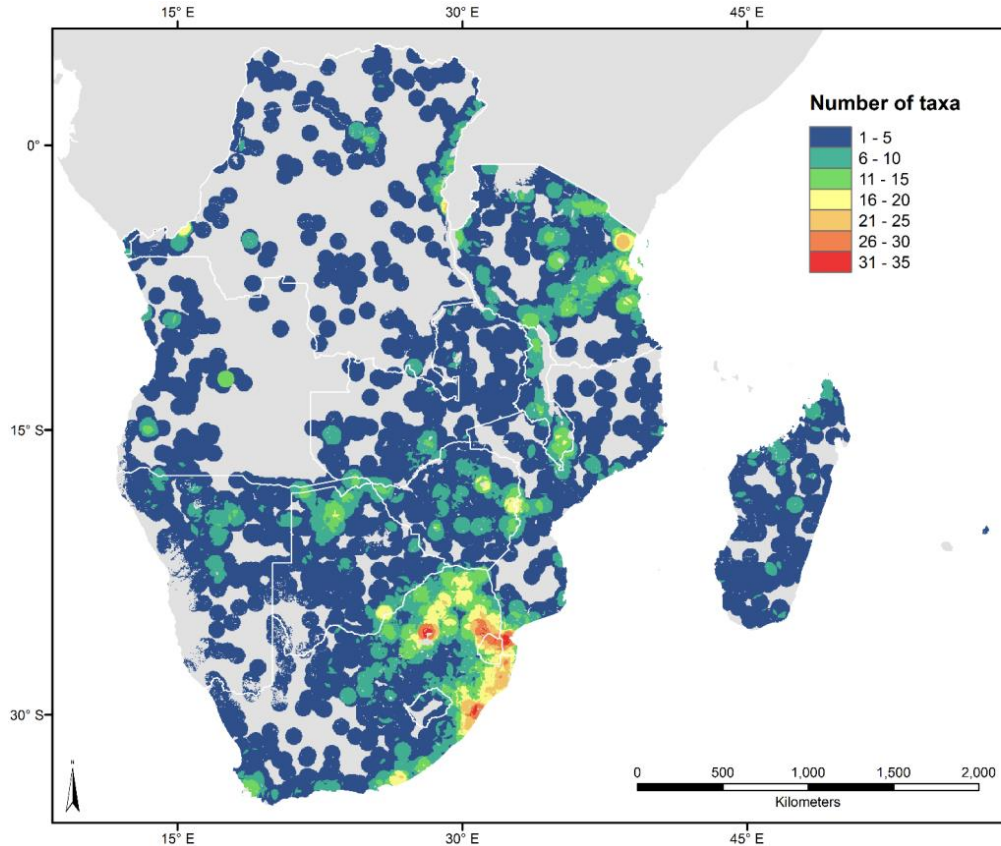
SADC CWR poorly conserved both *ex situ* and *in situ*:

- 50% not conserved *ex situ*
- of those conserved *ex situ*, 40% have <5 pops., and 16% have only 1!
- 17% outside PAs exclusively
- those that occur within PAs are not monitored or actively managed

