



## Darwin Initiative Annual Report



Department  
for Environment  
Food & Rural Affairs

### Darwin Project Information

Project Reference	20-017
Project Title	Strengthening the capability of Kenyan communities to conserve coral reefs
Host Country/ies	Kenya
Contract Holder Institution	Wildlife Conservation Society
Partner institutions	Kenya Fisheries Department (now called State Department of Fisheries), Stockholm Resilience Centre (Stockholm University)
Darwin Grant Value	£181,533
Start/end dates of project	1 April 2013 – 31 March 2016
Reporting period (eg Apr 2013 – Mar 2014) and number (eg Annual Report 1, 2, 3)	April 2013 - March 2014 (Annual Report 1)
Project Leader name	Dr. Nyawira Muthiga
Project website	N/A
Report author(s) and date	Dr. N. Muthiga, Ms Caro Abunge and reviewed by Ms E. Mueni, Dr. T. Daw and Dr. B. Crona

### 1. Project Rationale

The coral reef ecosystems that fringe the Kenyan coastline are some of the nation's most biologically diverse and economically important marine ecosystems. Coral reefs are also particularly vulnerable to overexploitation by artisanal fishing communities, and the impacts of their ongoing exploitation and other threats are aggravated by climate change and a growing human population.

Unfortunately, coral reefs are common-pool resources that are challenging to sustainably manage, particularly when taking into account the multiple social and ecological outcomes (such as social equity and maintenance of biodiversity) that different users and management institutions want to achieve. Recent research has shown that despite weak institutional capacity of developing countries like Kenya, there is considerable promise in the concept of fisheries co-management, in which resource users get a say in the development and implementation of rules. Early experiences in Kenya suggest that community-managed fisheries closures (tengefu) can align previously conflicting interests by addressing diverse values (community empowerment, fisheries protection, benefit sharing) in the management process. Although tengefu have the potential to generate significant benefits for marine conservation and local people, they are beset by challenges: communities lack resource management experience, compliance and enforcement are weak, and socioeconomic conditions foster disempowerment and impede active participation by men and women. This project will encourage and promote participatory processes, and use knowledge generated to develop and implement adaptive management systems for tengefu that take into account social, ecological and institutional realities.

The project is located in the southern coast of Kenya at eight tengefu at Kuruwitu, Bureni, Mradi, Msumarini, Nyari, Mtangata Mpunga and Mkwiro. The sites differ in their ecological, social and institutional characteristics and contexts but are primarily located at shallow coral reef sites and fishing is the dominant livelihood.

## **2. Project Partnerships**

The key project partners in Kenya include the fishing communities living adjacent to the tengefu and the Fisheries Department (now called the State Department of Fisheries or SDF). These are members of the Project Implementing Committee (PIC) that are involved in the planning and implementation of the project. The PIC is therefore composed of a representative from the SDF, two representatives from the eight tengefu, two WCS staff members and a community liaison officer.

WCS's partnership with the SDF is based on a long-term relationship that is focused on capacity building through WCS's provision of technical expertise, sharing scientific information and joint facilitation of the Annual Fishers' Forum (with additional stakeholders depending on the theme of each forum). The partnership with the fishing communities is also based on long-term relationships, WCS has had a long-term presence working with local communities in the management of small-scale fisheries along the Kenyan coast. The project was initially conceived after great interest was shown by communities during the 2012 Annual Fishers' Forum, in which progress on tengefu was presented. SDF and fishing community leaders subsequently endorsed the project concept and provided letters of endorsement for the funding application process.

In the last 12 months, the partnership between SDF and WCS has been strengthened through regular meetings, communication via phone and email, and discussions around planning and decision-making prior to implementation. To facilitate this partnership, SDF assigned a senior staff member, Ms Elizabeth Mueni, to be part of the PIC, and assigned district fisheries officers to onsite project activities. The partnership with the tengefu has also been enhanced through the PIC, regular communication through phone and onsite visits. The communication has been two-way, with communities calling in to follow up on activities, report relevant incidences and other information of interest to the project, and project staff making onsite visits to follow-up on activities and to report back to communities on project progress.

