C3 Madagascar and Indian Ocean Islands Programme

Internship Brief 2009

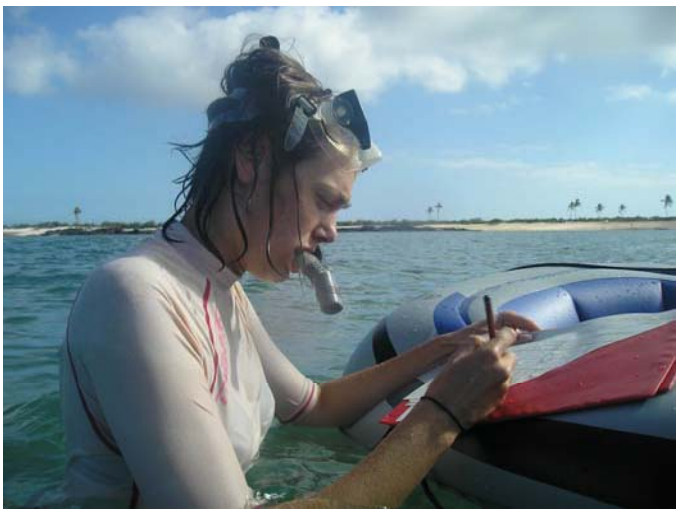
Community Centred Conservation (C3)

Community Centred Conservation (C3) is an international non-profit organization established in 2002 with the following mission:

To develop conservation efforts worldwide by building the capacity of local individuals and institutions through grassroots research and training initiatives

C3 works closely with all relevant stakeholders; community resource user groups, schools and colleges, government departments, private sector companies, local and international NGOs to ensure that specific and relevant outputs are produced according to local and regional needs.

C3's success lies in its small size, low administrative overheads and ability to respond quickly and efficiently at the request of host country institutions. The C3 team has over 30 years of experience in environmental research, education and management in Australasia, Oceania, Asia, Africa and the Americas with specialized expertise in the management of coastal conservation programmes in small island developing states.



C3 Madagacar and Indian Ocean Island Programme Themes

Our work in the region currently falls under the following themes:

1. DUGONGS WITHOUT BORDER: Transboundary capacity-building for Indian Ocean sirenian conservation

Comoros and Madagascar 2006-2012

- Working with the UNEP-Convention on Migratory Species to develop National Conservation Action Plans for dugongs and build collaborative research and conservation efforts between countries
- Collection of much-needed data on dugong populations, threats, habitat and socioeconomic and cultural values
- Engagement of fishers in finding solutions to threats and allowing population recovery
- Raising public awareness about the species and encouraging participation in conservation programmes

2. THE END OF THE LINE: Artisanal bycatch and exploitation of marine megafauna

Comoros, Madagascar, Mauritius 2007-2010

- Assessing relative levels of bycatch and intentional capture of dugongs, turtles, cetaceans and sharks in small-scale fisheries
- Developing solutions to bycatch with local stakeholders
- Assessing fishing, poaching and trade of marine endangered species and potential management solutions

3. COASTAL MANAGERS OF THE FUTURE: Developing skills of local leaders in sustainable tourism, community-based management and marine research and conservation

Comoros, Mauritius, Madagascar 2008-2012

- The development of C3's Island Coastal Academy network will ensure that a critical mass of individuals will be trained in internationally-accredited marine and coastal research and management skills

4. SHARING POWER: Building capacity for stakeholder participation in coastal resource management

Comoros, Mauritius, Madagascar 2006-2012

- Research into stakeholder perceptions and needs in terms of coastal resource management (MPAs, closed seasons etc.)
- Assessments of socioeconomic aspects of coastal resources including coral reefs, artisanal fishing, trade in marine curios, sea turtles and ecotourism
- Using traditional knowledge to develop effective community-led adaptive management plans
- Social marketing of conservation concepts for specific habitats, species and issues to local communities, management bodies and policy-makers

- Our award-winning Junior Ecoguard programme (since 2006) gets youth involved in marine research and conservation during their preparing them for careers in marine resource management and raising awareness about marine biodiversity in their communities
- Development of community turtle and coral reef monitoring and ecotourism programmes

5. SHIFTING BASELINES: Novel methods to assess relict and extinct populations of marine megafauna

Mauritius 2008 - 2010

- Use of historical records and anecdotal accounts to assess small populations and the historical decline of marine species and changes in habitat availability over time

Please be aware that all of these projects involve a long-term commitment to our local partners and are at varying stages of completion in each country. You will not be able to work on all aspects of all of these projects during your relatively short internship.