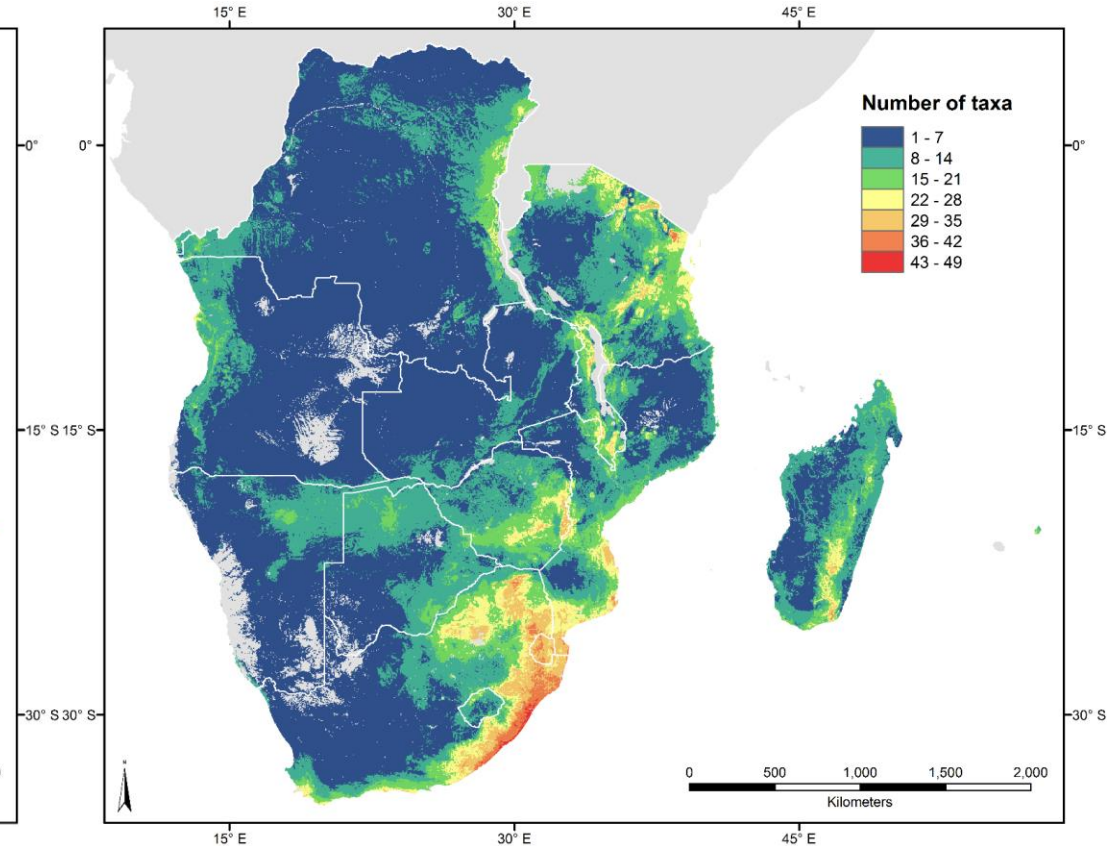


OCCURRENCE DATA ANALYSIS IN THE SADC REGION

DIVERSITY ANALYSIS

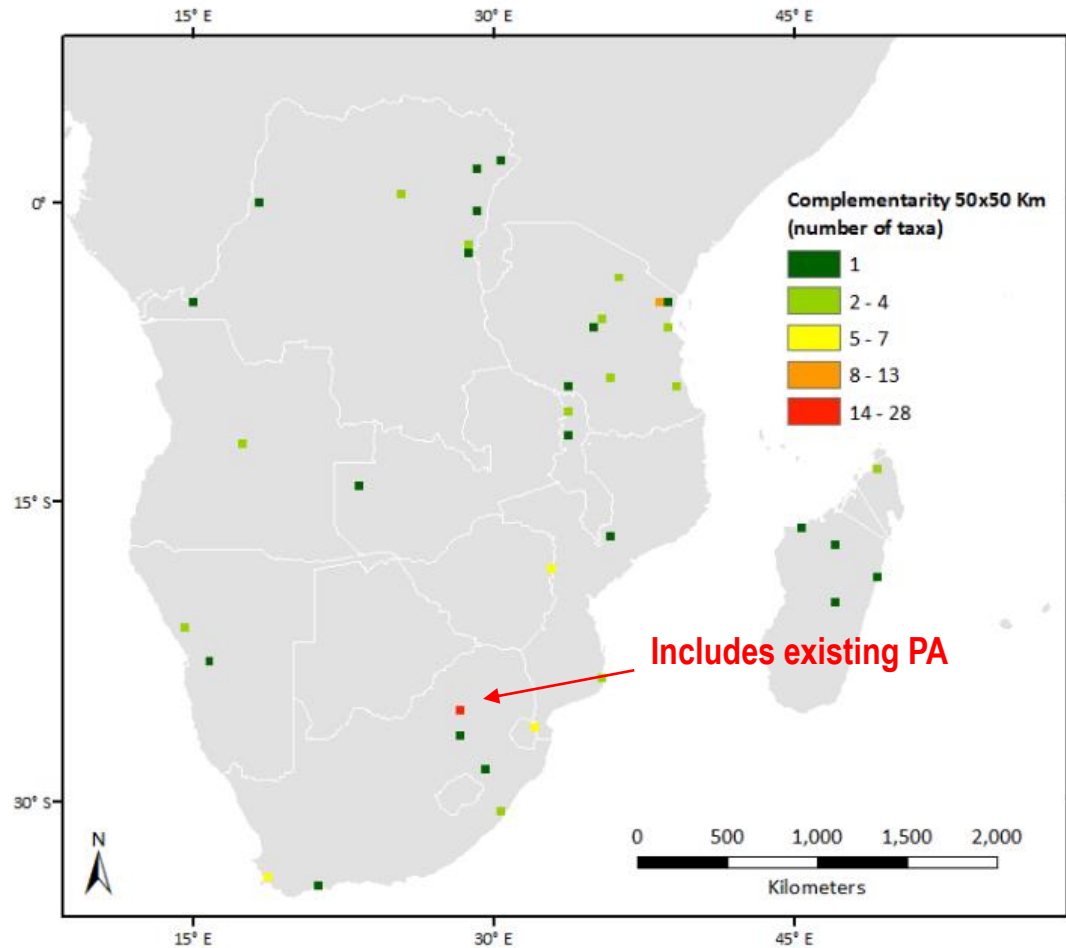


Observed taxon richness [circular buffer of 50 km (CA50) around each occurrence point for all priority CWR]

