## 1. Project Information

<table>
<thead>
<tr>
<th>Organization:</th>
<th>Universidad de Antioquia (UdeA) in collaboration with the National Biodiversity Institute &quot;Instituto de Investigación de Recursos Biológicos Alexander von Humboldt&quot; (IAvH)</th>
</tr>
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<tbody>
<tr>
<td>Project Title:</td>
<td>Management strategy to establish new populations and guarantee the persistence of critically endangered species of Cycads in Colombia.</td>
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<tr>
<td>Grant code:</td>
<td>2012A-039</td>
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<tr>
<td>SOS Grant Type:</td>
<td>Threatened Species Grant</td>
</tr>
<tr>
<td>Report Author and Contact Information:</td>
<td>Cristina López-Gallego Email: <a href="mailto:mariac.lopez@udea.edu.co">mariac.lopez@udea.edu.co</a>, <a href="mailto:clopezgallego@gmail.com">clopezgallego@gmail.com</a></td>
</tr>
<tr>
<td>Date of Report:</td>
<td>31 March 2016</td>
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<thead>
<tr>
<th>SOS Strategic Direction(s):</th>
<th>Threatened Cycads</th>
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<tbody>
<tr>
<td>Project Dates</td>
<td>1 April 2013 – 31 December 2015</td>
</tr>
<tr>
<td>SOS Grant Amount (in US$):</td>
<td>49,000</td>
</tr>
<tr>
<td>Total Project Amount (in US$):</td>
<td>59,000</td>
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<tr>
<td>Focal Threatened Species:</td>
<td><em>Zamia disodon</em> (Critically Endangered) <em>Zamia restrepoi</em> (Critically Endangered) <em>Zamia wallisii</em> (Critically Endangered)</td>
</tr>
<tr>
<td>Implementation Partners</td>
<td>National Biodiversity Institute &quot;Instituto de Investigación de Recursos Biológicos Alexander von Humboldt&quot; (IAvH)</td>
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## 2. Project Progress by Objectives/Results

### 2A. Report on Objectives and Results, and the products of the project.

<table>
<thead>
<tr>
<th>Objective or Result</th>
<th>Actual at Completion</th>
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</thead>
<tbody>
<tr>
<td>Objective 1. Within one year, rescue plants in high-risk forests in all known localities to avoid losing the last remaining individuals for each species.</td>
<td>ACHIEVED (with modifications). We rescued plants of all three species and performed direct translocations to safe sites. We decided to build our own greenhouses for plant propagation.</td>
</tr>
<tr>
<td>R.1.1. Rescued plants planted in ex-situ collections and prepared for reintroduction by the end of the first year.</td>
<td>We rescued 35 adults of <em>Z. wallisii</em>, 16 juveniles of <em>Z. disodon</em>, and 4 adults of <em>Z. restrepoi</em> from highly threatened habitats in previously known and newly found populations (all populations with less than 100 adults).</td>
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<tr>
<td>Objective 2.</td>
<td>Within one year, choose sites in protected areas for establishing new populations for each species where population persistence can be guaranteed.</td>
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<tr>
<td><strong>R2.1.</strong> Sites within protected areas identified for reintroducing each species by the end of the first year.</td>
<td>While looking for suitable sites for reintroduction we found 6 new unregistered populations for the three species (2 for each species). By the end of the project we know 3 populations of Z. wallisii, 3 populations of Z. disodon (one inaccessible and probably destroyed), and 2 populations of Z. restrepoi (one inaccessible), and worked on 6 of these 8 populations. We evaluated the status of the populations and decided that Z. wallisii and Z. disodon populations were adequate for protection and restoration efforts at their present sites. The new discovered natural populations of Z. restrepoi are not in safe sites, so we chose a nearby site within a private reserve for creating a new population of the species.</td>
</tr>
<tr>
<td>Objective 3.</td>
<td>Within one year, select adequate ex-situ propagated plants from botanical collections for reintroducing each species.</td>
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<tr>
<td><strong>R3.1.</strong> Plants selected from ex-situ collections for reintroduction by the end of first year.</td>
<td>We decided not to use botanical garden material, and instead we built greenhouses with local stakeholders: 1 for Z. wallisii, 2 for Z. disodon, and 2 for Z. restrepoi. We obtained a total of 111 seedlings of all species in these greenhouses in about two years (30 of Z. wallisii, 24 of Z. disodon, and 57 of Z. restrepoi). These seedlings will be kept growing in the greenhouses until they reach a size that will improve their survival chances after reintroduction into natural populations.</td>
</tr>
<tr>
<td>Objective 4.</td>
<td>Translocate rescued and ex-situ propagated plants to safe sites for establishing new populations (reintroduction) for each species.</td>
</tr>
</tbody>
</table>
R4.1. Rescued and ex-situ propagated plants translocated to chosen sites for reintroduction at the beginning of the second year.