Your work with C3 will involve some fieldwork, but a significant proportion of your time will be spent entering data, preparing presentations and developing written outputs. It is only by ensuring a balance between fieldwork and data analysis and presentation that we can ensure that our work leads to effective management and conservation action from local stakeholders and policy-makers.

Please also note that owing to logistical constraints, scuba diving is not a major component of C3's work, and is only carried out for specific donor-funded projects.

C3-Madagascar

Madagascar, the fourth largest island in the world, has an astounding array of endemic species, found nowhere else in the world. Having separated more than 160 million years ago from the super-continent of Gondwanaland, Madagascar is a perfect example of island evolution on a massive scale. Being a vast landmass, a diverse and unique assemblage of habitats exists from spiny forests and desert through to lush rainforest and open savanna.

Despite the intense focus of international NGOs on terrestrial research, little effort has been made until recently to understand the marine realm. Coastal populations are burgeoning and with an overall population growth rate of over 3%, the current population of 20 million is set to double by 2025. As one of the most economically-disadvantaged nations on earth the impacts of the human population on natural systems is alarming. Due to extensive slash-and-burn and cattle grazing on the infertile soils, many coastal areas of Madagascar are inundated with sediment run off especially during heavy rains and this has led to it being called the 'Bleeding Island' as coastal waters turns red.

Impacts on coral reefs, mangroves and seagrasses are yet to be fully understood due to lack of research. Impacts on coastal resources in Madagascar are numerous and include anthropogenic effects (including overfishing, destructive fishing, pollution and sewage discharge) as well as natural impacts from cyclones and raised sea surface temperatures. There is an urgent need to understand these systems and monitor their status if we are to assure their conservation into the future.

C3 works with numerous partners at the national level; the Ministry of Education and Scientific research, the Centre Nationale des Recherches Oceanographiques, Centre National des Recherches Environnementales, Madagascar National Parks and the University of Antsiranana. At the local level we

work with fishers associations, village councils and schools. Our headquarters is based in the port town of Antsiranana, but our studies encompass the whole of the northern region.

Why the north? Scarcely populated but with a rich mix or ethnic groups: Antakarana, Sakalava, Tsimihety, Betsimisaraka and Antandroy, this region is isolated from the rest of the country by the rugged Tsaratanana mountain range and provides a potential haven for both terrestrial and marine flora and fauna. A particularly long dry season of seven months, followed by intense rainfall from December to April, the unique micro-climate and combination of habitats has led to arguably the most biodiverse region of Madagascar. Secluded coves, tranquil lagoons with offshore islands, windswept promontories, expansive grasslands and rainforest offer an extremely diverse natural landscape and the presence of Amber Mountain National Park as well as Nosy Hara Marine Park are positive steps towards conservation of this unique national heritage.

Nosy Hara Marine Park is Madagascar's largest marine protected area and encompasses 12 small islands and extensive coral reefs, seagrass beds and mangroves. It represents the area with the greatest potential for conservation of marine biodiversity in the country, since the offshore islands are naturally protected from fishing for part of the year due to strong winds and there are no major rivers to empty sediment the waters. Furthermore, forest is protected is from clear-cutting and slash-and-burn in the adjacent Amber Mountain National Park, affording additional protection for nearshore reefs. Despite this great potential, in reality much remains to be done. First there is an almost complete lack of information on the coastal species and habitats present and second sparse and unreliable data on the socio-economics of community resource utilization. C3 is addressing these information gaps with Madagascar National Parks to ensure management policies can be developed in the most appropriate and sustainable manner with full understanding and participation of the communities living in the region