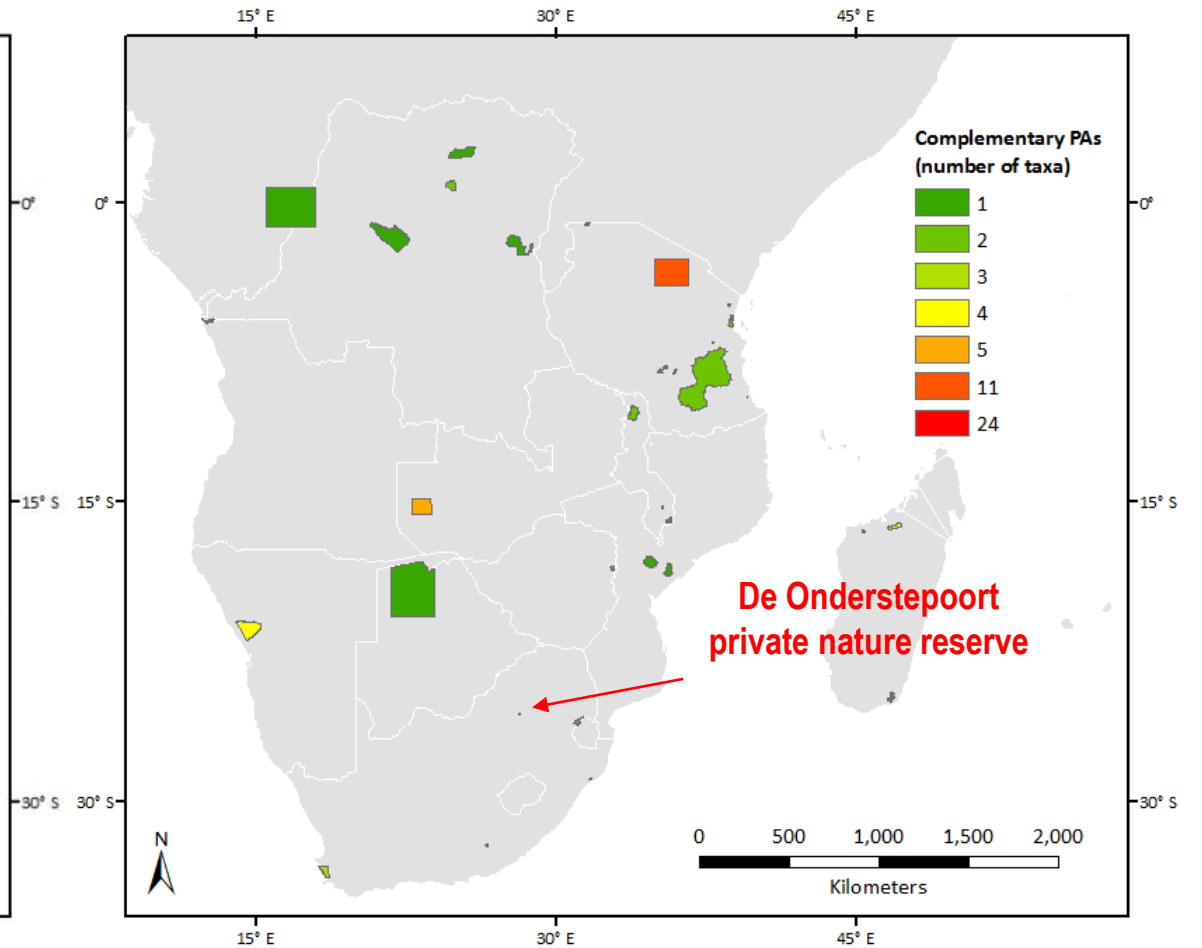


Predicted taxon richness [estimated by SDM (for 77 taxa) combined with CA50 (for 36 taxa)]