We translocated 35 rescued adults of *Z. wallisii* into two existing populations in safe sites, but rescued juveniles of *Z. disodon* were not reintroduced into the populations because they do not have enough chances of survival yet (the plants are not large enough). We introduced 39 juveniles of *Z. restrepoi* to create a new population in a safe site.

In addition to the translocated plants, we also have juveniles of all species rescued by us and propagated in our greenhouses that will be used in the future (when they are large enough to survive in habitat) to supplement existing and created populations.

<table>
<thead>
<tr>
<th>Objective 5.</th>
<th>Monitor survival and growth of reintroduced individuals 9 months after translocation.</th>
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<tbody>
<tr>
<td><strong>ACHIEVED and IN PROGRESS.</strong></td>
<td>We monitored translocated individuals for two species and all rescued and propagated individuals in our greenhouses for the three species.</td>
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</tbody>
</table>

R5.1. All translocated plants are monitored for survival and growth in month near the end of the second year

We established that all 35 adults of *Z. wallisii* that we translocated were alive and in good state after 1 year of translocation.

We also monitored all plants rescued and propagated that are maintained in our greenhouses, and no deaths were registered by the date the project is finishing.

The introduction of juveniles into a newly created population of *Z. restrepoi* was carried out towards the end of the project (therefore they have not been monitored to date).

<table>
<thead>
<tr>
<th>2B. Project components modified and unrealized.</th>
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<tr>
<td>The general goal of this project was to rescue threatened individuals of the only known population of <em>Zamia wallisii</em> and of <em>Zamia disodon</em> that were in highly-disturbed forest fragments, and to use previously rescued plants of the last known population (extinct) of <em>Zamia restrepoi</em>, to establish one new population in a safe site to guarantee the persistence of these species. This goal was somewhat modified during the project, as we were able to find new populations of all three species, some of them in safer sites. By the end of this project we know there are at least three populations of <em>Z. wallisii</em> within the boundaries of a national park, at least two populations of <em>Z. disodon</em> both of them in private reserves (different to the original one reported that is now probably destroyed), and two small natural populations of <em>Z. restrepoi</em>, one within a national park and one in private land. Unfortunately all these seven populations (even the ones within national parks and private reserves) are very small with less than 100 adults and inhabit small forest fragments in highly degraded landscapes, therefore all the populations are in need of better protection and long-term restoration. Since creating new populations was not necessary anymore, except for <em>Z. restrepoi</em>, we decided to focus our efforts in improving protection of existing populations and changed our restoration goals towards not only rescuing and translocating plants in imminent risk of dying but also and more importantly propagating new individuals to eventually supplement populations (i.e. enlarge their number of individuals) and increase their chances of long-term persistence.</td>
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We ended up working in seven sites (instead of the three originally proposed) and focusing on improving protection and starting long-term restoration efforts. We explored the possibility of collaborating with two botanical gardens that have a few individuals of all our target species that could be used for reintroduction (these institutions have had low success in propagating the target species, except for *Z. restrepoi*). When we evaluated the available material decided that was not adequate to reintroduce into wild populations. We decided to build greenhouses nearby the natural populations in collaboration with local stakeholders, and ended up building five small greenhouses. We used these greenhouses to care for some of the rescued plants and to produce more plants, directly from seeds and seedlings collected in the nearby natural populations. The juveniles produced in our greenhouses will be more adequate for reintroduction (as they are from the native natural population and have not been exposed to ex-situ conditions and diseases), and we plan to use them in long-term restoration efforts. In the case of *Z. restrepoi*, we did use previously propagated plants (from the rescue efforts in the 1990’s when the original only known population was destroyed) to create a new population in a forest fragment within a private reserve close to the site of one of the natural populations we found. By the end of the project we were the first to successfully propagate all the target species in in-situ conditions and the first to attempt restoration actions in their natural populations.

