PLANT CONSERVATION TO 2020

Hugh W. Pritchard

h.pritchard@kew.org

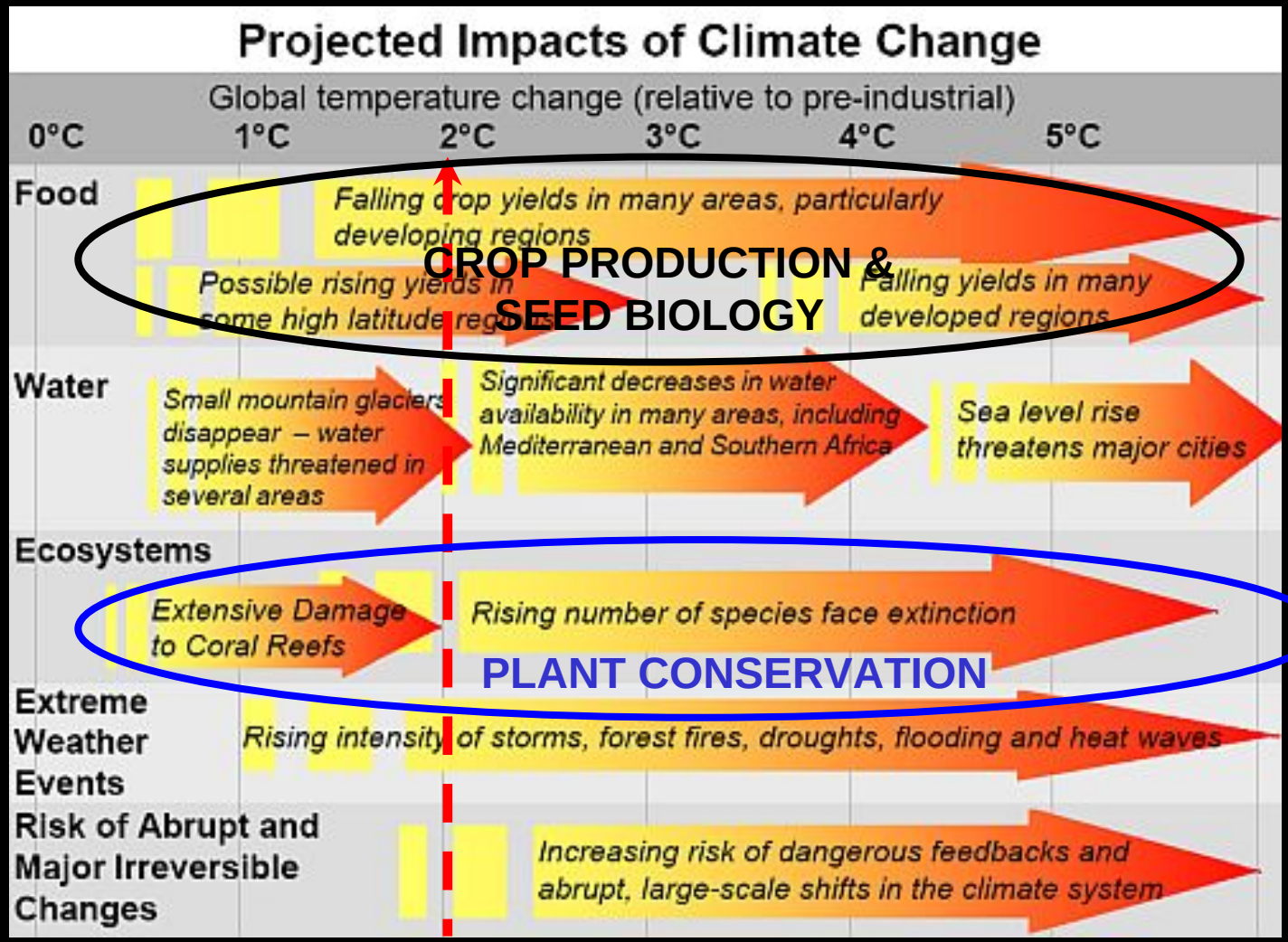
Kew

PLANTS PEOPLE POSSIBILITIES

ECONOMICS OF CLIMATE CHANGE

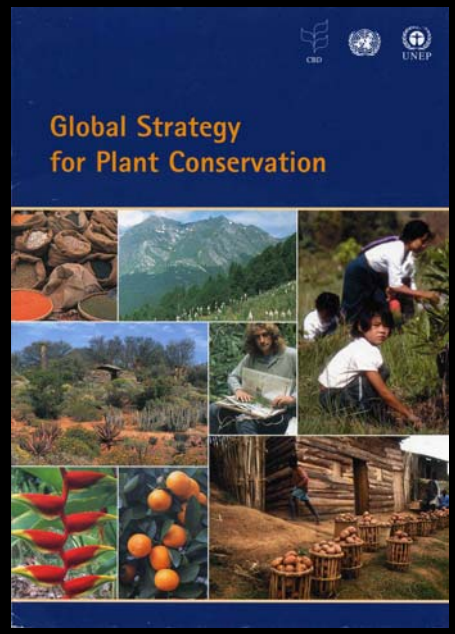
STERN review
ON THE ECONOMICS OF CLIMATE CHANGE

2006



OUTLINE

- Conservation for the last and next 10 years (2000 – 2020)



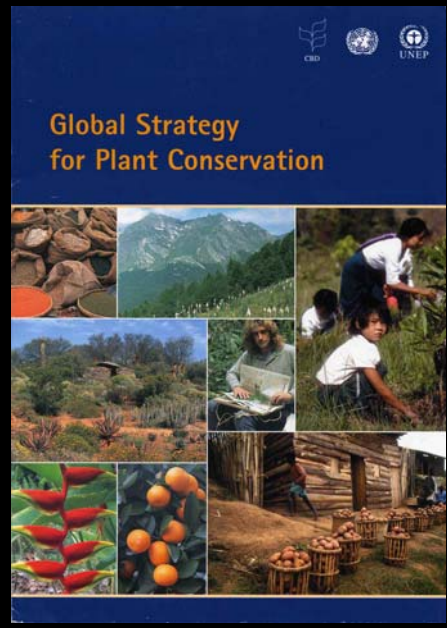
- Context: Global Strategy for Plant Conservation and the Millennium Seed Bank Project

Wellcome Trust Millennium Building

GSPC: RATIONALE

Focus on plants because:

- Primary producers and provide habitat infrastructure for many ecosystems;
- Setting meaningful targets is feasible as scientific understanding of higher plants good;
- Intact forests ameliorate climate



Four broad objectives and 16 targets:

- UnderstandIng and documenting diversity;
- Conserving plant diversity;
- Using plant diversity sustainably;
- Building capacity for the conservation of plant diversity.

GSPC: Understanding and documenting diversity to enable a sustainable future

Target (1)

- By 2010: Widely accessible working list of known plant species, as a step towards a world flora;

- Progress: Complete for 85% of species, partial for 15%;

- By 2020: Widely accessible list of known plant species, with more complete synonomy and geographic distributions. Further flora work and capacity-building in taxonomy

MSBP: 250 undescribed species (new to science?), including a new genus of Rubiaceae from Madagascar