COMPLEMENTARITY ANALYSIS

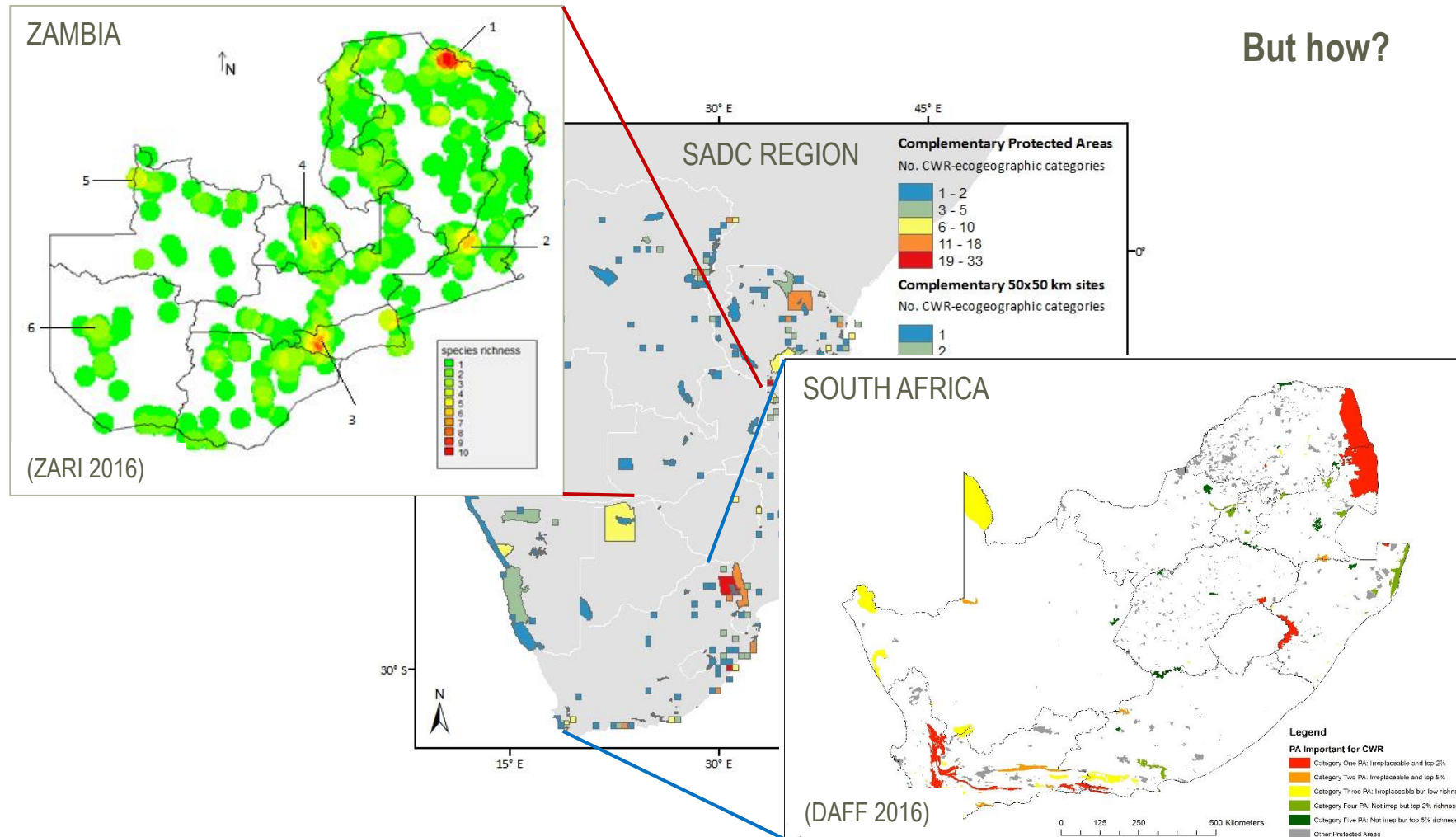


Complementarity network:
38 grids (50 x 50 km) in 11 countries cover 112 priority CWR (3 transboundaries)