Examples of collaboration include the active participation of 280 people representing fishing communities through their BMU and tengefu leaders, Fisheries traders representatives, SDF, EAWLS, KCDP, KMFRI, KWS, Kwale and Kilifi county representatives and students from local universities in the sensitization meetings and project launch workshop. In addition, SDF staff helped organise and participated in the 2013 Fishers' Forum that was chaired by the Provincial SDF head, Mr Nthekeha (Annex 1). SDF staff also participated in a Beach Management Unit (BMU) training exercise and the discussions on the management planning process with the fisher communities. Participation of SDF staff during onsite activities not only enhanced the partnership between WCS and SDF it also provided formal national-level recognition of the project by a key national institution that was appreciated by the fisher communities. The project therefore is serving as an important platform for maintaining and strengthening these partnerships.

We learned that it was important to communicate regularly and follow-up on any discussions and decisions because the SDF staff were also busy with the new World Bank-funded project (Kenya Coastal Development Program (KCDP)). We also learned that it was important to begin discussions at the beginning of the project about the sustainability of some project outputs. For example, we discussed the long-term organisation of the Annual Fishers' Forum, fisheries catch monitoring and reporting and monitoring of compliance of fisheries laws. Regarding the Annual Fishers' Forum, WCS has been lobbying for SDF to incorporate the forum in their annual work plan to ensure long-term national support for the forum. This is important because the forum is both an important avenue for imparting knowledge on fisheries and the conservation and management of coral reefs in Kenya, and there is no equivalent networking and information sharing arena for fishers and other stakeholders along the Kenyan coast. Because funding has been a major constraint limiting the SDF from fully supporting the forum

and fisheries catch monitoring, this year was an appropriate time to put more emphasis on the need for SDF to take on these activities since some of these activities have the potential to be supported through the Fisheries component of the KCDP. The KCDP fisheries component includes activities to strengthen community-managed marine areas, monitoring control and compliance (MCS) amongst others. The activities can therefore be supported while mechanisms are developed to institutionalize them in the long term. We introduced the Darwin-funded project to KCDP and provided technical expertise for the fisheries monitoring protocols for the MCS program that is being implemented across the Kenyan coast. We are in regular communication with KCDP and provide them with updates on the project.

### **3. Project Progress**

#### **3.1 Progress in carrying out project activities**

***Output 1: Eight adaptive management plans are signed and endorsed as part of the bylaws of the BMUs within which the tengefu occur.***

***Activity 1.1: Conduct project inception workshop to discuss and agree on detailed work-plans roles and responsibilities of project participants.***

Prior to launching the project, we conducted sensitization meetings at the eight tengefu sites where fisher communities including BMU leaders attended. The objective of these sensitization meetings was to inform the broader community about the project and to request the selection of up to 4 community members to comprise the site teams, a total of 242 participants were involved in the sensitization meetings. We subsequently successfully launched the project at an inception workshop on the 27th May 2013 at Msambweni (see Annex 2) that was attended by 38 participants, including the four members of the community teams, BMU leaders from adjacent landing sites, fishing community representatives, SDF Kwale and Kilifi county fisheries officers and other stakeholders. The inception workshop was also used as a platform for raising awareness about the conservation and management of marine ecosystems (See Activity 2.2). We then held a meeting to establish the PIC, hired Rodgers Charo, a member of one tengefu, as the liaison officer for the project, and developed the PIC workplan.

***Activity 1.2: Conduct participatory assessments (socioeconomic, ecological and institutional) and draft adaptive management plans with communities.***

Existing ecological, socioeconomic and institutional information was collated for the project sites from WCS databases and other information sources. Additional assessments were completed to fill in the gaps. We also compiled data from other monitoring programs such as the sea turtle nesting activity monitoring program that is managed by KESCOM through the community turtle conservation groups (TCGs). There are TCGs at Bureni, Kuruwitu, Nyari and Mpunga. Although we had expected to complete all assessments for all the tengefu, we experienced some challenges. At Mkwiro, the Mkwiro community decided not to work in the initial site that was selected (Nyuli) due to a conflict with the neighbouring BMU that shares the Nyuli fishing grounds. After much discussion, a new site was selected in the Wasini channel that is directly in front of Mkwiro village. This site has now been mapped and ecological assessments are planned. In addition, the Msumarini community have not yet decided on the placement of their tengefu (see attached map). We have mapped the general area, but the community is still discussing exact boundaries and hence no ecological assessments have been done at Msumarini.

The socioeconomic and institutional assessments were based on the larger BMU or fishing grounds rather than the smaller areas of the tengefu. Thus the difficulties encountered with the tengefu-specific ecological assessments were not encountered and baseline socioeconomic and institutional information is available for all project sites.