C3-Comores

The Union of the Comoros (*Comores* in French) is situated at the northern end of the Mozambique Channel, equidistant (approximately 300km) from continental Africa and Madagascar. It comprises three volcanic islands: Grande Comore, Anjouan and Mohéli and has a population of 700,000. The Comoros gained independence from France in 1975 and are currently facing extreme demographic pressures: 53% of the population is under 20 years old and the population is predicted to double within the next 33 years. As an island state, with limited natural resources, these rates of growth are likely to result in severe environmental problems unless mitigation measures and proactive management of natural resources are initiated immediately. These impacts are most likely to be experienced first in coastal populations, since the majority of the population lives on the coast and artisanal fisheries are of considerable economic importance.

The Comoros have been identified as one of the 'hottest hotspots' in terms of global conservation priorities. Thus, this small island developing state is one of the world's critical sites for natural resource-based development and has tremendous potential, not only for ecotourism, but for conservation investment and action. These combined attributes of high marine diversity and intensive anthropogenic pressure underscore the importance of assessing, understanding and monitoring the socioeconomic elements to strengthen current and implement further appropriate management and conservation strategies which include local stakeholders and communities.

The three main obstacles to the country in the implementation of effective biodiversity conservation strategies have been identified as: lack of technical and financial resources; demographic pressure and an absence of fair distribution of the benefits arising from natural resources. In 1998, IUCN and the Comorian government, funded by GEF/UNDP, initiated a 5-year project entitled 'Conservation of Biodiversity and Sustainable Development in the

Federal Islamic Republic of the Comoros' (Project Biodiversity). Although successful to some extent, this project was overambitious for the available levels of training, project timeframe and existing infrastructure and the final evaluation of the project concluded that the prognosis for its sustainability was poor. All funded activities concluded in 2005 and communities involved were left disillusioned about the purpose of conservation initiatives that had been implemented with the promise of returns from tourism revenue, which failed to materialize.

C3-Comores stepped in to learn from these failed attempts at biodiversity conservation in 2005 and re-assess the direction and purpose of biodiversity conservation initiatives. Our focus on developing grassroots programmes targeting priority issues involves the full participation and support of both local communities and the government. There is strong emphasis on effective and sustainable solutions which can only be achieved through long-term provision of technical support in the country and an in-depth understanding and consideration of socio-economic and cultural influences on potential resource management strategies. C3-Comores collaborative initiative between C3 and various local partners including: The Comorian Ministry for the Environment, University of the Comoros, Mohéli Marine Park, local NGOs and village associations.

C3-Mauritius

Mauritius is a volcanic island formed some 8 to 12 million years ago during the Miocene age and forms part of a vast submerged oceanic volcanic chain, known as the Mascarene Ridge which includes Rodrigues, Mauritius and Reunion. It has been estimated that the volcanic activity on Mauritius continued until as recently as 100,000 years ago and there is still activity on Reunion. A small, densely populated island (no. 8 in the world): Mauritius is only 58 km from north to south and 47 km from east to west with an area of 1865 km^2 and a population of 1.27 million. The other island dependencies of Mauritius include Rodrigues 600 km to the east, St Brandon (Cargados Carajos) 460km to north east and Agalega 1200 km to the north. Reunion lies approximately 220km and Madagascar 800km to the west of Mauritius.

The impacts on the lagoons and coral reefs of Mauritius have been chronic and intense, starting 400 hundred years ago with the demise of its native forests, resulting in the loss of a plethora of endemic birds and reptiles. As a stop-off point for European merchants en route to India, Mauritius provided rich pickings in terms of access to food supplies such as marine turtles and dugongs. Widespread clearing of land for sugar plantations in the colonial era brought with it further sedimentation and associated pesticides and fertilizers which were washed into the lagoons. The filling in of what were extensive wetlands which served as important natural filters has severely impacted water quality of the lagoon.

Intensive harvesting of sea turtles occurred until the early 1980s as there was a thriving market for their eggs and meat as well as whole specimens taken as curios, which can be seen displayed on the walls in many Mauritian homes. There have only been a couple of recorded nestings of turtles on Mauritian shores since the 1970s.