In terms of protection of populations, we collaborated with regional environmental authorities (from the national parks and local CARs – Corporaciones Autónomas Regionales) and the local farmers that manage lands in the national parks and private reserves to improve awareness of the importance of the cycads and their strategic use for conservation of the forest fragments. In most populations we located, we established monitoring plots to evaluate the demographic status of populations in the long term, and to monitor for seed production that can help us in restoration efforts. Towards the end of the project we also had the opportunity to engage in raising awareness for Cycad conservation with children in local schools. We believe that all these research, protection, restoration and education actions in collaboration with key stakeholders did help improve the conservation status of the species. In fact, this project has become one of only two ongoing Cycad restoration programs in the country (the other one focused in one population of *Zamia encephalartoides*), and has raised much needed interest in restoration of endangered Cycads. Finally, all this has been invaluable input for the ‘National Conservation Action Plan for Cycads’ in Colombia.

2C. Documents, tools, products, or methodologies that resulted from this project.

We did not plan to produce any particular outreach product within the goals of this project. Nevertheless, in our efforts to locate, rescue, propagate and reintroduce plants in collaboration with local stakeholders, we shared some materials with them to improve their knowledge on the biology and conservation situation of the species (like the ‘National Conservation Action Plan for Cycads’).

Within the scope of this project, we developed and distributed fliers with information on *Zamia* species and how to communicate with us in case someone obtained information of threatened individuals or general threats for the populations (see Attachment 1 at the end of this report for a sample of the fliers we used). We also carried out several educational activities with children in some of our study locations, in which they learned more about *Zamia* and other threatened plant species.
3A. Planned Outcomes/Impacts of the project.

From our project planning, we expected to “Avoid imminent extinction of critically-endangered species of Zamia by establishing populations in protected areas using rescued and ex-situ propagated plants to ensure at least one viable population for each species”.

Fortunately, we were able to establish that there are at least three known populations of Z. wallisii and Z. disodon, therefore we switched our focus on trying to protect five of these six populations (the site of the originally known Z. disodon population is now inaccessible because it is a war-prone zone, and the population has likely disappeared). We also focused on restoration actions, especially to supplement populations (i.e. increase population size) using rescued and propagated plants. For these two species we were able to advance conservation actions (protection and restoration) to try to avoid the extinction of the species. In the case of Z. restrepoi, we did find a couple of new populations but they are extremely small and located in threatened forest-fragments. We did establish a new population of Z. restrepoi in a forest-fragment within a private reserve nearby one of the natural populations (the other natural population is within a national park, but in a very dangerous war-prone site so this site is inaccessible for now). Our project is pioneer in restoration efforts for Critically Endangered Cycads in Colombia, and overall we believe it is having a very important impact in the plant conservation community of the country.

3B. Actual progress towards impacts at completion of the project.

But the end of the project we are able to report three protected populations of Z. wallisii (within a national park) and two protected populations of Z. disodon (within private reserves) that are being supplemented by restoration efforts; and to establish a new population (in a private reserve) of Z. restrepoi using juveniles descendants of previously rescued plants. The collaboration we established with key stakeholders is having an important impact to advance actions for population and habitat protection, and to keep improving their chances of long-term persistence through restoration efforts, but there is still much to do to avoid the extinction of these species.

These are the final outcomes detailed per species:

- **Zamia wallisii**: we now know the originally reported population plus other two new populations, all of them within the boundaries of a national protected area (but next or within private lands). These three sites we evaluated as adequate for protection and restoration efforts. We carried out translocation of nearby dying adult plants in two populations of Z. wallisii, and obtained seeds from the third population that were used for propagation in one greenhouse. We established permanent plots for population monitoring in two populations in the long-term. We also monitored all rescued plants after one year of translocation and determined that they are all in good condition.

- **Zamia disodon**: we were not able to explore the originally reported population (as it is a dangerous war-prone site), but we registered two new populations within private reserves that we evaluated as
adequate for protection and restoration efforts. In each of these two sites, we rescued some juveniles in danger of dying and placed them in our greenhouses for future reintroduction. In these two sites we tagged individuals and established permanent plots for monitoring populations in the long term.