We also commenced on empirical studies in partnership with our Stockholm University partners. Drs. Daw and Crona supervised an Msc student Ms Shauna Mahajan (Stockholm University) who completed her fieldwork on a study titled *Ecosystem services and human well-*

*being: Who benefits and who loses? A case of community-based marine protected areas in coastal Kenya (see Annex 3). Shauna is currently completing her degree. We have discussed additional studies for the project; one on the complex institutional context of these tengefu by Caroline Abunge (WCS Kenya) who is preregistered at the local university (Pwani University), another by Ashley Perl (Stockholm University) and a final one evaluating the effectiveness of the Fishers' Forum that will be conducted by a yet to be identified local student. The ecological and socioeconomic assessments will be repeated over the next two years and the Fishers' Forum study is planned for the coming year.*

In addition, monitoring of fisheries catches and prices was initiated at sites where WCS does not already have on-going monitoring, Msambweni and Mkwiro landing sites. Data from these assessments and monitoring are saved in databases in an online folder in Dropbox that can be accessed by all partners. Finally, we have just completed a draft of a publication (see Annex 4) on the growth of the tengefu movement in Kenya that will serve as a baseline publication that we can use to evaluate the evolution of this movement going forwards.

**Activity 1.3:** *Facilitate process with communities for review and adoption of the adaptive management plans and prepare for incorporation of the plan into the BMU by-laws by the Ministry of Fisheries Development.*

The management planning process, and roles and responsibilities were initially discussed at the first PIC meeting with the community leaders and representatives. At this meeting, we collected information on the status of each tengefu and the key issues that need to be resolved before management can be implemented successfully. This was a way to update everyone on the status of each tengefu at the project sites. Tengefu could be categorized into three main stages: 1) those sites that were interested and conducting initial discussions on establishing tengefu; 2) those sites in which tengefu had already been established but had no management; and 3) those sites with tengefu that were well established and managed but had no documented management actions. Since the tengefu were at different stages and had differing institutional contexts, we used different approaches depending on the site. For the stage 1 tengefu (Msumarini and Mkwiro), we held meetings and conducted site visits and phone follow-up to encourage the community leaders to reach a community decision about the demarcation of the tengefu. As noted above, Mkwiro finally decided on an area that has now been mapped and demarked with buoys. At Msumarini, the newest suggested tengefu, after regular visits and calls a decision was reached about a general area that has now been mapped. However the Msumarini community was not yet ready to demarcate the area with buoys because of conflict with adjacent fishers. At Bureni, the community has agreed on an area that has been mapped, but they are not ready to set buoys unless some community guards are in place. Since Bureni has a good partnership with Vipingo Estate (the largest land owner in the area), we are facilitating a discussion between Bureni and Vipingo estate on how guards can be supported and buoys installed.

At all the other sites the approach was also tailored to the situation on the ground. At Kuruwitu, the oldest tengefu, the evaluation indicated that, although there is a BMU management plan in place, there are no specific management actions in the plan. In addition, Bureni is included in the Kuruwitu BMU plan yet they want their own tengefu as described above.

Finally we started discussion with SDF on the process that will be followed to incorporate the tengefu management plans into the BMU bylaws. There is no formal process at the moment so we have suggested that the SDF should develop and document a process that can be followed consistently across all BMUs with community closures. Since the BMU law requires a management plan, we found that the language became confusing if we also called the tengefu plans "management plans." Therefore the decision was made to call the tengefu plans "management guidelines." These guidelines will then be incorporated into the BMU management plans.

**Output 2: Through the adaptive management process, communities gain management skills and a better understanding of the factors that enhance or impede success of community managed areas.**

**Activity 2.1:** Conduct training/skills needs assessment and implement appropriate trainings based on the findings. **Activity 2.2:** Design and implement appropriate awareness and learning exchange programs for communities based on results of the assessment in Activity 2.1.

We conducted a questionnaire-based review of the training needs of the community teams. The results showed that there was a fair amount of confusion about the process of establishment and management of BMUs and community managed areas, and how these differed from the national marine protected areas. We therefore decided to use the training modules that had previously been developed by SDF after the BMU regulations legislation was passed in Kenya. Ideally all BMUs are expected to take this training prior to establishment of the BMU. Our evaluation found that the communities at the project sites needed a refresher course on BMUs. The BMU training modules are fairly comprehensive and focus on all aspects of BMU management (Annex 5a). We also used the training exercise as an awareness raising platform on coral and seagrass ecology, including a field assessment and fisheries catch monitoring exercise to develop monitoring skills. We then conducted a three-day training exercise in collaboration with SDF at the south coast for the community teams and BMU leaders (see Annex 5b & 5c).