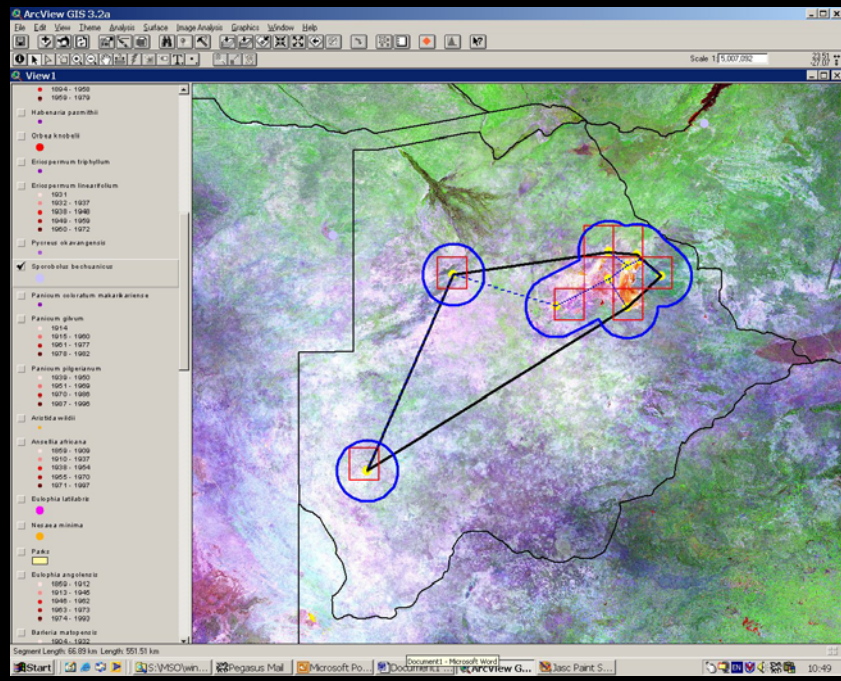
GSPC: Understanding and documenting diversity to enable a sustainable future

Target (2)

- By 2010: Preliminary assessment of conservation status of all known plant species at national, regional and international levels;

- Progress: Globally assessments on only 10% of species. Most countries have assessed their plant species.

- By 2020: Assessment of the conservation status of all known plant species to guide conservation action at national, regional and international levels. Dissemination of interim information could be through an internet portal. Use representative sample red list index (SRLI) rather than full IUCN categories and GIS information



MSBP: > 4000 species conservation assessments

GSPC: Understanding and documenting diversity to enable a sustainable future

Target (3)

- By 2010: Development of models with protocols for plant conservation and sustainable use, based on research and practical experience;

- Progress: Many models available but not disseminated;

- By 2020: Development of effective sharing of advice and guidance for plant conservation and sustainable use, based on research and practical experience. Key areas for models include: integration of *in* and *ex* situ conservation; applying the ecosystem approach. Web-based compilation and Toolkit.

MSBP: 308 publications, 12 books, c. 40 technical sheets, data on Seed Information Database (www.http://kew.org/data/sid)

GSPC: Conserving plant diversity urgently and effectively

Target (4)

- By 2010: >10% world ecological regions effectively conserved;
- Progress: 10% area probably achieved;
- By 2020: Ecosystem services secured through effective management (i.e. persistence of vegetation) of >10% world major ecological regions, with more in ecological networks;

MSBP: worked with 123 organisations in 54 countries – many with *in situ* conservation programmes

GSPC: Conserving plant diversity urgently and effectively

Target (5)

- By 2010: Protection of 50% of most important areas for plant diversity assured;

- Progress: 35 countries have identified important areas for plant diversity and 17 are addressing conservation issues; some 'hotspots' within protected areas.

- By 2020: Protection of > 50% of most important areas (endemism, species richness, uniqueness of habitat, provision of ecosystem services) for plant diversity assured with effective management in place and consideration of threats due to climate change.

