



IUCN/SSC Cycad Specialist Group

Ex-situ Conservation and Recovery Programme (CSG-ECRP)

CSG-ECRP was initiated and driven by a number of proposals developed by the IUCN/SSC Cycad Specialist Group (CSG) in their Action Plan of 2003. The goal of the *ex situ* Conservation and Recovery Programme is to respond to the many needs for *ex situ* conservation of cycads to develop and promote a network of botanical Institutions that (i) will ensure that all Critically Endangered cycad taxa are represented in genebanks within 3 years and all Endangered taxa within 5 years, and (ii) can provide the expertise and plant material required to support community nurseries and reintroduction programmes.

Recognizing that tens of thousands of plant species worldwide face possible extinction during the coming century, this initiative aims to contribute to the Global Strategy for Plant Conservation (GSPC), adopted by the parties to the Convention on Biological Diversity to halt the current and continuing loss of plant diversity. The GSPC is particularly innovative because it was the first time that international outcome orientated targets had been adopted for biodiversity conservation. The GSPC includes 16 targets to be achieved by 2010, including one specifically focused on *ex situ* conservation – Target 8: “60 per cent of threatened plant species in accessible *ex situ* collections, preferably in the country of origin, and 10 per cent of them included in recovery and restoration programs conserved”. Since its adoption, many countries worldwide and individual conservation organizations and institutions have worked to develop specific responses to the GSPC.

The objectives of the CSG-ECRP include:

1. Obtaining more comprehensive coverage of cycad taxa in genebanks

Although the few gardens now involved have built up collections of many threatened species, there are still species that are not in genebanks and there are inadequate backup collections. Such backup collections are crucial to deal with natural disasters and mishaps. Additional gardens need to be encouraged to develop genebanks, even if they focus on only one or a few species. There is a special need to develop genebanks within cycad range states because it will be easier to maintain mutualisms in these collections and they can form part of local conservation programmes. The facilities and expertise that exist in the current network of gardens involved in cycad conservation can form the framework for a broader network of gardens.

- Set up genebanks for priority taxa. The emphasis for developing additional collections should be given to Critically Endangered and Endangered species that are not represented in genebanks.
- Develop a protocol for duplicate collections and exchange of material between gardens housing cycad genebanks.
- Expand the number of gardens involved in cycad conservation by identifying gaps and communicating with botanical gardens, especially in range states.

2. Developing species recovery programmes linked to *ex situ* collections

The *ex situ* genebanks housed in botanical gardens represent the best material for restoring extinct populations or those that are collapsing. The gardens involved need to develop proper species recovery programmes that identify and deal with the main threatening processes, as well as the obstacles associated with restoring plants to the wild.

- Review the data on past attempts to reintroduce cycads to identify successful methods.
- Set up experiments to test the success of different reintroduction methods.

In order to achieve the *ex situ* conservation objectives, the CSG-ECRP programme must be linked to other initiatives, including the following:

1. Conserving cycad habitats

To establish effective protection for remaining cycad populations and habitat, especially in Asia and the New World.

2. Developing links with organizations focusing on biodiversity hotspots

Cycad conservation is very strongly linked to habitat conservation, especially in Asia and the New World. These areas are often congruent with areas of general plant diversity (e.g., Mexico, China, Vietnam) which means that conservation organisations focusing on global hotspots will be trying to conserve some of the same habitats. We must, therefore, ensure that cycad conservation actions complement other actions to save threatened habitats. Cycads could be effectively used as flagship species in some areas.

- Produce a list of cycads associated with designated biodiversity hotspots.
- Develop profiles on cycad species that could be used by Conservation International, WWF, or IUCN as flagship species for specific biodiversity hotspots. Animal species have been used in this way and cycads could be used to highlight problems in specific hotspots.

3. Evaluating and promoting cycad nurseries linked to wild populations

The prime reason for promoting local cycad nurseries is that they provide an incentive for local communities to preserve cycad habitat. Existing nurseries have shown that involving local people does have benefits, but there are several key activities that are required to promote this activity.