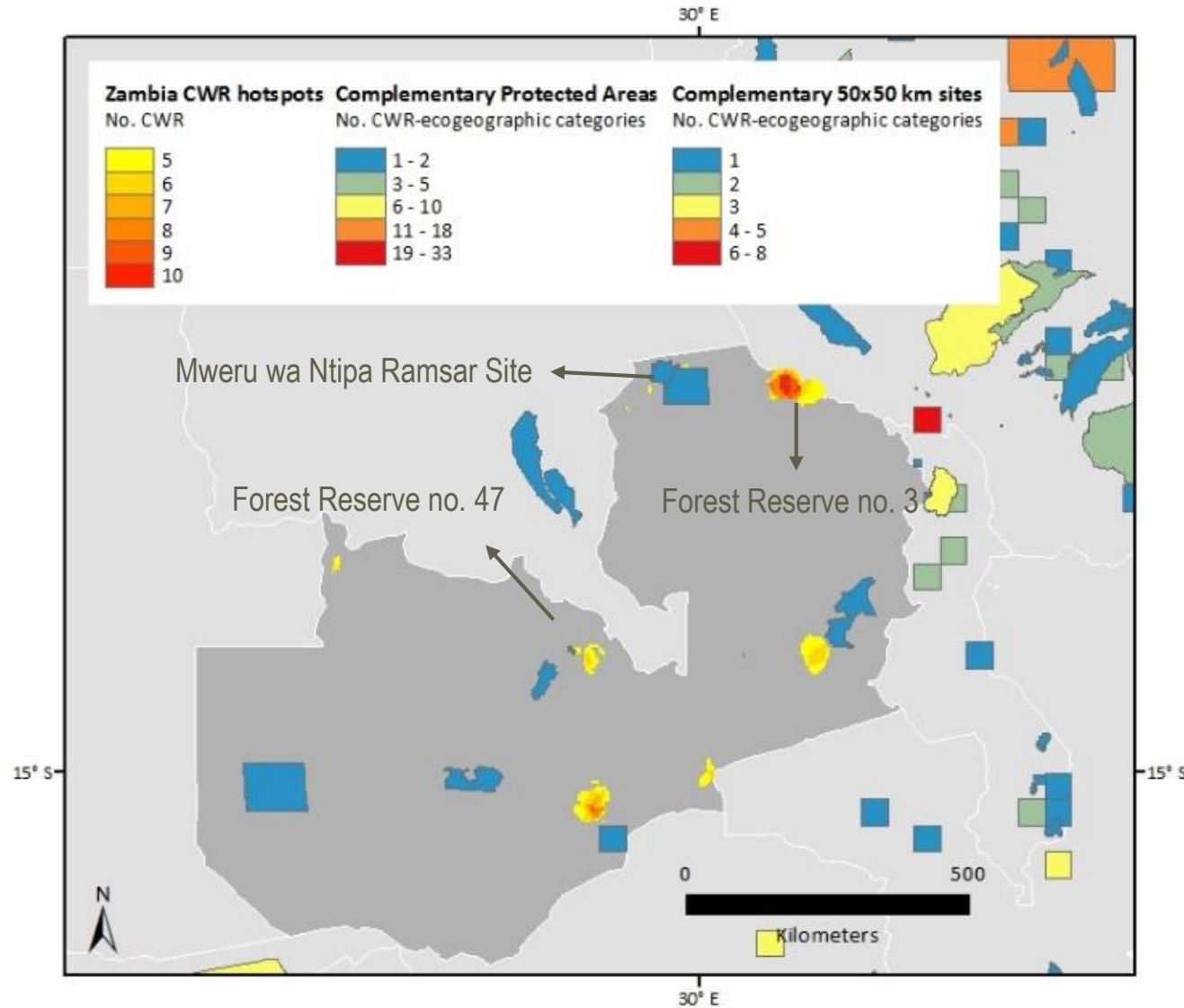


Existing PA network:
34 PAs in 11 countries cover 92 priority CWR (20 taxa outside PAs)