- **Zamia restrepoi**: we found two small new natural populations, one within a national park (but in a war-prone site that is inaccessible for now) and another within a private farm where all forest fragments are being destroyed. We rescued some adults from the natural population in the farm and also obtain seeds from it, which were used for propagation in one greenhouse. We also collaborated with an NGO and a farmer who had participated in the 1990’s rescue efforts from the original known population (that was destroyed by the building of a dam) and help them propagate plants in another greenhouse built by us. After much effort, we were able to use a forest-fragment within a private reserve nearby one of the natural populations to introduce individuals and create a new population, using juveniles produced by the NGO in previous years.

**3C. Unexpected impacts (positive or negative) of the project.**

Our initial overall goal of rescuing plants and translocating them to safer sites to establish new populations of each species was modified during the implementation of the project, and the project scope was greatly broadened. We unexpectedly ended up working with six populations of the three species. We work to achieve unplanned impacts on population protection, in collaboration with environmental authorities of national parks and local farmers that were owners of private reserves. We also tried to achieve unplanned impacts on population restoration, by propagating plants in our own built greenhouses to use in reintroduction in addition to the original idea of rescuing plants for translocation. In general, working with different stakeholders to improve protection of populations and to begin implementing long-term restoration efforts resulted in much more involvement of key participants in the project. The project developed into a pioneer multifaceted conservation effort for three of the most critically-endangered Zamia species, and into an important contribution to the ‘National Conservation Action Plan of Cycads’ in Colombia.

**Note:** Following the summary provided above, please use questions 3.1 to 3.5 to provide a detailed, technical response for results achieved from inception of SOS support to date. Provide responses within the context of stated project objectives, where possible. Attach annexes if necessary. Depending on the project, not all questions may be applicable.

**3.1. SPECIES POPULATION - Did you stabilize or improve the conservation status of a species or important species population**

(a) Global or target population.

Our project focused on the known global populations of three Critically Endangered Zamia species, all endemic to very small regions of the Andes-Caribbean region in Colombia. Previous to this project, only one population was known for each of this species (one of them extinct). After the project we are advancing protection and restoration efforts for several populations of all these
species: the originally known plus two new populations of *Z. wallisii*, two new populations of *Z. disodon* (the original known population is probably already destroyed), and two new populations of *Z. restrepoi* (but one only reported and unverified because its location is inaccessible). All these biological populations (subpopulations of the global population in IUCN terms) are in small forest fragments in highly degraded landscapes, and they represent highly-endangered global populations of each of these species.

**(b) Indicate type and level of improvement or decline within the context of the following parameters:**

(i) numbers of individuals & (ii) population trajectory over a 5 year period.

It must be clarified that our project provided new information on global-population size and geographical range for our target species, as we discovered new populations for each species. After the project, the population parameter estimates for the species, like total global-population size, number of locations, EOO, AOO among others did change significantly, and are now greater than before. Nevertheless, these are not “genuine changes” in conservation status, only changes resulting from improved state of the knowledge on the species. Furthermore, in the case of these Critically Endangered species on the brink of extinction, our project goals were not focused on achieving large changes in global-population size but on saving the last remaining plants in the wild.

We believe that this project made important contributions to improve the conservation status of the three species. In the case of *Z. wallisii* and *Z. disodon*, we helped not only locate new populations, but also get the attention of local stakeholders and regional environmental authorities to try and ensure protection for all existing populations. In addition, our restoration efforts to increase population sizes by reinforcing the small populations using rescued and propagated plants could greatly improve their chances of long-term persistence. Establishing how much protection and restoration efforts will improve the persistence of these populations requires long-term monitoring, which we are also planning to do in the next few years. We believe that we are helping reduce the probability of extinction of these two species, but more actions are required in the near future to avoid their extinction.

In the case of *Z. restrepoi*, our project made a significant contribution to the conservation status of the species, as it was believed to be extinct in the wild and only ex-situ propagated individuals were known. We discovered two very small new natural populations of the species, but securing their protection has proven difficult (since one of them is found on a farm that is being completely deforested and the other one in an inaccessible site also being deforested). We used previously propagated individuals and established a new population of the species in a private reserve. After our project, the species can no longer being considered Extinct in the Wild, although it is still on the brink of extinction if no further measures are taken to try and save the last natural populations and guarantee the persistence of the newly created population. Fortunately, our propagation efforts and previous programs by botanical gardens have been relatively successful in producing new plants and the populations could be easily reinforced in the future. The protection of these populations and their habitats might prove to be a great challenge, nonetheless.