- Critically evaluate the successes and failures of pilot projects in Mexico and South Africa to determine whether nurseries do offer sustainable benefits to local communities.
- Identify cycad taxa that are suitable for community nurseries based on ease of propagation, market demand, and potential supply rates.
- Develop criteria for the accreditation of cycad nurseries. The criteria should be based on the extent to which nursery activities benefit wild cycad populations and should form part of a marketing strategy for plants from sustainable use nurseries.
- Develop a marketing strategy for community nurseries. This is one of the weaknesses in the current nursery programme where nurseries linked to wild populations have to compete with nurseries elsewhere.
- Develop additional nurseries based on the analysis of suitable taxa and the outcomes of the evaluation of existing nurseries.

4. Promoting horticultural research to increase the availability of artificially propagated plants

It is clear that when demand for plants exceeds the supply from cultivated sources, there is more pressure to remove plants from the wild. Recent research has shown that it is possible to improve germination, increase growth rates of seedlings, and develop plants from tissue culture for species with low seed set, which all contribute to increasing numbers of plants in cultivation. These research activities need to be continued, especially for species under threat in the wild, and the results need to be more widely applied by specialist growers and conservation agencies.

- Identify the best methods for the propagation and cultivation of species that are threatened by trade.
- Disseminate the results of existing and future research work on cycad propagation and cultivation to enthusiasts, growers, botanic gardens, and conservation agencies.



2005 Application

APPLICATION TO JOIN THE CYCAD SPECIALIST GROUP EX SITU CONSERVATION & RECOVERY PROGRAMME (CSG-ECRP)

INSTRUCTIONS FOR APPLICATION

A complete application must include the following:

1. Answers to the questions on pages 5 to 11. Please use extra paper if necessary.
2. Signature of the director of your institution on page 12-15 agreeing to the Conditions of Participation in the programme.
3. A copy of the Letter of Commitment on page 16 on your institutional letterhead, signed by a representative of your Board.
4. An inventory or list of accessions for the collection you are proposing for the programme, including provenance information, if known. (Information will be kept confidential.)
5. A copy of your written, Board-approved collections policy.

Send your completed application to:

Anders J.Lindstrom
IUCN-SSC Cycad Specialist Group, *ex situ* Coordinator
Nong Nooch Tropical Botanical Garden (NNTBG)
34/1 Sukhumvit Highway, Najomtien
Sattahip, Chonburi 20250
Thailand
Email: kampon@loxinfo.co.th
Fax: 66-(0)38-238160
Phone: 66-(0)38-709358-62

ABOUT THE APPLICANT

(PLEASE TYPE IN BOLD LETTERS)

Date of application: _____

Name of organization: _____

Mailing Address: _____

Website URL, if applicable: _____

Curator of proposed consortium collection: _____

Title: _____

Telephone number: _____

Fax number: _____

E-mail: _____

Person completing application (if other than above): _____

Title: _____

Telephone number: _____

Fax number: _____

E-mail: _____

ABOUT THE COLLECTION

(PLEASE TYPE IN BOLD LETTERS)

What is the focus or emphasis (i.e., genus, species, population or climatic region, other) of the collection?
What are the levels of taxonomic groupings (i.e., family, genus, species, other) in the collection?

How much are you willing to coordinate your collection development in relation to other consortium member collections?

Why do you consider your institution an appropriate holder of a conservation related collection for this plant group? Please discuss growing conditions, climate, existing collection, research capacity, staff expertise, herbarium, library, enhancement of existing programs, and any other factors that you consider relevant.

Has your institution received any official recognition or collection status by any international or national authorities?

Has your institution adopted a formal policy in relation to the Convention on Biological Diversity, particularly in relation to the CBD's provisions relating to access and benefit sharing (ABS)? If so, please submit a copy.

Is your institution a registered participant in the implementation of the International Agenda for Botanic Gardens in Conservation (BGCI, 2000), which has been recognized by the CBD as a valuable contribution towards the achievement of the GSPC?

Does your institution have any relevant international convention or agreement signed and/or ratified by your country? If so, specify a reference to it and the institution/agency responsible for its implementation.

