



# **Community Action for Sustainable Use and Conservation of Coral Reefs**

## **Final Report**

1<sup>st</sup> April 2005 – 31<sup>st</sup> March 2008



# Darwin Initiative

## Final Report

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## Darwin Project Information

Project Ref Number	14-007
Project Title	Community Action for Sustainable Use and Conservation of Coral Reefs
Country(ies)	Sabah, Malaysia
UK Contract Holder Institution	Marine Conservation Society
UK Partner Institution(s)	a) International Coral Reef Action Network (ICRAN), Cambridge. b) University of Plymouth
Host country Partner Institution(s)	Sabah Parks Sabah Fisheries Department; Universiti Malaysia Sabah, WWF Malaysia
Darwin Grant Value	£140K
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Project Leader Name	Elizabeth Wood
Project website	<a href="http://www.sempornaislandsproject.com">www.sempornaislandsproject.com</a>
Author(s), date	Elizabeth Wood. July 2008

Please note: the Project partner in standard typeface is the main partner. Those in smaller type have also been involved.

### 1. Project Background

The project was implemented in the recently-gazetted Tun Sakaran Marine Park (TSMP) in Sabah, Malaysia. Management of the site presents a major new challenge for Sabah Parks because it is the first Marine Protected Area in Malaysia where local people live within the park boundaries, use the resources, own some of the land and have Native Customary Rights. A different and collaborative approach to management is needed if the objectives for the site are to be achieved. The other main challenge is to tackle the legacy of many years of unregulated, and in some cases, destructive fishing and to encourage alternative livelihoods which would take pressure off the reefs.

The purpose of the Project was to protect coral reef biodiversity and establish a programme for sustainable use of reef resources through implementation of integrated strategies devised jointly by reef managers, local communities and other stakeholders.

One of the most important achievements of the Project was to engage extensively with local communities through Boatshows, Roadshows, workshops and informal meetings. These interactions increased awareness about the Park, ensured that people were involved in decision-making processes and helped build trust between local communities and other stakeholders. The agreements about resource use and protection for critical habitats and species have been incorporated into the Park regulations and so will guide the management of the site into the future.

The Project was also successful in gathering extensive baseline data and establishing monitoring programmes to describe and track changes in the biological and socio-economic characteristics of the site. This information will be invaluable in assessing whether the management goals for the Park are being met.



Location map (modified from [www.reefbase.org](http://www.reefbase.org))



## 2 Project support to the Convention on Biological Diversity (CBD)

The Project has assisted in supporting the CBD in diverse, cross-cutting ways. A significant contribution (25%) was to Article 8 (In-situ Conservation) in relation to the development of management strategies for conservation of biological diversity and sustainable use of resources within the newly-created Tun Sakaran Marine Park. The strategies were initially developed and enshrined in an ‘*Action Plan*’ in collaboration with local communities and other stakeholders, and following further consultation and debate, were incorporated into the Park regulations. These regulations are the guiding principles for the Park and the means by which the conservation strategies can be effectively implemented.

15% of the project was dedicated to developing and implementing plans for sustainable use of marine resources, so supporting Article 10 (Sustainable Use of Components of Biological Diversity). Activities undertaken in relation to this work included resource use surveys with the local community and the development of agreed strategies that are now included in the Park regulations.

Incentive measures to promote sustainable use (10%, Article 11) were introduced in the form of opportunities for local fishermen to become engaged in alternative livelihoods, in particular seaweed farming. Significant (on-going) steps were taken towards introducing sea ranching of giant clams and other marine invertebrates.

Extensive efforts (15%) were made in support of Article 7 (Identification and Monitoring). Reef surveys and monitoring have taken place throughout the life of the project, providing detailed information on marine species and communities and the threats faced by them. This work made it possible to highlight species and habitats requiring urgent conservation action and, following discussion and consultation with local communities, protection measures for these are now included in the regulations for the Park.

Training has also been a component (10%) of the Project (Article 12) and involved both local communities and Park staff. Participants were trained in, and carried out, *Reef Check* surveys (*Reef Check* is a global Reef Monitoring system), and more detailed Reef Fish Monitoring. The Reef Check Manual was translated into Bahasa Malaysia to ensure that local participants have continued easy access to the survey methodology, and photographic, waterproof recording sheets were produced for the fish surveys and to aid in the Reef Check surveys.

Finally, the project made an important contribution (25%) to Article 13, Public Education and Awareness, which was a key and essential component of all our work. The project used a variety of mechanisms to reach a wide audience, from local communities to government decision-makers, as explained in more detail in Section 4.2.

### 3 Project Partnerships

The relationship with our main partner, Sabah Parks, has been mutually beneficial and productive at all levels, and we also had a close rapport with the Minister and Permanent Secretary at the Sabah Ministry of Tourism, Culture and Environment.

It was particularly useful when, in 2006 a new senior member of staff was appointed as Park Manager for the Tun Sakaran Marine Park. We have worked closely with him, the Director of Sabah Parks and other officers on all aspects of the project and there has been support for the initiatives and capacity building provided through the Darwin Project. We have also been able to assist with Park Management related matters that were not directly on the project agenda – such as investigating and mapping the seaweed farming activities.

Sabah Parks rangers and other field staff have also been actively involved in all the project activities (e.g. the Roadshow, Community Census, reef monitoring), and this has enhanced project progress and provided Sabah Parks staff with new skills. Our other partners in Sabah (Fisheries Department, WWF, Universiti Malaysia Sabah) were involved in the Workshop and Stakeholder Meetings, and WWF participated in the Roadshow. In addition, the Fisheries Department and Universiti Malaysia Sabah worked with the Project on a number of aspects relating to the mariculture programme.

The project has also linked with the Sabah Wildlife Department (responsible for CBD matters in Sabah) – they attended Stakeholder meetings and received copies of all the Project materials and information. We also networked and maintained links with the Sulu-Sulawesi Marine Ecoregion (SSME) programme, which is coordinated in Sabah by the Fisheries Department and WWF. Most recently, in November 2007 we participated in a 'Stakeholders Briefing' in Kota Kinabalu.

Also in Sabah, we have networked with Darwin Project 13-009 (Ethnobiology of proposed traditional use zones of Crocker Range Park) and its follow-on (EIDPO020: Participatory resource monitoring in Community Zones of Crocker Range Park). These projects cover some common ground with our Semporna Islands Darwin Project (SIDP), in terms of

developing mechanisms for community-based management. In June 2007, Irwan Mustapa, local Project Officer for SIP attended the Darwin Initiative Crocker Range Project '*Ethnobiology and Conservation Training Course: Module Five*' on Conservation Education and Participatory Video. This was a 'hands-on' module of potential relevance to SIP because of the conservation and education element. It involved designing a puppet theatre and teaching participatory video techniques from scratch (how to design storyboards and film the sequences).

Over the course of the Project we worked in partnership with the International Coral Reef Action Network (ICRAN), based in Cambridge, specifically on the development of an educational cartoon colouring book for use in the Project Roadshow. The book was produced for the Darwin project but has also been reprinted with funding from Conservation International for use to support a Sabah Parks '*Turtle Conservation Roadshow*' in Sandakan.

Two other partnerships were established with Universities in which Masters students carried out research with the Project and Sabah Parks in the Tun Sakaran Marine Park. The first project, carried out by a student from Plymouth University (UK) investigated the possibility of integrating aquaculture and tourism within the Park, while the second, from the University of Melbourne, addressed the issue of marine litter.

The Project has provided data on the population status of humphead wrasse in the Semporna area for a workshop on the endangered humphead wrasse held in Hong Kong in June 2006, organised by IUCN, TRAFFIC and WWF.

## **4 Project Achievements**

### **4.1 Impact: achievement of positive impact on biodiversity, sustainable use or equitable sharing of biodiversity benefits**

The full impact of the Project will be felt in years to come, as the strategies developed during the Project take hold. However, there are already indications of how the project is helping to conserve biodiversity. For example, surveys and monitoring show that the lagoon (now an effectively protected no-take zone) supports mature specimens and/or larger populations of certain species of food fish in comparison with reef areas that are not yet protected. The lagoon reefs also have significantly healthier populations of endangered giant clams. Not only are the giant clams in the lagoon larger and more numerous, but there are 3 species that occur only in the lagoon, having been fished out in other areas. This provides proof of the effectiveness of no-take zones and we believe that, as additional areas of reef are added to the no-take network, biodiversity will be further protected and enhanced.

Sustainable use strategies have been developed and opportunities for alternative livelihoods enhanced under the project, although again, it will be several years before resource use can be shown to be sustainable. Fortuitously there has recently been an upsurge in interest in seaweed farming due to the high price paid for this commodity. This has made it easier for us to encourage people into seaweed farming, and away from unsustainable fishing practices.

A significant impact of the Project is that local communities and other stakeholders have, for the first time in a marine park in Malaysia, been involved in planning for conservation and sustainable use of natural resources. This has led to a greater awareness and understanding of the benefits of taking action to conserve biodiversity, as demonstrated through the positive responses given during consultation exercises.

## 4.2 Outcomes: achievement of the project purpose and outcomes

The project purpose was to protect coral reef biodiversity and to establish a programme for sustainable use of reef resources.

Prior to implementation of the project there were no measures for protection of biodiversity and no strategic plans or activities on the ground to promote sustainable use of resources. Considerable progress has been made to reverse this state of affairs, as described in section 4.3, which provides details of the indicators by which the achievement of the project purpose was measured. The project has succeeded either in changing the way that the area is used, or setting in place mechanisms to bring about change.

One important outcome of the project that is not specifically covered in 4.3 is that local communities, local agencies, the general public and the Sabah government have become more aware of, and engaged in, biodiversity conservation, particularly in relation to coral reefs. At a local level, the project ran Boatshows and Roadshows that travelled to all the settlements within the Park. At a wider level, the project organised a Symposium on the 'Status of Sabah's Coral Reefs' which highlighted key issues relating to coral reef health and conservation and brought them to the attention of the State government.