INTEGRATING NATIONAL AND REGIONAL CONSERVATION PRIORITIES



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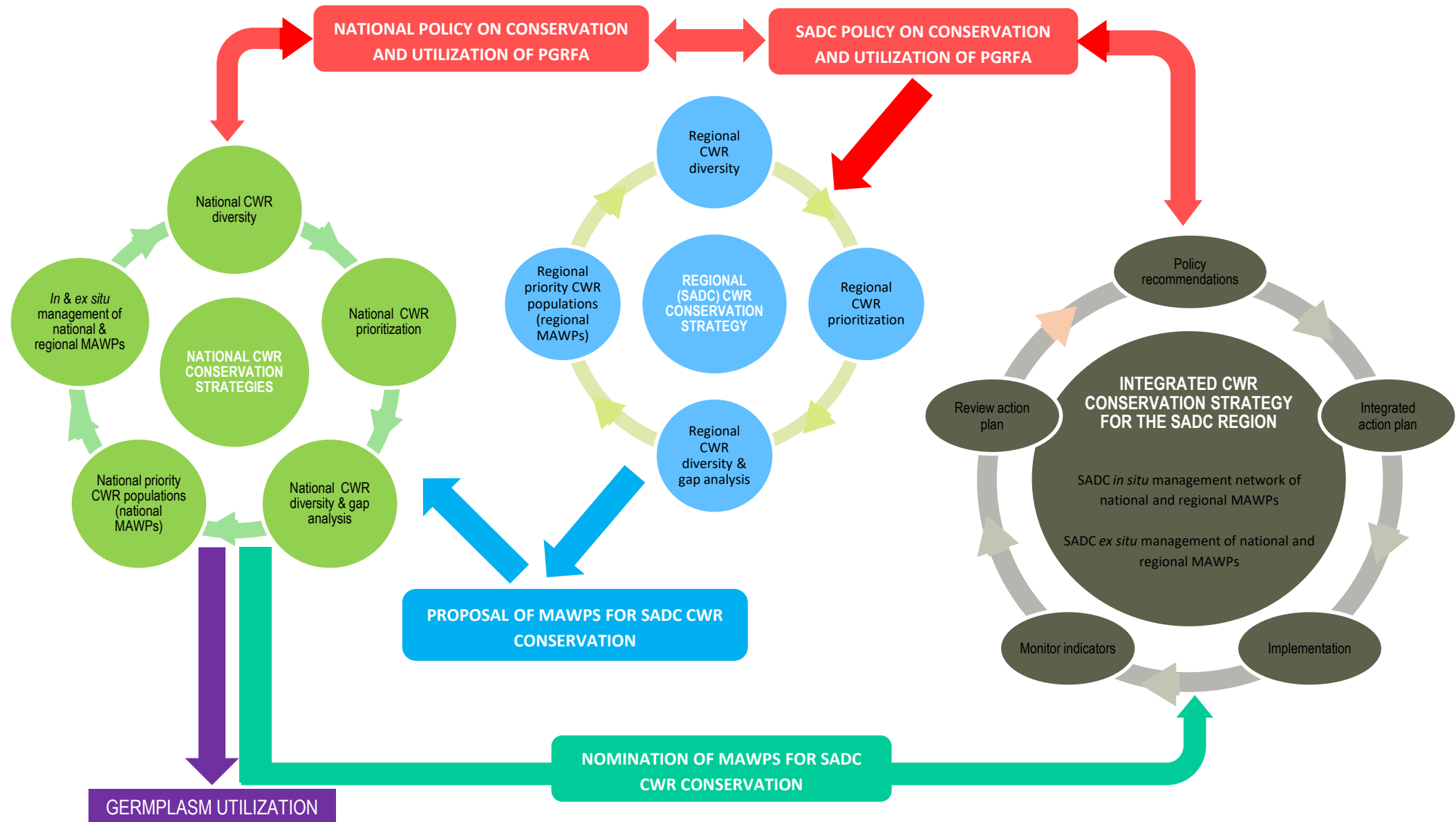