What is the current number of live taxa in the collection you now hold?

What is the current number of live accessions within the collection you now hold?

What is the maximum number of taxa you anticipate holding ultimately? What are the goals of the collection?

How much of the proposed collection is already represented in your existing collection?

What are the taxonomic references and authors currently employed or in cooperation with to delineate this plant group?

What percentage of your proposed collection is wild collected? What percentage is from cultivated sources?

Is there a public awareness programme/project in place at your institution? Please give details.

Has your institution produced publications and/or provided data for scientific publications?

Is your institution involved in any *in-situ* conservation projects? Please specify countries and level of involvement e.g. financial, educational, research etc.

Does your institution have any policies or agreements in place to link its *ex situ* and *in situ* conservation efforts?

Indicate if training and educational opportunities exist at your institution. Please specify levels e.g., elementary, high school, community college, vocational school, undergraduate, Masters, PhD, etc.

ABOUT COLLECTION MANAGEMENT

Will the collection only be maintained as living growing plants, or complimented in the form of seeds, pollen, tissue, DNA gene bank or some combination of these techniques?

Will the collection be grown in public or restricted areas, or both?

What percentage of the taxa already in the collection is likely to cone in your climatic conditions?

What percentage of the taxa already in the collection is hardy at your site?

If not all taxa are hardy, will tender taxa be grown at your site and how will they be protected?

Who will have the responsibility for the maintenance of the collection? Please give name and position.

Are there any special management plans set up for the cycad collection? Please describe.

ABOUT COLLECTION RECORDS

Describe the technique(s) in use to record the collection (ledger, card file, computerized database, field maps, accession labels, and any others). List the fields or categories of information that are recorded.

What references are produced on the present collection (photographs, herbarium specimens, sketches, publications, and any others)?

Are the records currently computerized? If not, do you expect to computerize your records in the future? If yes, what software is or will be used? Are your records consistent with the International Transfer Format (ITF)?

What criteria and techniques are used to evaluate the accuracy of the current identification of the collection?

Describe the label system in use. What types of accession labels and/or display labels are used?

ABOUT THE FUTURE

Is there a short-term goal for developing and managing the proposed collection? If yes, please include plans for verification, vouchering, conservation, propagation, acquisition, records management, and dissemination.

Is there a long-term goal for the collection? Please specify.

Do you anticipate any specific educational or scientific use for the proposed collection? If so, please describe.

Are there other individuals or institutions with whom you will be or already are working with to build and manage the collection? If so, please explain.

Can you suggest another collection holder in a different region with a similar climate as your site to be a complementary collection holder?

Would your institution be willing to provide genetically pure propagules, free of charge, for re-introduction and/or re-enforcement of wild populations?

CONDITIONS FOR PARTICIPATION

The CSG-ERP agrees to provide the following services to institutions holding Consortium collections:

- Provide a Certificate of Participation for public display
- Coordinate and administer the Plant Collection Programme
- Solicit and review potential programme collection holders.
- Conduct initial and periodic site reviews.
- Provide guidelines and suggestions for programme collection management, documentation, and reporting procedures.
- Advise on programme collection replication and population size as appropriate.
- Promote the availability of programme collections as appropriate for research, evaluation, and distribution to other institutions.
- Provide and assist with collection transfer in the event of withdrawal or removal from the Consortium programme.
- Report to relevant international bodies progress being made by the consortium in achieving shared and agreed conservation goals

Participants in the CSG-ERP will be expected to observe the following conditions:

General conditions

Collection holder has a formal written collection policy that addresses the consortium collection and is approved by their board of trustees or any other governing authority as appropriate.

Collection holder agrees to obtain written approval for participation in the consortium programme from the board of trustees or other governing authority as appropriate.

Collection holders agree to abide by relevant national legislation and the provisions of the Convention on Biological Diversity (CBD) in relation to issues of access and benefit sharing.

Collection holder agrees to abide by relevant national legislation and the provisions of the Convention on International Trade of Endangered Species (CITES).