The project is also included in Chapter 7 of the 'Sabah Development Corridor' (<http://www.sdc.gov.my/>) launched in 2007. The SDC was initiated by the government and provides a blueprint for enhancing quality of life and economic development and at the same time conserving and protecting the environment for future generations.

## 4.3 Outputs (and activities)

There follows below an assessment of the success of the project in achieving the outputs as presented in the Logical Framework. Full details are in Appendix 1.

### ***Output 1. Biodiversity conservation (no-take) zones in place and enforcement operating.***

The strategy document for establishing biodiversity conservation (no-take) zones was produced in the first year of the project and then progressed through a number of drafts, as the locations and implementation timetable were debated and discussed with managers, local communities and other stakeholders. A range of education, awareness and consultation activities were undertaken during the project to explain and promote the establishment of conservation zones. The overall concept and benefits of establishing these zones was supported by the local community, as indicated by their responses to feedback questionnaires, (documented in the Workshop and Boatshow reports). However, there were also concerns about the loss of fishing grounds and the implementation timetable.

Changes were made to the implementation timetable during the lifetime of the project, mainly in response to the needs of local communities and the practicalities of enforcement in the areas most distant from the Park Centre. The final draft of the Park regulations, incorporating the zoning plan, was produced by the project team in November 2006 and passed to Sabah Parks and the Ministry of Tourism, Culture and Environment for 'translation' into legal language prior to official endorsement and adoption. The legal version is now completed and is awaiting final endorsement by the Sabah Parks Board of Trustees and Ministry.

Although this final step is still pending, a significant area (Bodgaya lagoon: approximately 2,250 ha) has been established as a fully-functioning no-take zone with the agreement of the local community, even though the official regulations are not yet in place.

Enforcement in this area is good because of local support, natural barriers formed by some of the islands, and the proximity of the Park Headquarters. There have been a few incursions (mainly at night, from people living on the mainland) but the overall picture is of compliance. Once the Park regulations are gazetted, then it will be possible to introduce additional no-take zones as agreed in the Zoning Plan.

In order to try and boost stocks in the fully operational no-take zone in the lagoon we organised two separate trials involving the release of locally-sourced juvenile humphead wrasse (*Cheleinus undulatus*) and cultured mouse grouper (*Cromileptes altivelis*), donated by the Department of Fisheries in Sabah. The main aims of the releases were to enhance biodiversity by boosting stocks of these over-exploited species and also to raise awareness of the types of conservation that can be taken.

Information about the no-take (Conservation Zones) has been widely disseminated, both inside and outside the Park. For example, in 2007, over 50 villages and 18 schools were visited, plus local government offices and tour agencies. This exercise was of major importance in ensuring that communities were aware of the MPA, the no-take zones, protected species and other conservation initiatives and regulations. We have designed a 'no-take zone' sign which is already in use on leaflets and posters and will be used on signboards for deployment at sea and on the land to mark out the conservation zones. In March 2008, leaflets were produced and distributed both within and outside the Park, clearly showing the no-take zone.

**Output 2. Species and habitats 'at risk' and requiring special protection identified. Measures in place to protect 'at risk' species and habitats, and enforcement operating.**

'At risk' species and habitats were identified during workshops and stakeholder meetings early in the life of the project (see Output 1) and an 'Action Plan' was then produced that outlined steps that needed to be taken to ensure protection. There was general agreement for these measures, and only a few changes were made before the final plan was produced in 2006.

These measures are now incorporated into the regulations for the Park, which (as explained in Output 1) will be gazetted shortly. Even though there have been delays in this final step, people have been made aware of the protection measures through a range of education and awareness activities which have been included in the Boatshows and Roadshows.

The project identified fish blasting as the most serious threat to the health, biodiversity and productivity of coral reef habitats and has put considerable effort into highlighting this problem and seeking ways to curb it. Sabah Parks carry out patrols and have chased off or apprehended several boats containing suspected blast fishermen, but the cost of fuel is a constraint and the number of rangers and other field staff has not expanded in line with the need for enforcement. However, this should improve soon. However, it became clear during the course of the project that it was impossible for Sabah Parks to provide complete surveillance on 100km of reef. This would be a difficult task even with unlimited resources because the fish bombers operate as 'normal fishermen' from small boats and keep a close watch out for patrols. In 2007, the project launched a two-pronged campaign consisting of an intensive awareness campaign, combined with investigations to track down the culprits.



The campaign involved the production of 2,000 postcards illustrating the disastrous impacts of fish blasting on the reef ecosystem and human lives, and the penalties imposed on people who carry out this activity in the Park. A clear message on the postcard also appealed to people to report incidents to Sabah Parks. The postcards were distributed to most households in the Park, and also to known fish bombing 'hotspots' elsewhere in the area. The investigative work being carried out in parallel with the postcard campaign provided some very useful leads and a much clearer idea of where some of the fish bombers were operating from. Virtually all of the community living within the Park speak out against fish blasting, and we believe that the next step is to establish a '*Custodians of the Reef*' scheme in which the local community would play an active role in protecting the reef.

The potential for damage being caused by careless or unregulated diving activities was also recognised, and a poster was produced for display at the local dive centres.

### ***Output 3. Resource use carried out under permit and according to agreed strategy.***

All the points covered in Output 1 are also relevant to Output 3 i.e the 'resource use' component of the project has also been included in the activities described in Output 1, and the same progress has been achieved. The end result is that we have final strategies in place, regulations produced, awareness campaign conducted through the Roadshow and surveillance underway, particularly in the lagoon area.

In order to increase understanding of resource use we conducted several fishery surveys (based on questionnaires, discussions & direct observations) with communities inside & outside the Park. We also carried out a joint survey on gleaning of marine resources with the local community at Pulau Selakan. This was a productive joint exercise that helped to highlight resource use issues.

On a broader level, taking 'resource use' to also encompass general use of the MPA for other activities, we produced (June 2006) additional policy guidelines to those in the Action Plan (see: *Policy topics for TSMP*) and a discussion paper (April 2006) on visitor entry fees (see: *Introduction of visitor entry fees for the TSMP*). We have also carried out several studies on seaweed farming activities, to assist Sabah Parks in management of this activity (see: further details in Output 4).

In addition, we worked on the development of the Permit Scheme (see *Proposed Permit Scheme and Permit Application Forms*) and produced bilingual forms for trials by Sabah Parks. Introduction of permits is supported by the local community and should help to ensure that resource use in the Park is properly regulated. Permits are beginning to be introduced for seaweed farming and will be extended to other activities shortly.

### ***Output 4. Mariculture and Sea Ranching Programme developed and operational.***

The aim of this part of the Darwin project was to take pressure of the reefs, reduce direct exploitation of marine resources, and increase the likely success of the no-take zone, Delays in hatchery development beyond the control of the project meant that the invertebrate culture programme fell behind schedule. The building was finally completed in 2006, and our local project officer oversaw the design of the spawning and grow-out tanks and details of hatchery layout.

Whilst waiting for the hatchery to be completed we carried out surveys to investigate the population status of giant clams and the availability of other species of potential for

mariculture and sea ranching such as top shells, abalone and sea-cucumbers. The surveys provided baseline information on distribution and abundance of these species and identified sources of mature specimens. We also held discussions with local communities to identify suitable ocean nursery sites. We procured giant clam broodstock and were finally able to start spawning trials in 2007. These are progressing well and juveniles for sea-ranching will be available soon.

Juvenile giant clams imported from the Philippines and provided to local communities for ranching trials outgrew their cages and in September 2006 were moved to open areas for continued growth and monitoring. Irwan Mustapa (local project officer) has registered for a Masters Degree (research-based) with the Borneo Marine Research Unit, Universiti Malaysia Sabah, using the trials as the subject for his thesis.

The potential for pearl oyster culture and ranching has been investigated and discussions held with a company interested in taking this forward in a Joint Venture with Sabah Parks. Currently, a detailed proposal is being considered by the Sabah Parks Board of Trustees. This scheme would provide alternative livelihoods for local communities in and around the Park area.

Seaweed farming has considerable potential as an alternative livelihood, and one of the challenges faced by Sabah Parks is to ensure that it is properly managed so that local communities benefit, and there are no adverse environmental impacts (currently it is free enterprise, with no controls or permits). The project team carried out surveys in October 2006 and produced a report for Sabah Parks that is being used as a basis for management (*Seaweed farming on the Sebangkat-Selakan reef top: Current situation and management recommendations*).

In 2007 we held discussions with the Bajau Laut, through our Liaison officer and other project staff, to explore the possibilities of engaging them in seaweed farming, as an alternative to fishing. This project developed with additional funding from the Rufford Maurice Laing Foundation for lines and seedlings. We trained 45 Bajau Laut in seaweed farming, and trial plots were established. Stock was lost due to grazing by turtles but the programme is on-going and we hope to solve this problem by having more lines set closer together.

Various other alternative livelihoods have been investigated, including handicrafts and tourist-related activities. Also, through the project, we collaborated in a study on '*Integration of aquaculture with community-based tourism*'. This activity was carried out by a postgraduate student at Plymouth University, in conjunction with Sabah Parks. The study was the first of its kind and provided a sound basis for integrating invertebrate ranching, seaweed cultivation and community-based tourism in the Tun Sakaran Marine Park (see Masters Dissertation).

#### **Output 5. Reef biodiversity monitoring programme established and functioning.**

Objectives, options and priorities for reef monitoring were discussed early in the life of the project and formed the basis for the development of a monitoring programme with appropriate protocols.

Comprehensive baseline data have been collected, analysed and stored in a database for future use/addition. The permanent monitoring sites have been re-surveyed annually, providing indications of changes and trends. Coral reef fish monitoring training and fieldwork was carried out in May 2006, with a team comprising 2 Project staff, 4 Sabah Parks staff and 3 members of the local community. The aim was to obtain baseline

information about the distribution and abundance of fish at different sites in the Park and also to increase local capacity to monitor reef biodiversity.