MSBP: worked with 123 organisations in 54 countries – many with *in situ* conservation programmes

GSPC: Conserving plant diversity urgently and effectively

Target (6)

- By 2010: >30% production lands in each sector managed sustainably and consistent with conservation;

- Progress: Noted as difficult to measure;

- By 2020: >30% production lands in each sector (agriculture, horticulture, grazing, wood production) sustainably managed and consistent with (agrobiodiversity) conservation;

MSBP: worked with 123 organisations in 54 countries – many with *in situ* conservation programmes

GSPC: Conserving plant diversity urgently and effectively

Target (7)

- By 2010: 60% threatened species conserved *in situ*;

- Progress: Many protected areas not have well-articulated management objectives - let alone specific ones relating to protecting species;

- By 2020: >60% threatened species conserved *in situ*, with means to measure and monitor threatened species in protected areas, and 100% of single-country endemics in protected areas;

MSBP: worked with 123 organisations in 54 countries – many with *in situ* conservation programmes

GSPC: Conserving plant diversity urgently and effectively

Target (8)

- By 2010: 60% threatened species in accessible *ex situ* collections, and 10% in recovery / restoration programmes;

- Progress: Currently 15,000 threatened species in living collections and 5% in recovery / restoration programmes;

- By 2020: > 60% threatened species in accessible *ex situ* collections, and >10% in recovery / restoration programmes; genetic representation for 90% of the most critically threatened and further research for species with recalcitrant seeds.

MSBP: 139 taxa (Tasmania) and 251 species (RSA) conserved

GSPC: Conserving plant diversity urgently and effectively

Target (9)

- By 2010: 70% of genetic diversity of crops and other major socio-economically valuable species conserved, and associated indigenous and local knowledge maintained;

- Progress: Likely achieved for the majority of the major crops (200-300 species);

- By 2020: 70% of genetic diversity of crops and other socio-economically valuable species conserved, and associated indigenous and local knowledge maintained; 2000-3000 species could be covered; important to emphasise medicinals, NTFP, local land races, CWR.

MSBP: 43% of collections made are of local economic importance, endangered or endemic

GSPC: Conserving plant diversity urgently and effectively

Target (10)

- By 2010: Management plans for >100 major alien species that threaten plants, plant communities and associated habitats and ecosystems;

- Progress: Achieved. No agreed estimate of the number of alien species, so need to address the phenomenon rather than specified species.

- By 2020: Effective management plans in place to address biological invasions for 50% of important areas for plant diversity that are invaded;

MSBP: e.g. removal of aliens from Kenilworth Racecourse Conservation Area (KRCA), Cape Town

GSPC: Using plant diversity sustainably and in equitable manner

Target (11)

- By 2010: No species of wild flora endangered by international trade;

- Progress: CITES Plant Committee has agreed to work with the GSPC, taken as satisfaction with existing target;

- By 2020: No species of wild flora endangered by international trade;

MSBP: species transfer under terms of Access and Benefit Sharing Agreements (ABSAs) including CITES

GSPC: Using plant diversity sustainably and in equitable manner

Target (12)

- By 2010: 30% of plant-based products derived from sources that are sustainably managed;

- Progress: Target perceived as arbitrary and in need of refinement;

- By 2020: A continuous increase in plant-based products derived from naturally occurring sources that are sustainably managed, based on progressive inventory and assessment;

MSBP: through the Useful Plants Project, propagating medicinal plants via seed in communities in Mexico, RSA, Botswana, Kenya and Mali

GSPC: Using plant diversity sustainably and in equitable manner

Target (13)

- By 2010: Decline of plant resources, and associated indigenous and local knowledge, innovations and practices that support sustainable livelihoods, local food security and health care, halted;

- Progress: Target can not be accurately quantified;

- By 2020: Decline of plant resources, and associated indigenous and local knowledge, innovations and practices that support sustainable livelihoods, local food security and health care, halted; consult stakeholders on the wording; encourage an ecosystem approach

MSBP: Supporting the retention and use of indigenous knowledge through the Useful Plants Project

GSPC: Promoting education and awareness of plant diversity and its role in sustainable livelihoods and importance to all life on earth

Target (14)

- By 2010: The importance of plant diversity and the need for its conservation incorporated into communication, educational an public-awareness programmes;

- Progress: Publication of GSPC in 10 languages but still lack of awareness at policy level;

- By 2020: The importance of plant diversity and the need for its conservation incorporated into communication, educational an public-awareness programmes; develop key messages for marketing plan; encourage Parties to incorporate plant conservation in national strategies.