Staff Commitment

Collection holder agrees to designate a particular staff member with the responsibility to function as a curator and contact person for the Consortium collection

Documentation Commitments

Collection holder agrees to maintain accurate and up-to date accession labels as appropriate and records on the consortium collection compatible with ITF Standards.

Collection holder is encouraged to build herbarium voucher and photographic records on the collection

Collection holder agrees to make every effort to computerize collection records in a manner consistent with the International Transfer Format (ITF).

Collection holder agrees to provide an initial collection inventory and to evaluate each collection on an annual basis resulting in a revised inventory and annual report detailing major changes to the collection.

Collection Maintenance Commitments

Collection holder agrees both to the long-term maintenance of the collection and to maintain the health and genetic purity of the collection according to accepted horticultural practice.

Collection Development and Expansion

Collection holder is encouraged to make collections more comprehensive and/or more representative of the genetic diversity of the taxa curated and to emphasize plants of known wild origin when required to support the conservation of the specified taxon. In such efforts, collection holder is required to observe all applicable national and international regulations and codes of practice concerning plant collecting and international exchange.

Collection holder is encouraged to maintain reasonable replicates of the collection taxa.

Collection Propagation

Collection holder agrees to propagate the plant material in as original form as possible to maintain the collection and to provide reasonable propagation material for legitimate research, distribution, and evaluation projects. The collection holder maintains the right to propagate and sell plants from the collection at liberty (within the limits of any existing national and international legal or policy constraints and subject to any conditions imposed on collection holders by the original suppliers of such material) and to control the amount of propagation material provided.

Collection Access

Collection holder agrees to provide reasonable access to the collection for the Consortium representatives for evaluation, research, photography, and other legitimate purposes.

Collection Evaluation

Collection holder agrees to periodic site visits by consortium evaluators for the purposes of initial collection evaluation and continuing participation in the consortium.

Designation of Complementary Collections

Collection holder recognizes the right of the CSG-ECRP to designate parallel or complementary Consortium collections as deemed appropriate.

Future Withdrawal from the Program and Transfer of the Collection

Collection holder agrees to provide reasonable notice and to arrange for or assist in the transfer of plants or propagules of the collection if unable to maintain stewardship.

Removal from the Consortium

Collection holder recognizes and accepts the right of the CSG-ECRP to withdraw the consortium collection status if reasonable standards of collection care and curation and participation as outlined above are not maintained, provided that the CSG-ERP gives reasonable notice and adequate opportunity to address problems.

Changes to Consortium Agreements

Guidelines for participation by collection holders in the consortium are subject to revision by the CSG-ECRP. In addition, collection holder may request amendments to the agreement upon the written consent of the CSG-ECRP.

The undersigned agree to the above mutual conditions between the CSG-ECRP and the collection holder for participation in the Cycad Specialist Group Collections Consortium.

Signature of the collection holder.

Signature of the Coordinator, CEC

Signature of the Chairman, IUCN CYCAD SPECIALIST GROUP

LETTER OF COMMITMENT

The following letter should be copied onto your institutional letterhead, signed by a representative of the Board and returned with your application.

[*date*]

THE IUCN CYCAD SPECIALIST GROUP
EX SITU CONSERVATION & RECOVERY PROGRAMME (CSG-ECRP)
Anders J. Lindstrom-Coordinator
Nong Nooch Tropical Botanical Garden
34/1 Sukhumvit Highway
Najomtien, Sattahip,
Chonburi 20250
Thailand

To Whom It May Concern:

The [*Board of Trustees, Governors, Board of Directors, etc, has*] has authorized the efforts of [*name of applying institution*] to become a participating collection holder for cycads under the Cycad Specialist Group *ex situ* Conservation & Recovery Programme.

By this letter of acceptance, we agree to the terms of the CSG-ECRP Conditions of Participation (signed by the Director) as they may be in effect from time to time and any other agreements which may hereafter from time to time be entered into between the CSG-ECRP and [*name of applying institution*] that are signed by the Director and/or an Officer of the Corporation on our behalf.

Sincerely yours,

[*Name*]

[*President or Officer of the Board*]