Several staff from the Sabah Parks Marine Unit moved to the Semporna Parks complex in 2006, and this has provided excellent opportunities for collaborative studies and to share and transfer knowledge. In March 2007 we participated in a *TSMP Marine Scientific Expedition* with the Marine Unit, which included surveys of seagrass, mangrove and coral reefs, and surveys of established Reef Check sites. Monitoring results were discussed in the Seminar held during the Marine Science Expedition, and also presented at the '*Sabah Coral Reef Symposium*' organised by the project in 2008.

During the course of the project, reef biologists from MCS have continued to build up information on reef species (particularly fish, hard corals, soft corals and sponges) and their distribution, abundance and conservation importance within the Park. We have also worked on biotope mapping. This information, with a photo library is being incorporated into a Reef Atlas and Species Inventory and will provide detailed baseline information for further studies and monitoring.

Project objectives under this output have been achieved, but we are aware that maintaining the involvement of the local community into the future will need further inputs beyond the life of the project.

#### ***Output 6. Socio-economic monitoring programme established and functioning.***

Work on this output has progressed well. Completion of the Community Census in the Park (June – Sept 2006) was a major step in providing baseline information on aspects such as the location and size of the settlements, ethnicity and citizenship, types of residence, jobs, resource use and income. In addition, information was gathered on craftwork, culture and traditions, including migratory patterns within the Bajau Laut (*Socio-Economic Monitoring in the Tun Sakaran Marine Park: Results of the 2006 Community Census*).

Socio-economic information was also collected during the Boatshows and Roadshows. All these activities involved hands-on training and then extended periods of data-collection involving both Sabah Parks staff and local people from the Semporna area and the islands. This has helped to build capacity for future surveys and monitoring.

Other socio-economic monitoring carried out included an analysis of the current economic value of seaweed farming in the Park, and incomes generated (*Seaweed farming on the Sebangkat-Selakan reef top: Current situation and management recommendations*).

We also carried out an investigation into the use and availability of fish species in TSMP. This study was conducted through interviews with local fishermen and has provided new and valuable data on the range of species utilised, together with their value and availability (*Use and availability of fish in the TSMP*).

#### ***Output 7. Interactive Environmental Management and Information Planning System (EMIPS) installed and Sabah Parks staff trained in its operation.***

During the first years of the project we organised and entered information into the EMIPS database and in addition have also been developing a GIS system (mapinfo) to run in parallel with EMIPS. An explanation of the EMIPS system was presented to Sabah Parks

staff during a project planning meeting in November 2006 but the full training session was deferred until we were certain there will be no more changes to the management framework encompassed in the regulations and permit system. This meant that the EMIPS programme schedule slipped in terms of training. However, a successful seminar was carried out in Feb 2008, with the result that Sabah Parks want to use the model put together for the Tun Sakaran Marine Park to develop a comprehensive system covering all the State Parks.

MCS is committed to assisting with this development.

#### **4.4 Project standard measures and publications**

Project standard measures are shown in the table in Annex 4

Publications that can be publicly accessed are listed in Annex 5

#### **4.5 Technical and scientific achievements and co-operation**

The Project has initiated, carried out, supported and guided scientific research and technical work covering a range of topics, as described in detail under activities and outputs in section 4.3. Field methods used for research and monitoring were based on standard protocols as far as possible, and analysis carried out with the aid of statistical packages designed for dealing with socio-economic and biological data. Research findings have been peer-reviewed when submitted for publication in journals.

#### **4.6 Capacity building**

Staff from Sabah Parks have been actively involved in all aspects of the project and as a result have gained experience and therefore an increased capacity to protect biodiversity and promote sustainable resource use. Capacity building has mainly been in the form of training and hands-on involvement in a range of activities, including the education and awareness and education programme, Community Census (collection of socio-economic data) and coral reef monitoring.

The coral reef monitoring programme included the training of 4 Sabah Parks staff and one project staff (who has now joined Sabah Parks) as accredited divers. This meant they were then able to fully participate in reef monitoring surveys. Biodiversity studies were further enhanced through Reef Check training and the production of survey methodology in Bahasa Malaysia, together with illustrated, laminated check sheets for use underwater.

The capacity of Sabah Parks to manage their Parks has also been enhanced through the development of the Environmental Management and Information Planning System (EMIPS) for the Tun Sakaran Marine Park. This provides a systematic framework to manage the physical, biological and socio-economic interactions within protected areas, and Sabah Parks are enthusiastic about adopting the system to help manage other sites.

The Marine Conservation Society has, through the experience of developing and managing this project has built its own capacity to become an effective project partner.

## 4.7 Sustainability and Legacy

The most important achievement of the project was to devise strategies for conservation of biodiversity and sustainable use of resources in the newly-created Tun Sakaran Marine Park. The strategies, agreed by local communities and other stakeholders, are now enshrined in the Park regulations. These provide the guiding principles for management of the Park and the means by which the conservation strategies will be effectively implemented – thus the major outputs of the project will endure at the site.

The work has left a lasting legacy through capacity building that provided Sabah Parks and the local community with knowledge and skills to effectively protect and monitor one of the region's most valuable coral reefs sites. In a broader context, the project activities and outputs provide a template that can be adopted by the government at other sites faced with similar management challenges.

One of the outputs of the project – a specially designed cartoon colouring book for children – is scheduled to be re-printed and used in other areas both within Sabah and outside. For example, the Sabah government has expressed a desire to adopt it for use in local schools, it has been used in Indonesia, and there are plans to translate it for use at Coral Cay Conservation project sites in the Philippines.

The project produced extensive sets of baseline information and monitoring data on biological, socio-economic and cultural aspects of the Park – this is an invaluable resource that is already helping in day-to-day management of the Park and can be used and added to in the years to come. A Geographical Information System was also produced. This is particularly valuable because, although Sabah Parks has a GIS unit, shortage of trained staff meant that they were unable to include Tun Sakaran Marine Park in the work programme.

The Environmental Management and Information Planning System will also endure because, in addition to the pilot scheme carried out for Tun Sakaran Marine Park, Sabah Parks want to extend the system for use in all its other parks. MCS has pledged assistance with this development, which is scheduled to take place over the next 2-3 years.

An additional important legacy of the project is that local people and government agencies will have an increased awareness in the value of maintaining biodiversity and managing natural resources in a sustainable way.

The project partners will be networking for some time to come because of shared interests in assuring long-term sustainability of the project, and will be submitting an application for post-project funding to the Darwin Initiative.

Survey equipment, reference books and educational materials purchased or produced during the project remain in the care of Sabah Parks, ready for future use. Two of the local project staff have joined Sabah Parks, while the most senior staff member has taken a job with WWF Malaysia, working on very similar issues in the proposed Tun Mustapa Marine Park in the north of Sabah. The skills he learnt with the Darwin project will be invaluable for this new role.

## 5 Lessons learned, dissemination and communication

### Key lessons

The Project had challenging and ambitious targets, and there were inevitably times when there were unexpected delays and difficulties. We learnt the importance of adjusting our activities according to circumstances and responding to needs as they arose. Another lesson we learnt at the outset of the project was the importance of being flexible and responding to new ideas and suggestions that would help us to meet the project goals of biodiversity conservation and sustainable use.

For example, we undertook a number of activities that were not included in the original project programme, such as the investigation into seaweed farming and the programme to introduce seaweed farming to the Bajau Laut as an alternative livelihood. We also carried out a collaborative study into reef gleaning at the suggestion of the local community.

We also learnt to be flexible in our approach to designing awareness and education materials, and to take special note of the need to get messages across to people who had not had the opportunity to learn to read or write. We found that bringing members of the local community into the team to help during the Roadshows and Boatshows was extremely useful, and that one of the most successful ways of interacting with our target audience was through games, competitions and quizzes. The project DVD was also an invaluable tool.

### Dissemination

The dissemination activities have been an important component of the project and various approaches were used to inform people about the aims, activities and achievements of the project. We used a range of materials, including leaflets, posters, a DVD, newsletters, games, interactive activities and a model of the Park. All these materials were produced in English and Bahasa Malaysia and some (such as the leaflets and DVD) were also produced in Bajau and Suluk. At the more 'in-depth' level we produced reports, discussion documents and powerpoint presentations. We also prepared several magazine articles, web stories, scientific papers and press releases.

The dissemination fell into several categories in terms of target audiences:

- i. Local community both within and outside the Park: Roadshows and Boatshows (4) and informal discussions
- ii. Land owners and claimants of customary rights in the Park: Workshops (3).
- iii. Representatives from the State Government and other government departments, NGOs and academic institutions. Stakeholder meetings and Seminars.
- iv. All interested parties / local community / stakeholders: Newsletters, DVD, project website, press releases.
- v. Scientific community / biodiversity managers: monitoring reports, databases, Biodiversity and Reef Atlas CDs.

### Future plans for dissemination

Discussions are underway with Sabah Parks for continuation of the dissemination programme, and we will be putting forward ideas about how dissemination can be built into the Park Development plan. We will be continuing to disseminate information, especially with regard to the conservation of biodiversity.

## 5.1 Darwin identity

The Darwin identity was very strong and widely publicised because at the outset we adopted a 'short name' for the project called the '*Semporna Islands Darwin Project*' (Projek Darwin Pulau Pulau Semporna). We also had a logo, and this, together with the name, was used at all project events and on the website, educational and awareness materials, newsletter, project documents, correspondence, T-shirts, hats, posters, DVD etc.

The Darwin Initiative has a high profile within Sabah due to the number of Darwin projects that have (and continue to be) carried out within the State.

## 6 Monitoring and evaluation

There were no major changes to the project design, although the timing of various activities was adjusted in order to fit more closely with priorities on the ground as the project developed. It was essential to have this flexible approach in order to deal with unexpected delays and respond to changing needs.

We used the logframe as a basis for monitoring and evaluation, and as a planning tool. We also regularly discussed progress and problems within the Project Team and with Sabah Parks. The qualitative and quantitative 'measurable indicators' set out in the original logframe steered and guided our work, providing clear targets to aim for. The annual reporting exercise also helped in evaluating progress.