Quantitative information about these species as well as their location have been omitted from this report to guarantee the security of these fragile populations.
3.2. IUCN RED LIST STATUS - After project implementation, can the species globally be considered for a change of Red List status, either positive or negative? If shifts of status within a category are applicable, describe relevant Red List metrics used to support assertion. Provide quantitative data, if available.

As explained before, the project dealt with three *Zamia* species on the brink of extinction, all in the Critically Endangered category. After project implementation, the conservation status of the species has improved, but the three species remain in the Critically Endangered category and at high risk of extinction if the protection and restoration efforts that the project started are not maintained and scaled up.

3.3. CRITICAL HABITAT - Did your project improve the quality or condition of a threatened species’ critical habitat within the project target area? Present in terms of the following parameters, where relevant:

(a) Total area of suitable habitat, (b) Condition, (c) Estimated trajectory of critical habitat.

Our project focused on restoration actions, rescuing dying plants and trying to propagate new individuals for supplementing populations of the three extremely endangered target species. We were also trying to secure the last remaining individuals in the few existing populations of each species, by protection-related actions. According to this, our project focused more on expanding global-population size of the species, and less on modifying habitat conditions. Nevertheless, our actions related to population protection are obviously concentrated in avoiding destruction of the forest fragments from which these plants depend. For now, all six populations targeted in this project are within national parks of private reserves, and we are collaborating with different stakeholder to at least stabilize the situation of the forest fragments (minimize loss of forest area and degradation of condition). Future conservation actions should include efforts for habitat restoration in addition to the population restoration we are implementing, that can complement the actions related to population and habitat protection.

3.4. DIRECT THREATS - Did your project stop or reduce important direct threats to a threatened species within the target area? Please state if the direct threats are for: (i) the target species; (ii) its critical habitat, or both. Present in terms of the threats’:

(a) Intensity (that is, high, moderate, low with criteria tailored to threat);
N/A

(b) Distribution (that is, widespread, common, localized); and
N/A

(c) Area affected over time (that is, expanding, decreasing, stable using defined boundary) of 1-3 major, direct threats to the target species within the projects’ target areas.
N/A
The target species of this project are at the brink of extinction. The main overwhelming threat is habitat destruction and degradation (while other threats like invasive species or over-exploitation are negligible), that has resulted in very few remaining populations, very small in size and inhabiting small forest fragments in highly degraded landscapes. Our project did not focus on reducing threats, but on increasing the population size of the species to enhance their chances of persistence, and setting up protection and further restoration actions to continue improving population status. Future conservation actions should address the protection and restoration of habitats, in the framework of reducing deforestation and the forest fragmentation / degradation that results from the complex dynamics within human-dominated landscapes.

3.5. ENABLING CONDITIONS - Did your project contribute to improving, no impact on, or worsening enabling conditions that facilitate successful conservation for threatened species? Present in terms of the degree (that is, favorable, neutral, unfavorable) to which local socio-economic, political, and cultural conditions (that is, ‘enabling conditions’) contribute to the probability of success for conservation of the target species with the project area. Protected area tracking protocols are required, where applicable (consult with the SOS Secretariat on the appropriate PA tracking tool to use). Applicable metrics include:

(a) Legislative tools associated with species’ protection,
N/A to this project

(b) Financing for conservation,
N/A to this project

(c) Wildland or protected area management effectiveness,
N/A to this project

(d) Existence of robust conservation strategy or Action Plan for the species or critical habitat.

During the implementation of our project we were able to collaborate mostly with local stakeholders (private land-owners, some of them managers of private reserves) and regional environmental authorities (national park managers and some CAR officers). With these stakeholders we were able to raise awareness about the relevance of Cycads and the conservation of these and other threatened species in the highly-degraded landscapes were we still have forest fragments harboring significant biodiversity in the Andes-Caribe region of Colombia. This helped in advancing protection actions for the populations and their habitat, but much work still to be done in this regard. In addition, all the new knowledge and protection and restoration efforts carried out during this project were the base for a draft proposal of ´Conservation Action Plan´ for each of the target species, and these have been instrumental for the development during the last five years of the ´Conservation Action Plan for Cycads´ at the country level (published in 2015). We truly believe that all the lessons learned in this project, and the future plans we have to carry out for these species will continue to be a significant component of Cycad conservation in Colombia.
4. Lessons Learned