MSBP: Project newsletter in 3 languages and widely distributed.

GSPC: Building capacity for the conservation of plant diversity. Capacities and public engagement necessary to implement the Strategy developed

Target (15)

- By 2010: The number of trained people working with appropriate facilities in plant conservation increased, according to national needs, to achieve the targets of this Strategy;

- Progress: Several global programmes have made considerable progress;

- By 2020: The number of trained people (needs to double) working with appropriate facilities (technological, institutional, financial) in plant conservation increased, according to national needs, to achieve the targets of this Strategy; plant science needs to be bolstered especially at tertiary level.

MSBP: Supported 47 PhD and 29 MSc students since 1997

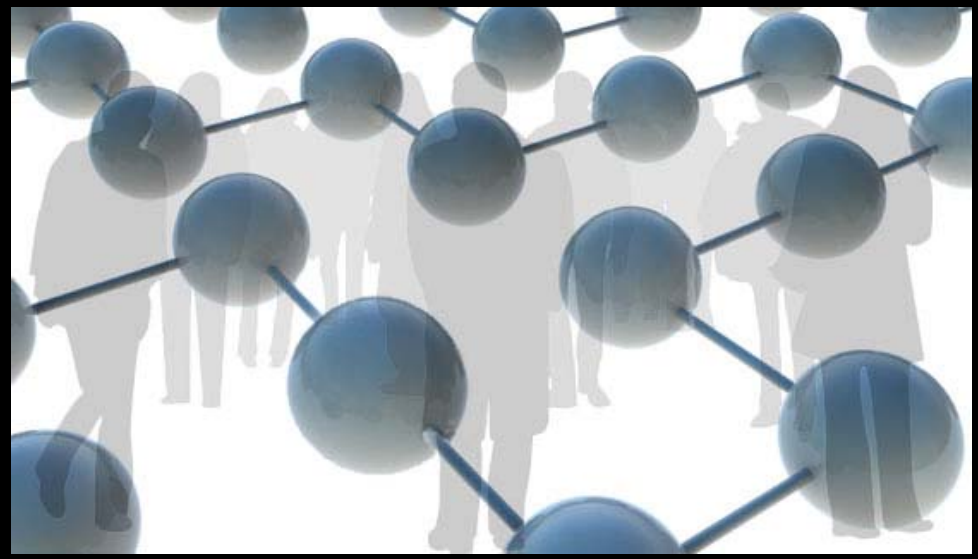
GSPC: Building capacity for the conservation of plant diversity. Capacities and public engagement necessary to implement the Strategy developed

Target (16)

- By 2010: Networks for plant conservation activities established or strengthened at national, regional and international levels;

- Progress: Good start at bringing together conservation community;

- By 2020: Networks for plant conservation activities established or strengthened at national, regional and international levels; need to engage industry, agriculture, education, forestry, water management, indigenous and local community sectors



MSBP: a network involving > 50 countries

SUMMARY: for the next 10 years

Some future trends within the objectives / 16 targets:

- Understanding and documenting diversity:
  - Finish names list, create sampled Red List, share information
- Conserving plant diversity:
  - Regions chosen for uniqueness (sp, habitat, ES) and networked more; threatened species with genetic representation and monitored; 3000 crop wild relatives conserved, research on recalcitrant seeds.
- Using plant diversity sustainably:
  - Lands / natural resources managed for conservation, and ecosystem approach used;
- Building capacity (and awareness) for the conservation of plant diversity:
  - Multi-lingual publications, plant science and tertiary level, networks with industry, forestry, local communities, etc.

MSBP: 45,000 species to conserve, and enhanced use of seeds, by 2020