Annex 1 provides details of the indicators of progress towards achieving the outputs, purpose and goal of the project.

### 6.1 Actions taken in response to annual report reviews

We welcomed the reviews and have discussed these and responded to all of the points raised in the Year 1 report to the satisfaction of the reviewer. Several general points were raised in the Year 2 review and it was suggested that these were 'commented on' in the Final Report. As requested, our responses to these are included below:

#### **Alternative livelihoods**

We are in complete agreement that the alternative livelihoods programme is of great importance and needs to be strengthened. Delays with the development of the hatchery have, as the reviewer acknowledges, been beyond the control of the project. The hatchery was completed in the final year of the project, and essential infrastructure such as the generator was installed. Spawning trials began at the end of 2007, and after some technical problems, project staff got the giant clams to spawn, which is a major step towards along the path towards producing juvenile clams for sea ranching (see Hatchery Report). We acknowledge that this part of the project is behind schedule, but are glad to report that Sabah Parks is totally committed to ensuring that the hatchery is a success and produces giant clams both for sea ranching by local communities (alternative livelihoods) and for re-introduction to the reefs as part of the biodiversity conservation programme. MCS has pledged to continue to work with Sabah Parks to ensure that these goals are achieved, and currently is supporting the work of a postgraduate student from Universiti Malaysia Sabah who has the relevant expertise in giant clam culture and is training Sabah Parks staff in the techniques.

## **Tourism**

The reviewer's comments about involving local communities in tourism development as an alternative livelihood are very relevant and we would like to develop this aspect over the next few years. The inclusion of jobs in tourism as alternative livelihoods was not part of the original project because at the time the project was being developed tourism was virtually non-existent and it was not clear what opportunities there might be for local communities. However, in the past 1-2 years there has been increasing interest in the Park as a tourism venue and there is clearly scope for involving local community members in tourism ventures. This is beyond the scope of the current project, but if funds permit, we would like work with local communities and Sabah Parks to develop these aspects.

## **Matmaking by Bajau Laut community**

We agree that this type of venture presents significant challenges and needs careful thought. During 2007 we carried out some preliminary investigations both into the availability of resources needed for mat-making and the challenges in marketing the product. A range of handicrafts are already made in Sabah and it is clear that more research is needed to ascertain if there is adequate demand for mats and if the quality of the product would be good enough. Further development was beyond the scope of this project, and we chose instead to concentrate on seaweed farming, which is straightforward, self-sustaining (new seedlings are 'cut' from farmed crops) and produces a product that is in high demand and is easily marketed.

## **Trial repopulation of two species of fish in the no-take zones**

Pre-release underwater visual surveys have been carried out annually at the release site since the year 2000. No mouse grouper were found at the site prior to release, and (disappointingly) none was found during a survey carried out 6-months after the release. This species is secretive so may possibly have been present, but hidden from view. Or the introduced specimens may have died or migrated to deeper water/other areas.

Several humphead wrasse have been seen close to the release site and may be the released specimens. They were the expected size (c. 35cm 2 years after release at a size of 18-25cm).

These trials involved only small numbers of fish. It would be good to repeat them with tagged specimens.

## **Proposed Honorary Ranger Scheme**

We agree that development of an Honorary Ranger Scheme is complex and challenging. We have discussed a few options but further development was beyond the scope of the current project. We would like to take this forward under a '*Custodians of the Reef*' programme, for which we are seeking additional funding.



## Finance and administration

### 6.2 Project expenditure

Darwin Costs	Proposal	2005 - 6	2006 -7	2007 - 8	Actual spend
Staff costs					
Rent, rates, heating, lighting, cleaning					
Postage, telephone, stationery					
Travel and subsistence					
Printing					
Conferences, seminars etc					
Capital items					
Others (please specify)					

### 6.3 Additional funds or in-kind contributions secured

A total of £116,985 has been contributed towards the project in additional funds and in-kind contributions. Details are shown in the Table below:

Sabah Ministry of Tourism, Culture & Environment: backing for project video	10,000
Sabah Ministry of Tourism, Culture & Environment: backing for Symposium	3,600
Sabah Parks in kind logistical support, fuel, boat use, staff time etc	45,000
WWF Malaysia staff time	1,300
MCS core funds staff time	1,500
Malaysia Airlines in kind cheap rates	760
Lighthouse Foundation funds	6,300
Reef Conservation UK funds	300
North of England Zoological Society	3,000
Wild Asia Seed Grant	525
ICRAN (International Coral Reef Action Network)	3,000
Rufford Maurice Laing Foundation for seaweed farming initiative	7,000
Donations from miscellaneous sources – in kind eg. T-shirts	4,200
Donation from Singapore Dive Club	3,500
Other staff time (Fisheries etc; MCS volunteers & expertise)	7,000
BBC Wildlife Fund	20,000
	<b>116,985</b>

### 6.4 Value of DI funding

DI funding has enabled work to be done that would otherwise not have been possible because of shortage of staff and resources within Sabah Parks. Management of the newly-gazetted Tun Sakaran Marine Park presented SP with difficult and unprecedented challenges and the DI funding has provided considerable support and has allowed very significant advances to be made in working with the local community to introduce strategies for biodiversity conservation and sustainable resource use.

## Annex 1 Report of progress and achievements against final project logframe for the life of the project

Project summary	Measurable Indicators	Progress and Achievements April 2005 - March 2008	Actions required/planned for next period
<p><b>Goal:</b> To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but constrained in resources to achieve</p> <p>The conservation of biological diversity,</p> <p>The sustainable use of its components, and</p> <p>The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</p>			
<p><b>Purpose</b></p> <p>Coral reef biodiversity protected and programme for sustainable use of reef resources established through implementation of integrated strategies devised jointly by reef managers, local communities and other stakeholders.</p>	<ul style="list-style-type: none"> <li>○ Biodiversity conservation zones operational by yr 2.</li> <li>○ Species and habitats 'at risk' given special protection by yr 1.</li> <li>○ Resource use carried out under permit and according to agreed strategy by yr 2.</li> <li>○ Alternative livelihoods programme operating and evidence of economic viability by yr 3.</li> <li>○ Direct exploitation of reef resources reduced by yr 3.</li> <li>○ Evidence of recovery of protected and /or managed species and habitats by yr 3.</li> </ul>	<p>Partners and local communities have remained committed to the programme and the overall purpose of the project has been achieved. Strategies have been agreed amongst stakeholders for biodiversity conservation, protection of species/habitats and sustainable resources use. These strategies are now enshrined in the regulations for the Park and will be carried forward. There are some signs of recovery of species/habitats, but it will be several years before the full benefits are seen. The alternative livelihoods programme has progressed, with increased emphasis on seaweed farming.</p>	<p>We would like to develop a '<i>Custodians of the Reef</i>' scheme to consolidate protection measures for species, habitats and no-take zones. Also a '<i>Participatory Resource Use Monitoring Programme</i>' in which local people are actively engaged in data collection and resource use management.</p>

<p><b>Output 1.</b></p> <p>Biodiversity Conservation (no-take) zones in place and enforcement operating.</p>	<ul style="list-style-type: none"> <li>○ Options for location of zones and boundaries produced by month 6.</li> <li>○ Boundaries decided and implementation timetable agreed by yr 1.</li> <li>○ First conservation zones established in yr 2 and additional ones by yr 3.</li> <li>○ Surveillance and enforcement mechanisms developed and operational by yr 2.</li> </ul>	<p>Following awareness activities, the proposal for Biodiversity Conservation Zones was supported by the local community and other stakeholders early in the life of the project. The location of no-take areas was agreed in 2005-2006, but in 2007 there was further debate and discussion about the implementation timetable. The overall 'end-product' remains the same, but the timetable has been slightly refined, mainly in response to the practicalities of enforcement in the areas most distant from the Park Centre. These areas will be introduced later in 2008/9. Enforcement in the large Bodgaya Lagoon no-take zone is operational and effective.</p>
<p>Activity 1.1. Produced discussion paper on Zoning Scheme and presented this for development at Local Community Workshop 1 (June 2005)</p>	<p>The outcome of Activities 1.1. – 1.8 was that the rationale for Biodiversity Conservation (no-take) zones was explained and the options and implementation timetable for introduction of these protected areas were discussed with the local community and other stakeholders.</p> <p>Feedback from questionnaires circulated at the Workshops and Boatshows showed that there was increasing awareness and understanding about conservation issues. They also showed that people were in favour of action being taken to establish no-take zones.</p> <p>The eastern sector of the lagoon was agreed as the first no-take zone as from January 2006.</p>	
<p>Activity 1.2. Produced leaflet and poster explaining proposed Zoning Scheme and used these during Local Community 'Boatshows' (marine Roadshows) in June &amp; October 2005.</p>		
<p>Activity 1.3. Produced 'Have Your Say' questionnaire on proposals for zoning, protected species/habitats &amp; resource use and used this during Boatshow 2 to obtain feedback from wider Local Community.</p>		
<p>Activity 1.4. Developed revised Zoning Scheme and presented this for further discussion at Local Community Workshop 2 (October 2005)</p>		
<p>Activity 1.5. Produced Briefing Papers for Stakeholder Meeting (government depts, NGOs, University etc) in Feb 2006, including option for Biodiversity Conservation Zones.</p>		
<p>Activity 1.6. Draft strategy agreed following Stakeholder Meeting (published in '<i>Action Plan and Proposed Regulations for TSMP</i>' in March 2006).</p>		
<p>Activity 1.7. Further review of plans carried out with project partners and stakeholders (by e-mail and through meetings).</p>		

Activity 1.8. Local Community Workshop held in September 2006 to discuss and finalise strategies.	
Activity 1.9. Stakeholder Meeting held Sept 2006 to discuss outcomes of the Local Community Workshop.	
Activity 1.10. Incorporated the agreed Zoning Plan into the draft regulations for the Park, November 2006	Final draft of the Park regulations was produced in November 2006 and passed to Sabah Parks and the Ministry for 'translation' into legal language prior to official endorsement/adoption.
Activity 1.11. Produced new posters explaining the Biodiversity Conservation Zones, and used these during a Roadshow conducted over 3-months (Jan-May 2007) targeting villages both inside and outside the Park.	The aim of the Roadshow was to ensure that communities both outside and inside the Park were aware of the MPA and the no-take zones. Awareness and understanding should enhance enforcement efforts and help promote conservation of biodiversity.
Activity 1.12. Patrols and surveillance by Sabah Parks field staff, starting in 2006.	Effective surveillance in the Bodgaya lagoon means that this area is now operating successfully as a Biodiversity Conservation Zone.
Activity 1.13. Two separate small-scale fish enhancement trials were carried out in the no-take zone, the first (May 2006) with the humphead wrasse ( <i>Cheleinus undulatus</i> ) and the second (Feb 2007) with the mouse grouper ( <i>Cromileptes altivelis</i> ).	The main aim of the trials was to enhance stocks of these over-exploited species in the no-take zone. Several <i>Cheleinus undulatus</i> , believed to be released specimens were recorded, but the mouse grouper (a secretive fish) were not seen again after release.
Activity 1.14. Produced new leaflet and banner, clearly showing the Biodiversity Conservation (no-take) zone.	Further public awareness to enhance success of the no-take zone.