A burgeoning tourism industry has resulted in wide-scale sand extraction for construction purposes and caused more sedimentation and removal or smothering of seagrass beds and corals. Uncontrolled coastal and industrial development with associated pollution and destructive forms of fishing such as dynamiting, use of seine nets and trampling have all contributed as long term stressors on the lagoons and reef systems.

Tourism also has its direct and indirect impacts, with glass-bottomed and dive boats breaking corals through collision and anchoring, collection of shells and corals for sale to visitors, reef trampling and intense fishing of reef fish to supply hotels.

Today, many of these impacts are being addressed through new laws and policies although lack of enforcement is a real problem. Sand extraction is now illegal, as is harvesting of sea turtles, pollution controls are being put in place including urban sewage systems and there are laws governing coastal development. It is illegal to collect coral and shells in Mauritius, but it is legal to import them from elsewhere, making it impossible to enforce the local law and displacing the impact from Mauritius to other countries such as Madagascar, Philippines and Indonesia. Dynamite fishing no longer takes place and the installation of fixed mooring buoys on popular dive sites will hopefully protect corals from anchor damage, but there is still work to do to ensure that the tourism industry does not continue to destroy the very habitats that it depends upon.

In Mauritius, C3 works in partnership with the University of Mauritius, and has conducted work into relict populations of dugongs and sea turtles and social aspects including local stakeholders' perceptions of marine protected areas and their impacts on revenue generation.

C3 Internships

Our internships have been created to assist graduates in gaining real skills and project management experience through working for a conservation organization overseas. In turn, internships are a valued means of supporting our programmes through provision of supplementary human and financial resources which are crucial for a small non-profit organization reliant on donor funds.

The aim of our internship programme is not to provide a 'soft' expedition or holiday experience and we are keen to emphasize this given the saturation of British-based expedition/ecotourism companies offering such experiences for paying volunteers. It can be confusing for graduates searching the internet to really differentiate between companies which have set up paying volunteer schemes to make profits using 'greenwash' and non-profit organizations which are not volunteer-focused and produce quality scientific and management outputs.

This is the reason why all our interns are chosen through a selective and competitive application process and must all hold at least a relevant BSc degree as well as overseas conservation experience; many hold postgraduate qualifications including MScs and PhDs. By being discerning and limiting places we ensure that each of our interns is academically competent and consequently provides a useful contribution to our programme. In turn, interns gain invaluable skills and experience by being part of our team and get the opportunity work on real, relevant and quality outputs which directly inform management and broaden global knowledge of conservation management issues. We focus on quality not quantity and therefore maintain a minimum staff to intern ratio of 1:3.

Daily life

Accommodation at our headquarters is in shared rooms with running water (or sometimes bucket washes due to water cuts). There is electricity but supply can be unreliable and intermittent. You will be expected to assist with daily housekeeping, cooking and shopping.

Living conditions at field sites in Madagascar and Indian Ocean Islands are basic. Accommodation is simple, normally in a local house, two or three to a room with local-style pit toilets. However, occasionally camping may be required in more remote locations. Electricity is not usually available in far-flung villages and water supplies can be unreliable so often we need to bring in our own supplies or treat water on site. Food can be limited in variety and imported goods are expensive, so we eat local and seasonal produce

C3 interns are expected to work independently, with only minimal supervision, managing their own time and often working to tight deadlines. You will usually be able to take at least one day off each week, dependent on current work priorities.

On days off you can hike volcanoes and forests, go wildlife watching or snorkeling and take trips to other islands. There are various cultural events you may attend with local friends, such as weddings and religious feasts which can provide a fascinating and very personal insight into local traditions.

Health and Safety

Medical facilities in the region are extremely basic; anything beyond a minor medical emergency would require evacuation to Nairobi or Dar-es-Salaam, where full medical facilities are available. A charter plane would be required for evacuation, and all interns are required to have adequate insurance to cover any costs that ensue, since a full medical evacuation back to Europe could cost up to 100,000GBP.

Malaria is prevalent in the region, including *Plasmodium falciparum*, which can cause deadly cerebral malaria. All interns are required to take malaria prophylaxis as advised by their doctor. Use of mosquito repellent and mosquito nets is mandatory.