Describe any lessons learned during the design and implementation of the project, as well as any related to organizational development and capacity building. Consider lessons that would inform projects designed or implemented by your organization or others, as well as lessons that might be considered by the global conservation community.

a. Project Design Process:

During the design process it was very useful for us to engage with the potential stakeholders to be involved in the project, to have a better idea of the feasibility of implementation of alternative actions. The main lesson learned here is that the more you invest in planning the easier the project implementation becomes.

b. Project Implementation:

In general, we think that the implementation of the project was satisfactory, even though we were delayed at the beginning of the project and in some cases during the second and third year of the project because of administrative issues. It was our first project with international funds managed through the administrative structure of the University (host of the PI), and we learned that our institution is ill-prepared for managing external funding (and also that the IUCN is somewhat more bureaucratic that other institutions). We need better planning to take into account administrative issues in future projects. On the other hand, the security-related issues in some of our study sites limited our work to some extent (we were not able to work in some sites), but we previewed this difficulty, as it is common place in Colombia to have sites that are unpredictable and can be inaccessible for periods of time.

c. Other lessons learned relevant to the conservation community:

In terms of the conservation components of the project, we were able to accomplish our desired goals of advancing protection for the last remaining and most important populations of two of our target species, and to establish the foundations for long-term restoration programs in all three target species. In order to continue with protection and restoration efforts, not only of the populations but also of their habitat, we need to keep engaged and cultivate a good relationship with local stakeholders and environmental authorities. We had in general good experiences while collaborating with different stakeholders. We learned that local stakeholders that already had a good relationship with the local environmental authorities (within National Parks for example) were easy to work with and results can be accomplished more rapidly. We had a few experiences with local stakeholders in some type of conflict (for example in terms of land property rights) with environmental authorities and it was more difficult to approach them and work with them.

In Colombia, environmental authorities are sometimes inefficient in enforcing conservation planning, and they merely attempt to control extreme situations in very complex social contexts, resulting frequently in conflicts with local stakeholders. Nevertheless, sometimes some people from public
institutions in protected areas and other important territories have good relationships with local human populations and are working in partnership towards mutual interests in biodiversity conservation and to improve human wellbeing. We were fortunate to find in several of our study sites, people like park-rangers, CAR officers, and NGO workers that had a trusting relationship with specific farmers who are leaders in their communities, and that let us get close to the territories in which we wanted to work. We then were able to establish good relationships with these key people, and we all together were motivated to carry out conservation actions (most of these people were already interested in biodiversity, and that is why they were very receptive to us). By working with them, doing explorations, taking data, rescuing and translocating plants, and even building greenhouses and propagating plants, we feel we strengthen relationships, and they were further stimulated to keep working in conservation.

We believe that many of the stakeholders involved the project profited from the experience, both as member of institutions and members of local communities. By recognizing their interest in conservation, acknowledging their contributions, and treating them like invaluable partners, we think we provided each other with socio-cultural incentives for conservation, which can be as important as legal and economic incentives. Furthermore, by working with local stakeholders to promote in-situ restoration efforts, instead of only working with botanical gardens and non-local institutions, we believe that we improved the chance of continuing with our conservation efforts in the long-term (without discarding the crucial role that biological collections and other institutions can play in conservation of plant populations). In brief, we learned an important lesson that finding the proper partners and the proper incentives to collaborate in conservation can be critical and can help launch a long-term process necessary for conservation programs in complex social contexts.

5. Additional Funding

Provide details of any additional funding that supported this project and any funding secured for the project, organization, or the region, as a result of the SOS investment in this project.

(i) Project co-financing (donors or organizations that contributed to the direct costs of this project).

This project was co-funded by the University of Antioquia (hosting institution of the Project Implementer), who provided funds in terms of salary for the principal investigator for the duration of the project (10 hours per week for 2 years) and in terms of usage of research laboratories and equipment property of the University.

The National Biodiversity Institute (Instituto Alexander von Humboldt -IAvH-) provided fresh funds to finance equipment and supplies for the project and some of the traveling (a total of US$10,000).

In addition to this funding, the National Protected Areas System of the country contributed with some logistic support at some of the field sites.

(ii) Grantee and Partner leveraging (donors that contributed to your organization or a partner organization as a direct result of successes with this SOS funded project).