<p><b>Output 2.</b></p> <p>Species and habitats 'at risk' and requiring special protection identified.</p> <p>Measures in place to protect 'at risk' species and habitats, and enforcement operating.</p>	<ul style="list-style-type: none"> <li>○ Draft list of 'at risk' species produced by month 6.</li> <li>○ Draft list of 'at risk' habitats produced by month 6</li> <li>○ Lists agreed by yr 1.</li> <li>○ Surveillance and enforcement mechanisms developed and operational by yr 2.</li> </ul>	<p>Following awareness activities, the proposal for measures to protect species and habitats 'at risk' were supported by the local community and other stakeholders early in the life of the project. The list of species and habitats was agreed by the end of 2006 and is now incorporated into the regulations for the Park.</p> <p>Full enforcement will be implemented once the regulations have been officially gazetted, but in the meantime, people have been made aware of the protected species and habitats through a range of education and awareness activities. Also, considerable effort has gone into protection of 'at risk' coral reef habitats from fish blasting, which was identified as a major threat to reef health and biodiversity.</p>
<p>Activities 2.1 – 2.10. Please refer to activities 1.1 – 1.10. The 'species and habitats' component of the project was included in each of these activities.</p>		<p>Please see comments on progress towards achieving Output 1. Parallel progress was made towards achieving Output 2, i.e. the listing of species and habitats 'at risk' and inclusion in the regulations for the Park.</p>
<p>Activity 2.11. Produced posters illustrating the protected species/habitats and another highlighting the damage and illegality of fish blasting and used these during the SIDP Roadshow conducted over 3-months (Jan-May 2007) targeting villages both inside and outside the Park.</p>		<p>The aim of the Roadshow was to ensure that communities both outside and inside the Park were aware of the MPA and the protected species/habitats and also of the damage caused by fish blasting. The later 'Stamp out fish blasting' campaign Awareness and understanding should enhance enforcement efforts and help promote conservation of biodiversity.</p>
<p>Activity 2.12. Produced 'Visitor Awareness' poster in English, Bahasa Malaysia and Chinese and distributed to all the local tour operators (October 2007).</p>		<p>The aim of this campaign was to promote awareness of the vulnerability of coral reefs to damage from careless practices.</p>
<p>Activity 2.13. Designed &amp; produced publicity postcard &amp; launched and carried out 'Stamp out Fish Blasting' campaign during April-May 2008, targeting all communities within the Park and 'fish blasting hotspots' outside.</p>		<p>The aim of this campaign was to further increase awareness about the long-term impact of fish blasting and also to try and identify those involved.</p>

<p><b>Output 3.</b></p> <p>Resource use carried out under permit and according to agreed strategy.</p>	<ul style="list-style-type: none"> <li>○ Draft strategy for resource use produced by year 1.</li> <li>○ Strategy agreed by yr 1.</li> <li>○ Strategy operational with surveillance, enforcement and monitoring mechanisms in place by yr 2.</li> </ul>	<p>Following awareness activities, proposals to ensure sustainable resource use were supported by the local community and other stakeholders early in the life of the project. Strategies were agreed by the end of 2006 and the permit scheme is now incorporated into the regulations for the Park.</p> <p>Full enforcement will be implemented once the regulations have been officially gazetted, but in the meantime, people have been made aware of the resource use strategies and the planned permit scheme through a range of education and awareness activities.</p>
<p>Activities 3.1 – 3.10. Please refer to activities 1.1 – 1.9 – the ‘resource use’ component of the project was included in each of these activities.</p>		<p>Please see comments on progress towards achieving Output 1. Very similar progress was made towards achieving Output 3, i.e. resource use strategies devised and included in the regulations for the Park.</p>
<p>Activity 3.11. Carried out joint survey on gleaning of marine resources with local community at Pulau Selakan 2005</p>		<p>This activity was a useful joint exercise that helped to highlight resource use issues.</p>
<p>Activity 3.12. Carried out several fishery surveys (based on questionnaires, discussions &amp; direct observations) with communities inside &amp; outside the Park 2006-2008. These are included in the Socio-Economic section (see Output 6).</p>		<p>These activities gathered essential baseline data on resource use and fishing methods within the Park.</p>
<p>Activity 3.13. Developed initial plans for Permit Scheme, including permit applications forms, and sought feedback from stakeholders, 2006</p>		<p>The Permit Scheme was agreed as an important tool to help regulate resource use.</p>
<p>Activity 3.14. Produced poster explaining proposed permit scheme for use in the SIDP Roadshow conducted over 3-months (Jan-May 2007) targeting villages both inside and outside the Park.</p>		<p>The aim of this poster was to increase awareness amongst the local community inside and outside the Park about the proposed permit scheme.</p>
<p>Activity 3.15. Developed bilingual Permit Application forms for activities in the Tun Sakaran Marine Park: (including resource use), April 2007</p>		<p>These permit forms are being adapted and used by Sabah Parks as needed – they form the basis for the Permit Scheme to be introduced when the regulations are gazetted.</p>
<p>Activity 3.16. Surveillance and enforcement by Sabah Parks.</p>		<p>Patrols are being carried out particularly in the areas accessible from the Park HQ on Pulau Boheydulang. Checks are being carried out for example to ensure that fishermen are not using nets and hookah gear in reef areas.</p>

<p><b>Output 4.</b></p> <p>Mariculture and Sea Ranching Programme developed and operational.</p>	<ul style="list-style-type: none"> <li>○ Resource surveys to locate broodstock of selected species by mo 6.</li> <li>○ Culture underway by yr 1.</li> <li>○ Village-run ocean nursery sites selected by yr 1.</li> <li>○ 10 communities (c. 50 fishers) trained in sea ranching by yr 2.</li> <li>○ Sea ranching units fully operational by yr 3.</li> </ul>	<p>Delays in hatchery development meant that the invertebrate culture programme fell behind schedule. We procured giant clam broodstock and were finally able to start spawning trials in 2007. Broodstock of other invertebrate species suitable for culture and ranching have also been located. The potential for pearl oyster culture and ranching has been investigated and discussions held with an experienced company interested in taking this forward.</p> <p>Various other alternative livelihoods have been investigated, including handicrafts and tourist-related activities. 45 Bajau Laut families have been trained in seaweed farming, and trial plots established. MCS is continuing to have input into this programme.</p>
<p>Activity 4.1. Worked on Hatchery development with Sabah Parks staff including setting up of tanks, pumps and ancillary equipment. 2005-07.</p>		<p>Technical hitches and delays in hatchery construction and procurement of equipment meant that culture could not begin until mid-2007.</p>
<p>Activity 4.2. Surveys carried out to investigate population status of giant clams and occurrence of broodstock in the Park. The availability of other species (e.g. top shells, abalone and sea-cucumbers) was also investigated. 2006.</p>		<p>The surveys provided detailed baseline information on distribution and abundance of giant clams and other species and identified sources of mature specimens.</p>
<p>Activity 4.3. Surveys carried out and discussions held with local communities to identify suitable ocean nursery sites, 2006.</p>		<p>A number of sites were selected where there were suitable habitats, and local communities were interested in carrying out sea ranching.</p>
<p>Activity 4.4. Seminar on Sea Ranching carried out in conjunction with Universiti Malaysia Sabah, 2006.</p>		<p>Useful exchange of information and ideas to assist with the sea ranching programme.</p>
<p>Activity 4.5. Local Project Officer enrolled for a Masters Degree (research-based) in giant clam sea ranching, with the Borneo Marine Research Unit, Universiti Malaysia Sabah, 2006.</p>		<p>Much of the work for the thesis has been completed and provides valuable lessons for best practices.</p>
<p>Activity 4.6. Juvenile giant clams imported from the University of the Philippines (quarantined and with CITES I permit) and provided to local communities for ranching trials moved from cages to open areas for continued growth and monitoring. 2006</p>		<p>The trials are providing invaluable data on best methodology and sites for grow-out.</p>

Activity 4.7. Giant clam broodstock procured from local sources and from the University of Philippines, 2007 and moved to the lagoon, adjacent to the hatchery.	This step ensures that giant clam broodstock is ready for spawning trials as soon as the hatchery is completed.
Activity 4.8. Survey of seaweed farming carried out and management issues considered. 2006.	This work provided baseline information and guidelines for management of seaweed farming as an alternative livelihood.
Activity 4.9. Helped to co-ordinate a study on integration of aquaculture with community-based tourism carried by a postgraduate student from Plymouth University. Completed 2007	This study looked at the opportunities for integrating aquaculture and tourism and came up with useful recommendations and guidelines.
Activity 4.10. Investigation of handicraft expertise and production by TSMP communities. 2007.	This study identified the potential for integrating handicraft production into the alternative livelihoods programme, but highlighted difficulties with marketing and quality control.
Activity 4.11. Produced discussion document on pearl oyster farming in TSMP	Pearl oyster farming is a viable option as an alternative livelihood for local communities in TSMP. .
Activity 4.12. Held meetings & site visits with technical staff from Atlas South Sea Pearl to discuss possible establishment of pearl oyster culture and grow-out in the Park, including co-share development/expansion of the hatchery.	Atlas South Sea Pearls have now submitted a proposal to Sabah Parks – the benefits would be provision of alternative livelihoods for local fishermen with low or no environmental impact.
Activity 4.13. Prepared materials and carried out training workshop for 45 Bajau Laut families in seaweed farming, Oct 2007	Seaweed has become an increasingly valuable commodity and the Bajau Laut are enthusiastic about seaweed farming as an alternative livelihood.
Activity 4.14. Began seaweed farming trials with Bajau Laut families, 2007-08	Initial trials showed significant potential despite loss of stock due to grazing by turtles. The trials are continuing.