ZAMBIA:

- ~50% of national priorities are SADC priorities
- 9 regional complementary PA
- 1 regional complementary 50 x 50 Km site

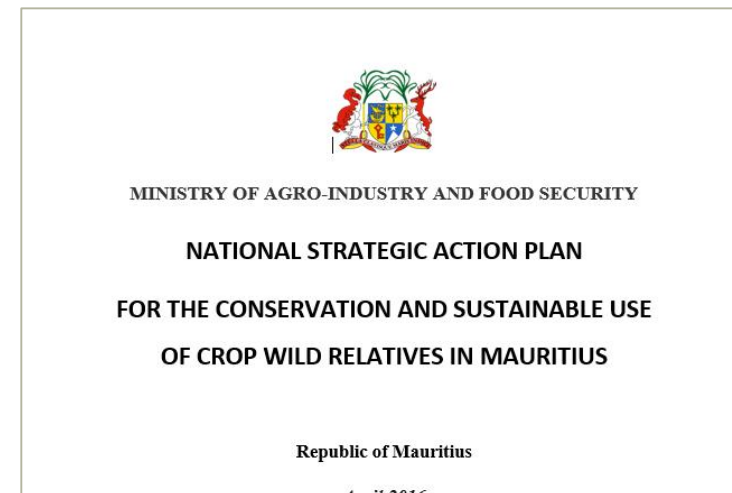
There is not much overlap between Zambia and SADC *in situ* priorities, except for...

Concept for in situ conservation of CWR diversity in the SADC region.



Involvement with stakeholders

Strong national stakeholder involvement



Engaging with local Communities



Conclusion- Key Outputs

- Capacity of over 50 participants from SADC Member States in in situ conservation and use of CWR has been strengthened by project
- Detailed **checklist and inventory of CWR** in each of the three partner countries have been developed
- **Hotspots of priority CWR sites** have been identified in each country AND SADC region for in situ conservation intervention including protected area establishment
- An interactive toolkit for conservation of CWR published and shared
- Three Exemplar **National Strategic Actions Plans (NSAP)** for CWR conservation and use – Republic of Mauritius, South Africa and Zambia.
- A **Regional Network** of CWR Important sites within SADC region

- Contribute to the attainment of Target 13 of Strategic Plan for Biodiversity 2011-2020 and GSPC Target 9.

Vision now is to upscale the project and create a Regional Network of CWR Important sites and stakeholders within SADC region, working closely with SADC Secretariat and SADC Plant Genetic Resources Centre



Ipomoea bathycolpos plants found in Barberton in Mpumalanga (South Africa). (source: Livhu, SANBI)



Thank you

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