It could be mentioned that the results of this project have been presented in several venues, from academic conservation-related meetings to conservation management meetings with environmental authorities and other stakeholders. These presentations resulted in several stakeholders (such as protected areas managers, botanical gardens, and private horticulturist) getting interested in Cycad restoration projects in Colombia, and we are in negotiations with a couple of institutions to get funding to support the continuation of these restoration programs in Colombia.
6. Sustainability/Replicability

Summarize the success or challenge in achieving planned sustainability or replicability of project components or results. Summarize any unplanned sustainability or replicability achieved.

Our project focused on protection and particularly restoration efforts to try to ensure the persistence of the few and highly threatened remaining populations of three Critically Endangered species. For these species previous awareness about their critical status existed (since it was registered that only one population remained or that it was Extinct in the Wild), and some incipient conservation actions were implemented in the past, particularly to locate adults and propagate new plants in botanical gardens. However, at the beginning of this project no real protection or restoration action had been implemented for the target species. With this project we established a baseline for the long-term conservation plans for these three species. We now know that several populations exist for each species (and perhaps there could be more), and that all these populations are fragile and at great risks (they have small sizes and persist in small forest-fragments with degraded habitat). We started to raise awareness and interest in key stakeholders to protect these populations, and we worked considerably to set the basis for viable restoration programs for all species and to monitor their viability in the long-term (by proving that these species can be propagated in-situ and plants can be translocated and reintroduced into natural populations). The continuation of our protection and restoration efforts and the replication of such efforts for other threatened Cycads in the country will depend in the ability of the project team and other stakeholders to remain involved in conservation projects, that depends commonly on securing the necessary resources (economic and others) to carry out actions. Fortunately, in Colombia we have a very active team working in plant conservation, and the ´National Strategy for Plant Conservation´ and the recently published ´National Conservation Action Plan for Cycads´ are planning tools that can help focus attention and obtain resources to support our conservation programs.

7. Safeguard Policy Assessment

Provide a summary of the implementation of any required action toward the environmental and social safeguard policies within the project. This should be extracted from the responses provided in the Safeguards Aspects for SOS grants form submitted with past interim reports. Attach any additional document required.

For the implementation of some of our restoration activities we built small greenhouses in several of the study localities. These were small rustic greenhouses (built with wood poles and shade cloth), and to build them we hired an expert in greenhouses, who provided the necessary tools and guidance, so everybody involved could be safe.
SOS is committed to transparent operations and to helping Civil society groups share experiences, lessons learned, and results. Final project completion reports are made available on our website, www.saveourspecies.org and publicized in our newsletter and other communications.

Full contact details:

<table>
<thead>
<tr>
<th>Name:</th>
<th>Cristina López-Gallego</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization name and Mailing address:</td>
<td>Biology Institute, Universidad de Antioquia, Colombia AA 1226 – Medellín – Colombia</td>
</tr>
<tr>
<td>Telephone number:</td>
<td>574-219-5613</td>
</tr>
<tr>
<td>E-mail:</td>
<td><a href="mailto:mariac.lopez@udea.edu.co">mariac.lopez@udea.edu.co</a>, <a href="mailto:clopezgallego@gmail.com">clopezgallego@gmail.com</a></td>
</tr>
</tbody>
</table>
ATTACHMENT 1

Photos of field activities

and

Example of flyer used to gather information about target species
Zamia wallisii:
Removal of individual in a recently deforested site (left) and data gathering in a natural population (right).

Zamia disodon:
Recording and tagging of adults in natural habitats (left) and plant propagation for future reintroduction (right).

Zamia restrepoi:
Propagation ex-situ of rescued plants (left) and juveniles used for reintroduction into safe sites (right).
Las Zamias son plantas muy importantes biológicamente, representan “fósiles vivientes” y muchas son únicas de Colombia. Las Zamias están desapareciendo, sobretodo por la deforestación. Estamos buscando poblaciones de estas especies de Zamias para hacer programas de conservación y salvarlas de la extinción...

Colaboremos en la conservación de estas plantas!!
Si ves alguna Zamia, por favor infórmanos, escribiéndonos al correo electrónico:
ZamiasColombia@gmail.com
(Contacto: Cristina López-Gallego, Profesora Instituto Biología, UdeA)

Flyer used to gather information about all the species in the project in collaboration with local stakeholders.