<p><b>Output 5.</b></p> <p>Reef biodiversity monitoring programme established and functioning.</p>	<ul style="list-style-type: none"> <li>○ Monitoring protocols defined by yr 1.</li> <li>○ 4 SP staff &amp; 8 local people trained in monitoring by yr 1.</li> <li>○ First set of data by end yr 2.</li> <li>○ Workshop by end yr 2</li> <li>○ Report produced by yr 3.</li> </ul>	<p>The indicators provide a suitable measure of progress and show that the reef monitoring programme is on schedule.</p> <p>Good progress has been made with involvement of local community and Sabah Parks staff as planned although maintaining the involvement of local community into the future will need further inputs beyond the life of the project.</p> <p>Comprehensive baseline data have been collected, analysed and stored in a database for future use/addition.</p>
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Activity 5.1. Objectives, options and priorities for reef monitoring discussed and programme developed. 2005	These activities formed the basis for the development of a reef biodiversity monitoring programme for TSMP, and established appropriate protocols.
Activity 5.2. Draft manual produced Oct 2005 and finalised Feb 2006 (see <i>Monitoring Reef Biodiversity in the TSMP</i> ).	
Activity 5.3. Reef Check training carried out with 4 Sabah Parks staff and 3 local community members (see <i>Report on Reef Monitoring Training</i> ) Nov 2005	Capacity building exercise to ensure that a core of suitably-trained people were available for reef monitoring work in TSMP.
Activity 5.4. Permanent monitoring sites surveyed (2005, 2006 & 2007) and data entered into database.	Collection of essential data for assessing health of the reefs in the Park, and monitoring changes.
Activity 5.5. Four local Sabah Parks staff trained in Open Water Diving (March 2006)	Capacity building exercise to enhance opportunities for as prerequisite for further monitoring work
Activity 5.6. Action was taken jointly with Sabah Parks to clean-up a localised outbreak of crown-of-thorns starfish.	This one-off exercise was useful but COTS remain a problem and need to be monitored.
Activity 5.6. Coral reef fish monitoring carried out in May 2006, with mixed team of Sabah Parks staff and local community.	Capacity building and collection of baseline data for management purposes.
Activity 5.7 Marine Scientific Expedition carried out with Sabah Parks Marine Unit (March 2007) including surveys of seagrass, mangrove and coral reefs. Seminar also held.	The Marine Scientific Expedition and Seminar was a joint activity that led to useful data collection, discussion and exchange of information.
Activity 5.8. Results of reef monitoring presented at 'Sabah Coral Reef Symposium' organised by the Project Jan 2008.	The Sabah Coral Reef Symposium brought together a wide range of people and organisations to share information & data on reef status, threats and changes.
Activity 5.10. Report on reef monitoring (final draft in prep)	Detailed report providing baseline and monitoring data and identifying management issues and further research needs.
Activity 5.11. Studies on biodiversity have been carried out by MCS reef biologists throughout the project.	This work has contributed significant advances in knowledge of reef fauna, flora and habitats. The information, with photo library is being incorporated into a Reef Atlas and Species Inventory for Sabah Parks/host country..

<p><b>Output 6.</b></p> <p>Socio-economic monitoring programme established and functioning.</p>	<ul style="list-style-type: none"> <li>○ Protocols for monitoring programme defined by yr 1.</li> <li>○ 2-3 Sabah Parks staff trained in monitoring techniques by yr 2.</li> <li>○ 12 local village community representatives trained in data collection by yr 2.</li> <li>○ First set of data produced by end yr 3.</li> </ul>	<p>Work on this output has progressed well. Completion of the Community Census in the Park was a major step in providing baseline information.</p> <p>Socio-economic data were also collected during the Roadshow (activity 1.5.) from people living outside the Park.</p> <p>Both these activities have involved hands-on training and then extended periods of data-collection involving both Sabah Parks staff and local people from the Semporna area and the islands.</p>
<p>Activity 6.1. Objectives, options and priorities for socio-economic monitoring discussed and programme developed, 2006</p>	<p>These activities formed the basis for the development of a socio-economic monitoring programme for TSMP, and established appropriate protocols.</p>	
<p>Activity 6.2. Monitoring protocols produced and (see <i>Socio-economic Monitoring</i>) 2006</p>		
<p>Activity 6.3. Sabah Parks staff and local community members trained and then carried out Community Census. Report produced 2007</p>	<p>Completion of in-depth study that provided a detailed baseline socio-economic profile of the Park community and built capacity within Sabah Parks and the local community for continued monitoring.</p>	
<p>Activity 6.4. Carried out several fishery surveys (based on questionnaires, discussions &amp; direct observations) with communities inside and outside the Park. 2006-2008. Investigated fisheries for live fish, fresh fish, sea-cucumbers, octopus, sea shells, catch and effort, gear etc.</p>	<p>Provided detailed profile of fishing activities in the Park and its social and economic relevance. This information will also help with management of resources.</p>	
<p>Activity 6.5. Carried out study to investigate current economic value of seaweed farming in the Park, incomes generated, methods and management issues. 2006</p>	<p>This study included an analysis of issues and provided guidelines on best practice and on the area of sea required for families to make a living from seaweed farming.</p>	

<p><b>Output 7.</b></p> <p>Interactive Environmental Management and Information Planning System (EMIPS) installed and Sabah Parks staff trained in its operation.</p>	<ul style="list-style-type: none"> <li>○ Introductory training of 3-4 Sabah Parks staff by yr 1.</li> <li>○ Site data entered into EMIPS yr 1.</li> <li>○ Further training in operation and application of EMIPS by yr 2.</li> <li>○ System fully operational by yr 3.</li> </ul>	<p>After some initial delays, EMIPS development has progressed well and Sabah Parks want to use the model put together for the Tun Sakaran Marine Park to develop a comprehensive system covering all the State Parks.</p>
<p>Activity 7.1. Framework for EMIPS developed 2006</p>		<p>First steps achieved in establishing EMIPS</p>
<p>Activity 7.2. Data entry and GIS development 2007</p>		<p>Data organised and entered into the EMIPS database and in addition have also been developing a GIS system (mapinfo) to run in parallel with EMIPS.</p>
<p>Activity 7.3. Explanation of the EMIPS system presented to Sabah Parks staff in November 2006.</p>		<p>Pre-training briefing on EMIPS provided an overview of the aims and functions of this management system.</p>
<p>Activity 7.4. Demonstration and training seminar for Sabah Parks staff. Feb 2008</p>		<p>This was successful and led to a request by Sabah Parks to develop the EMIPS system for all State Parks.</p>
<p><b>Output 8.</b></p> <p>These are additional outputs that have not been included elsewhere</p>		
<p>Activity 8.1. Scripted and co-produced 20-minute DVD on the Semporna Islands Project.</p>		<p>Production of the DVD was funded by the Ministry of Tourism, Culture and Environment. It was produced in 4 languages and was an invaluable tool in the awareness programme.</p>
<p>Activity 8.2. Developed, designed and produced a Cartoon Colouring Book in association with the International Coral Reef Network (ICRAN)</p>		<p>The aim of this was to reach children in the Park as part of the education and awareness programme. It has since been used for a 'Turtle Roadshow' in Sabah and put on sale in Kota Kinabalu. There are plans for its wider use in schools in Sabah, and for awareness campaigns in other countries.</p>

<p>Activity 8.3. Assisted in the preparation for filming for the 'Oceans' programme for the CBBC Series 'Saving Planet Earth'. This featured a 13 year old wildlife enthusiast who had won a BBC competition to see endangered animals and conservation projects around the world. She joined the project team in releasing mouse grouper in the no-take area in the Tun Sakaran Marine Park.</p>	<p>This activity provided wide publicity for the project and positive actions being taken to protect and enhance biodiversity.</p>
<p>Activity 8.4. Organised, with our local project team, the Sabah Coral Reef Symposium, entitled '<i>Status and Management of Coral Reefs in Sabah</i>' Jan 29<sup>th</sup> – 31<sup>st</sup> 2008.</p>	<p>This was attended by around 100 delegates from Sabah and West Malaysia, and provided the opportunity for sharing information about the project and other initiatives and highlighting issues of concern.</p>
<p>Activity 8.5. Briefed the Sabah Minister of Culture, Tourism and Environment, Permanent Secretary, Head of Head of Research &amp; Tourism Development Division and Director of Sabah Parks on the outcomes of the SIDP Coral Reef Symposium.</p>	<p>This raised the profile of coral reefs as one of the most important helped to bring issues of coral reef conservation and management to decision makers in the State government and raised the profile</p>
<p>Activity 8.6. Briefed the Management Group of the Environmental Action Committee (EAC) Sabah on <i>Coral Reef Status in Sabah</i>. This is a high-level committee chaired by the Permanent Secretary at the Ministry of Tourism, Culture and Environment. 2008</p>	<p>The briefing promoted debate amongst decision-makers about actions needed to conserve coral reef biodiversity.</p>
<p>Activity 8.7. Collaborated with Masters study from the University of Melbourne to develop a project plan for <i>Marine litter in the Tun Sakaran Marine Park: analysis and recommendations for action</i>.</p>	<p>This study will contribute to overall efforts to reduce impacts on human health and the marine environment in the Semporna area.</p>
<p>Activity 8.6. Designed and produced SIP information leaflet (English and Malay versions) and 3 publicity banners for use at the 15<sup>th</sup> Annual Regatta Lepa Semporna – Water Festival 18-20<sup>th</sup> April (see jpegs)</p>	<p>Further awareness activity to support the overall programme</p>