You will be required to provide a full medical history and carry emergency guidelines and a personal first aid kit at all times.

Language

You will be expected and encouraged to learn some of the local language in order to be integrated as fully as possible into the community during your stay. This will come quickly with daily immersion and opportunities to practice with our local staff and students. French is the second language and for those who are rusty, lessons will be provided each week by our local staff to ensure you are confident and fully conversant within a few weeks of arrival. It is a good idea to bring a dictionary and audio learning materials with you in order to facilitate your studies.

Independant research projects (BSc, MSc, PhD)

C3 strongly encourages applications from undergraduate and postgraduate students and has hosted numerous candidates to date on its programmes as part of the fulfillment of their degrees, through either work-based placements or completion of research for theses.

We do not charge you bench fees and are able to provide you with:

- Full access to our reference libraries
- Access to past and current datasets
- Field equipment and assistants
- Research permits
- Extensive local knowledge and partnerships
- Food, accommodation and project costs

In return we ask that you:

- Present your preliminary findings back to C3 and local stakeholders before you leave the country
- Provide us with an electronic copy of your thesis prior to and after submission
- Provide full and appropriate acknowledgement to C3 and other local partners in your thesis

Proposed projects will fit within one of our programmatic themes and usually will be funded by C3 as they are conducted in parallel to our own

ongoing studies. If extra equipment or personnel are required this may be discussed beforehand and co-financing may be necessary.

We have hosted students from institutions around the world including: Scripps Institute of Oceanography, London School of Economics, University of East Anglia, University of Victoria, (BC) and University of the Comoros.

Interested applicants should follow the usual internship application procedure and will need to develop an approved project proposal two months prior to their arrival on the programme. Our staff will assist with proposal development to ensure that the study is feasible in the allotted timeframe, fits within our programme's objectives and ultimately results in a valuable contribution to ongoing conservation initiatives in the country and/or region. Students are required to pay the regular internship contribution, although C3 is able to provide funding for PhD students.

Examples of publications from these projects include:

Ben Ahmed A (2009) ETUDE DE STRATEGIES DE PROTECTION DE L'ENVIRONNEMENT MARIN DES COMORES. Rapport de Stage Effectue a La Conservation Centrée sur la Communaute (C3), Universite des Comores Instituit Universitaire de Technologie Departement : Tourisme et Hotellerie, 23pp.

Mikus M (2009) STRATEGIES, MEANINGS AND ACTOR-NETWORKS: COMMUNITY-BASED BIODIVERSITY CONSERVATION AND SUSTAINABLE DEVELOPMENT IN THE COMOROS. MSc Anthropology and Development 2008/2009 Final Thesis. London School of Economics and Political Science, Department of Anthropology, 37pp.

Kelly N (2007) A SOCIO-ECONOMIC ANALYSIS OF THE TRADE IN TURTLE MEAT, GRANDE COMORE. MSc Thesis submitted to Napier University

Intern Contribution

Interns are required to work for a minimum of 3 months (which can be spent in a single country or split between countries) and pay a contribution of 17 GBP per day. This fee will contribute to the individual's food, accommodation and research costs during the internship (see below) Our teams always include at least 50% local technical staff. We have no administrative staff to support in the UK so 100% of funding goes into our country programmes.

All interns are required to cover their own travel to the country (flights around 600GBP from Europe and 200GBP between countries) and insurance.

Application process

Stage I: Please submit your CV and Cover Letter to vacancies@c-3.org.uk.

Stage II: If selected, you will be asked to submit a completed Internship application form.

Employment opportunities

C3 is a rapidly-developing organization so there may be opportunities for interested and capable candidates to be employed on C3 programmes following completion of their internship. Please ask our staff during your internship as to what vacancies are currently available and how to apply.

Typical allocation of funds from an intern contribution

Item	Amount (GBP)
Accommodation	3.50
Office rental & utilities	2.50
Staff salaries	2.50
Transport	2
Logistics & Equipment	2
Regional administration	2
Food	1.25
Communications	0.75
Local training/scholarship	0.50