## Annex 2 Project's final logframe, including criteria and indicators

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p><b>Goal:</b></p> <p>To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but poor in resources to achieve:</p> <ul style="list-style-type: none"> <li>• the conservation of biological diversity,</li> <li>• the sustainable use of its components, and</li> <li>• the fair and equitable sharing of benefits arising out of the utilisation of genetic resources</li> </ul>			
<p><b>Purpose</b></p> <p>Coral reef biodiversity protected and programme for sustainable use of reef resources established through implementation of integrated strategies devised jointly by reef managers, local communities and other stakeholders.</p>	<ul style="list-style-type: none"> <li>○ Biodiversity conservation zones operational by yr 2.</li> <li>○ Species and habitats 'at risk' given special protection by yr 1.</li> <li>○ Resource use carried out under permit and according to agreed strategy by yr 2.</li> <li>○ Alternative livelihoods programme operating and evidence of economic viability by yr 3.</li> <li>○ Direct exploitation of reef resources reduced by yr 3.</li> <li>○ Evidence of recovery of protected and /or managed species and habitats by yr 3.</li> </ul>	<ul style="list-style-type: none"> <li>○ Reports, maps and other publications.</li> <li>○ On-site notices and boundary indicators for Biodiversity Conservation Zones.</li> <li>○ Field survey reports.</li> <li>○ Monitoring reports (biodiversity, resource use, socio-economic status).</li> <li>○ Community-run enclosures (pens) for grow-out of marine invertebrates (sea ranching).</li> <li>○ Marketing plan for ranched animals.</li> </ul>	<p>All Partners and local communities remain committed to the programme.</p>
<p><b>Outputs</b></p>			
<p>Biodiversity conservation (no-take) zones in place and enforcement operating.</p>	<ul style="list-style-type: none"> <li>○ Options for location of zones and boundaries produced by month 6.</li> <li>○ Boundaries decided and implementation timetable agreed by yr 1.</li> <li>○ First conservation zones established in yr 2 and additional ones by yr 3.</li> <li>○ Surveillance and enforcement mechanisms developed and operational by yr 2.</li> </ul>	<ul style="list-style-type: none"> <li>○ Report with options for location of no-take zones.</li> <li>○ Records of stakeholder meetings.</li> <li>○ Workshop reports.</li> <li>○ Document and maps showing agreed location and boundaries.</li> <li>○ Conservation Zones marked on-site.</li> <li>○ Public information programme.</li> <li>○ Patrols operating: activity logs.</li> </ul>	<p>Stakeholders provide feedback within timeframe and views do not conflict to the point where compromises have to be made or decision-making is delayed.</p>
<p>Species and habitats 'at risk' and requiring special protection identified. Measures in place to protect 'at risk' species and habitats, and enforcement operating.</p>	<ul style="list-style-type: none"> <li>○ Draft list of 'at risk' species produced by month 6.</li> <li>○ Draft list of 'at risk' habitats produced by month 6</li> <li>○ Lists agreed by yr 1.</li> <li>○ Surveillance and enforcement mechanisms developed and operational by yr 2.</li> </ul>	<ul style="list-style-type: none"> <li>○ Draft lists.</li> <li>○ Records of stakeholder meetings.</li> <li>○ Workshop reports.</li> <li>○ 'At risk' species list.</li> <li>○ 'At risk' habitat maps.</li> <li>○ Public information programme.</li> <li>○ Patrols operating: activity logs.</li> </ul>	<p>Stakeholders provide feedback within timeframe and views do not conflict to the point where compromises have to be made or decision-making is delayed.</p>

Resource use carried out under permit and according to agreed strategy.	<ul style="list-style-type: none"> <li>o Draft strategy for resource use produced by year 1.</li> <li>o Strategy agreed by yr 1.</li> <li>o Strategy operational with surveillance, enforcement and monitoring mechanisms in place by yr 2.</li> </ul>	<ul style="list-style-type: none"> <li>o Draft strategy</li> <li>o Records of stakeholder meetings.</li> <li>o Workshop reports.</li> <li>o Resource use plan.</li> <li>o Resource use permits.</li> <li>o Public information programme.</li> <li>o Resource use logs.</li> </ul>	Fishers participate fully, support agreed strategy and record resource use.
Mariculture and Sea Ranching Programme developed and operational.	<ul style="list-style-type: none"> <li>o Resource surveys to locate broodstock of selected species by mo 6.</li> <li>o Culture underway by yr 1.</li> <li>o Village-run ocean nursery sites selected by yr 1.</li> <li>o 10 communities (about 50 fishers) trained in sea ranching by end yr 2.</li> <li>o Sea ranching units fully operational by yr 3.</li> </ul>	<ul style="list-style-type: none"> <li>o Field survey reports.</li> <li>o Reports of training workshops.</li> <li>o Workshop training materials.</li> <li>o Database of survival and growth.</li> <li>o Progress reports.</li> <li>o Sea ranching units (enclosures).</li> </ul>	Local fishers are fully supportive.  External factors (e.g. storms, disease) do not cause damage and set the programme back.
Reef biodiversity monitoring programme established and functioning.	<ul style="list-style-type: none"> <li>o Monitoring protocols defined by yr 1.</li> <li>o 4 SPstaff &amp; 8 local people trained in monitoring by yr 1.</li> <li>o First set of data produced by end yr 2.</li> <li>o Workshop to discuss results by end yr 2.</li> <li>o Report produced by yr 3.</li> </ul>	<ul style="list-style-type: none"> <li>o Discussion papers.</li> <li>o Manual defining protocols</li> <li>o Reports of training workshops.</li> <li>o Database of field data and analysis.</li> <li>o Report of workshop to discuss results.</li> <li>o Monitoring report</li> </ul>	Local people are motivated to participate in the monitoring programme.
Socio-economic monitoring programme established and functioning.	<ul style="list-style-type: none"> <li>o Protocols for monitoring programme defined by end of yr 1.</li> <li>o 2-3 Sabah Parks staff trained in monitoring techniques by yr 2.</li> <li>o 12 local village community representatives trained in data collection by yr 2.</li> <li>o First set of data produced by end yr 3.</li> </ul>	<ul style="list-style-type: none"> <li>o Discussion papers</li> <li>o Manual defining protocols.</li> <li>o Reports of training workshops.</li> <li>o Database of field data</li> <li>o Activity logs of local community representatives.</li> <li>o Report of workshop to discuss results.</li> <li>o Monitoring report</li> </ul>	Productive relationship is built up between Sabah Parks and local communities, so ensuring good quality data.
Interactive Environmental Management and Information Planning System (EMIPS) installed and Sabah Parks staff trained in its operation.	<ul style="list-style-type: none"> <li>o Introductory training of 3-4 Sabah Parks staff by yr 1.</li> <li>o Site data entered into EMIPS by yr 1.</li> <li>o Further training in operation and application of EMIPS by yr 2.</li> <li>o System fully operational by yr 3.</li> </ul>	<ul style="list-style-type: none"> <li>o EMIPS manual and CD demonstration.</li> <li>o Report of training workshop.</li> <li>o System installed on Sabah Parks computers.</li> <li>o Report of advanced training and troubleshooting workshop.</li> </ul>	No major technical difficulties in operation of software. Trained staff remain to train others.

## Annex 3 Project contribution to Articles under the CBD

### Project Contribution to Articles under the Convention on Biological Diversity

Article No./Title	Project %	Article Description
7. Identification and Monitoring	15%	Identify and monitor components of biological diversity, particularly those requiring urgent conservation; identify processes and activities that have adverse effects; maintain and organise relevant data.
8. In-situ Conservation	25%	Establish systems of protected areas with guidelines for selection and management; regulate biological resources, promote protection of habitats; manage areas adjacent to protected areas; restore degraded ecosystems and recovery of threatened species; control risks associated with organisms modified by biotechnology; control spread of alien species; ensure compatibility between sustainable use of resources and their conservation; protect traditional lifestyles and knowledge on biological resources.
10. Sustainable Use of Components of Biological Diversity	15%	Integrate conservation and sustainable use in national decisions; protect sustainable customary uses; support local populations to implement remedial actions; encourage co-operation between governments and the private sector.
11. Incentive Measures	10%	Establish economically and socially sound incentives to conserve and promote sustainable use of biological diversity.
12. Research and Training	10%	Establish programmes for scientific and technical education in identification, conservation and sustainable use of biodiversity components; promote research contributing to the conservation and sustainable use of biological diversity, particularly in developing countries (in accordance with SBSTTA recommendations).
13. Public Education and Awareness	25%	Promote understanding of the importance of measures to conserve biological diversity and propagate these measures through the media; cooperate with other states and organisations in developing awareness programmes.
Total %	100%	

## Annex 4 Standard Measures

Code	Description	Additional details	Total
<b>Training Measures</b>			
2	Number of Masters qualifications obtained	1 completed (UK) + 2 at final draft stage (1 Malaysian; 1 New Zealand)	3
3	Number of other qualifications obtained:	PADI Open Water Diver course to enable reef participation in Reef monitoring surveys: Sabah Parks staff x 4 Project local Malaysian staff x 1	5
4a	Number of undergraduate students receiving training	Training and work experience for Malaysian undergraduates in awareness programmes & data collection analysis	2
4b	Number of training weeks provided to undergraduate students		3 wks
4c	Number of postgraduate students receiving training (not 1-3 above)	Training and work experience for Malaysian postgraduates in alternative livelihoods programme (seaweed farming & giant clam culture)	2
4d	Number of training weeks for postgraduate students	Students involved in hand-on training / data collection as above	50 wks
6a	Number of people receiving other forms of short-term education/training	i) Part-time local (Malaysian) project & Sabah Parks staff trained in socio-economic data collection (census etc). Total 12 ii) Sabah Parks staff trained in reef monitoring. Total 8 iii) Local Community members trained in reef monitoring. Total 6 iv) Part time local (Malaysian) community trained in education/awareness procedures for Roadshow. Total 7 v) Sabah Parks staff educated in operation & application of 'Environmental Management & Information Planning System'. Total 12 vi) Local fishermen (Bajau Laut) trained in seaweed farming. Total 45	90
6b	Number of training weeks not leading to formal qualification	i) Total 27 days ii) Total 16 days iii) Total 12 days iv) Total 14 days v) Total 6 days vi) Total 90 days	33 wks



7	Number of types of training materials produced for use by host country(s)	<p>Training Manual for Reef Check monitoring in Bahasa Malaysia. 1</p> <p>Illustrated, waterproof, reference ID sheets for Reef Check species. 1</p> <p>Illustrated, waterproof, combined reference and recording sheets for reef fish. 1</p> <p>Illustrated reference guide (over 200 spp fish) for fishery resource use investigations 1</p> <p>Posters in Bahasa Malaysia covering proposed zoning scheme, regulations, permits and other topics. Total 15</p> <p>Information leaflet produced in four languages (BM, Bajau, Suluk, English). Total 1</p> <p>20 minute project DVD in 4 languages Total 1</p> <p>Portable 3-D model of the Park Total 1</p> <p>'Look into the future of TSMP' calendar illustrating benefits of no-take zones 1</p>	23 types
<b>Research Measures</b>			
8	Number of weeks spent by UK project staff on project work in host country(s)	Project admin & reporting; meetings, workshops, community support, EMIPS, GIS, reef biodiversity studies, education & awareness activities	82 wks
9	Number of species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country (s)	<p>Action Plan and proposed regulations 1</p> <p>Final draft regulations for TSMP (incorporating Zoning Plan strategies for 'at risk' species &amp; habitats)1</p> <p>Seaweed farming management recommendations &amp; guidelines 1</p>	3
10	Number of formal documents produced to assist work related to species identification, classification and recording.	Coral Reef Biodiversity & Field Guide CD 1	1
11a	Number of papers published or accepted for publication in peer reviewed journals	<p>Paper accepted for presentation at 11<sup>th</sup> International Coral Reef Symposium July 2008 (MS in prep) 1</p> <p>[2 others in prep]</p>	1
11b	Number of papers published or accepted for publication elsewhere	[2 in prep]	
12a	Number of computer-based databases established (containing species/generic information) and handed over to host country	<p>Reef biodiversity monitoring database;</p> <p>socio-economic monitoring database;</p> <p>resource use database; GIS database;</p> <p>EMIPS interactive database 5</p>	5

<b>Dissemination Measures</b>			
14a	Number of conferences/seminars/workshops organised to present/disseminate findings from Darwin project work	Seminar on Mariculture & Sea Ranching. October 2005. Talk topic: Programme in Semporna.  Sabah Coral Reef Symposium Jan 29 <sup>th</sup> -31 <sup>st</sup> 2008 with 4 talks presented by project staff in separate sessions – topics Reef status, monitoring, reef resources, alternative livelihoods.	2
14b	Number of conferences/seminars/workshops attended at which findings from Darwin project work will be presented/ disseminated.	1 <sup>st</sup> Asia Pacific Coral Reef Symposium (Hong Kong). 2006. Topic: Fishing & biodiversity conservation. Marine Science Expedition Seminar (Semporna). 2007. Topic: Reef fish monitoring. Marine Conservation Society Annual Conference 2007. Topic: General project overview. Invited to present at the 5 <sup>th</sup> Asia Pacific Ecotourism Conference, Trengganu, Malaysia. 2007. Topic: Strategies for Promoting Conservation and Ecotourism. Universiti Malaysia Sabah Seminar New Directions in Marine Science & Aquaculture 2008. Topic: SIDP Giant clam programme. Paper presented at 11 <sup>th</sup> International Coral Reef Symposium. 2008. Topic: Reef status & monitoring in TSMP.	6
15b	Number of local press releases or publicity articles in host country(s)	Press Release / articles on first Boatshow and Workshop 2 Press releases / articles on fish stock enhancement & giant clam programme 2 Press release & articles Coral Reef Symposium 1 Article Reef Status 1	6
16a	Number of issues of newsletters produced in the host country(s)	Newsletters (in English and Bahasa Malaysia)	6
16b	Estimated circulation of each newsletter in the host country(s)	300 (hard copy) + also e-version	1,800
16c	Estimated circulation of each newsletter in the UK	30 (hard copy) + also e-version	180
18b	Number of national TV programme/features in the UK	Featured in 'CBBC Saving Planet Earth' Oceans: Sabah 1	? millions

<b>Physical Measures</b>			
20	Estimated value (£s) of physical assets handed over to host country(s)	Reference books, survey equipment, compact digital underwater camera, CD projector, DVD player & speakers	£3,120
22	Number of permanent field plots established	Reef monitoring transects	17
23	Value of additional resources raised for project	Direct funding & donations from agencies & trusts for project activities  In-kind support – mainly logistical support from Sabah Parks & donated staff time from MCS & local partners	£117,000

## Annex 5 Publications

Type *	Detail (title, author, year)	Publisher (name, city)	Available from (eg contact address, website)	Cost £
Report	Boatshow 1 Report. Wood & Suliansa. 2005.	SIDP	info@sempornaislandsproject.com	N/A
Report	Workshop 1 Report Wood & Suliansa, 2005	SIDP	info@sempornaislandsproject.com	N/A
Report	Boatshow 2 Report Wood, Suliansa & Brunt. 2005	SIDP	info@sempornaislandsproject.com	N/A
Report	Workshop 2 Report. Wood, Suliansa & Brunt, 2005	SIDP	info@sempornaislandsproject.com	N/A
Report	Understanding gleaning: a traditional fishing method Pu Selakan. Suliansa & Wood 2005	SIDP	info@sempornaislandsproject.com	N/A
Report / Manual	Reef Monitoring Training (including Reef Check methodology in Bahasa Malaysia). SIDP 2005	SIDP	info@sempornaislandsproject.com	N/A
Action Plan / Report	Action Plan and Proposed Regulations. Wood, 2006.	SIDP	<a href="http://www.sempornaislandsproject.com/pages/publications.htm">http://www.sempornaislandsproject.com/pages/publications.htm</a>	N/A
Newsletters	SIDP News. Wood (ed) 2005-08 (6 editions)	SIDP	<a href="http://www.sempornaislandsproject.com/pages/newsletters.htm">http://www.sempornaislandsproject.com/pages/newsletters.htm</a>	N/A
DVD	Semporna Islands Darwin Project DVD. 2006 (4 languages)	Videographics Productions Sabah	info@sempornaislandsproject.com	£7.50
Magazine	Semporna Project, Wood, 2006	MCS, Ross- on-Wye, UK	info@mcsuk.org	N/A
Report	Workshop 3 Report. Brunt, Suliansa, Wood & Mustapa. 2006.	SIDP	info@sempornaislandsproject.com	N/A
Cartoon colouring book	"Sammy and Tina's Coral Reef Adventures" 2006	SIDP / ICRAN	info@sempornaislandsproject.com	£4.00
Report	Stakeholder Meeting 2. Amos, 2006.	SIDP	info@sempornaislandsproject.com	N/A
Discussion Paper	Policy Topics for TSMP. Wood, 2006	SIDP	info@sempornaislandsproject.com	N/A
Report	Seaweed farming in TSMP. Wood &	SIDP	info@sempornaislandsproject.com	N/A

	Mustapa, 2006			
Report	Crown-of-thorns outbreak. Wood 2006	SIDP	info@sempornaislandsproject.com	N/A
Report	Roadshow Report, Wood, Mustapa & Brunt. 2007	SIDP	info@sempornaislandsproject.com	N/A
Discussion Paper	Visitor Entry Fees. Wood, 2007	SIDP	info@sempornaislandsproject.com	N/A
Masters dissertation	Mariculture & Tourism. Quilter, Rodwell, Richards, Wood, 2007	University Plymouth		N/A
Report	Coral reef fish monitoring. Wood & Karim, 2007	SIDP/Sabah Parks	info@sempornaislandsproject.com	N/A
Report	Availability & use of fish in TSMP. Wood & Mustapa, 2007	SIDP	info@sempornaislandsproject.com	N/A
Report	Socio-Economic study: Results of 2006 Community Census. Wood, Suliansa, Mustapa, Brunt, 2007	SIDP	info@sempornaislandsproject.com	N/A
Report	Report of SIDP Roadshow 2007. Wood, Mustapa & Brunt, 2008	SIDP	info@sempornaislandsproject.com	N/A
Report	Fisheries & marine resource use in TSMP. Wood, Mustapa & Brunt, 2008	SIDP	info@sempornaislandsproject.com	N/A
Symposium Prog & abstracts	Sabah Coral Reef Symposium 2008	SIDP	info@sempornaislandsproject.com	N/A
Report	Hatchery Development. Wood, Mustapa & Ahad, 2008	SIDP	info@sempornaislandsproject.com	N/A
Report	Stop Fish Blasting Campaign, Wood, Mustapa, Brunt, 2008	SIDP	info@sempornaislandsproject.com	N/A
Report	Bajau Laut seaweed farming programme. Wood, Brunt & Mustapa	SIDP	info@sempornaislandsproject.com	N/A
Report	Reef Monitoring in TSMP. Wood et al. 2008	SIDP	info@sempornaislandsproject.com	N/A
CD	Tun Sakaran Marine Park: Coral Reef Atlas	SIDP	info@sempornaislandsproject.com	£5.00
CD	TSMP: Coral Reef Biodiversity	SIDP	info@sempornaislandsproject.com	£5.00

## Annex 6 Darwin Contacts

<b>Ref No</b>	14-007
<b>Project Title</b>	Community Action for Sustainable Use and Conservation of Coral Reefs
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