**Activity 2.3:** Monitor and evaluate success and uptake of training and awareness programs.

The first step in monitoring training was to conduct the assessment. We now have a record of the training that has been carried out to date, and have kept records on the participants of the BMU training exercise. We will continue to monitor trainees to evaluate their skills use. The evaluation of the Fishers' Forum discussed below (Activity 2.4) is also expected to provide information on the effectiveness of this forum in disseminating conservation and fisheries management information to fisher communities.

**Activity 2.4:** Convene Annual Fishers Forum.

We convened the 2013 Annual Fishers' Forum on 12 September 2013 (See Annex 1). The Forum was well attended and participants included 131 fishers from 30 landing sites, 9 stakeholder organizations working with fisher communities, BMU representatives and fish traders including women fish processors (Mama Karangas). Our presentations at the Forum focused on four key research and monitoring activities conducted by WCS and partners namely:

- The changes in fish catches and incomes at the 17 landings sites that are regularly monitored. Similar to the previous year, these showed continued improvements associated with reduced use of seine net gear, reduced fishing effort, and increased community closures (tengefu);
- The ecological and fisheries outcomes of no-take national parks and tengefus. These also showed stable conditions in national parks and recovery in some of the studied tengefu as in the previous year;
- The gated trap, that is a fish trap that is modified to allow small and flat fish to escape. WCS has been conducting experiments on the efficacy of this trap and we are encouraging fishers to replace their old traditional traps with the gated trap. Results at experiments at three new sites in Kenya (Chale, Mwaepe, Kibuyuni) and Mazizini in Zanzibar showed similar results to previous experiments: the gated traps on average caught larger fish, had less by-catch and fewer fish below sexual maturity; and
- The results of a study conducted on fish traders at 19 landing sites along the Kenya coast from Kijangwani to Gazi. This study showed that the poorest fish traders were associated with fishing grounds where beach seining continues throughout the year, that fish fryers (who were mostly women) earned less than fish traders, and that there was a general lack of understanding amongst fish traders on the ecological impact of fishing.

The presentations were made in Kiswahili (see Annex 6). Two videos previously produced by our program (one on how to construct a gated trap and the other on the Kanamai tengefu) were

also presented during the break. The 2013 Fishers' Forum was one of the largest convened to date and was supported by the Darwin Initiative and Synchronicity Earth.

***Output 3: Overexploitation and destructive fishing activities are reduced in 8 tengefu as management interventions are implemented.***

***Activity 3.1: Draft operational procedures for management.***

There has been some progress made in this activity and draft procedures have been developed as part of the tengefu management plans that are currently being discussed by communities. We expect tengefu to adopt the plans and start implementing the management procedures in the coming year.

***Activity 3.2: Implement management actions.***

Progress on the implementation of management activities has been slower than anticipated because we had not foreseen how long it would take for communities to discuss and fully endorse management actions. However, we will continue to work with these communities to develop the firm foundation for managing local fishing activities.

***Activity 3.3: Evaluate and adapt management actions.***

This activity will commence in the coming year once management actions start being implemented

***Activity 3.4: Conduct empirical studies on management effectiveness.***

Good progress has been made under this activity (see details in Activity 1.2 above), an MSc student Shauna Mahajan completed a study evaluating the management effectiveness of some tengefu and we expect a copy of her theses in the coming months. We have also discussed details of additional studies that will be conducted in the coming year (see details in Activity 1.2 above).

***Output 4: Coral reef and reef fish recovery increases in 8 tengefu.***

***Activity 4.1: Monitor coral reef and associated ecosystems health.***

All the tengefu have been monitored except Msumarini and Mkwiro. At some of these tengefu (Kuruwitu, Kanamai, Bureni) we have several years of data that will be useful for comparison. Monitoring activities are based on a long-term monitoring program developed by WCS that includes measures of changes in the key benthic substrate (hard coral, macro and coralline algae amongst others), measures of finfish diversity and biomass, measures of urchin diversity and biomass, measure of ecological processes including herbivory and predation and coral bleaching and diseases (see Annex 7). This set of parameters provides a comprehensive measure of the changes occurring on coral reefs.

***Activity 4.2: Monitor fisheries and fish prices.***

Prior to the project monitoring of fish catches was ongoing at all sites except Msumarini, where catches are now being monitored. In addition, all tengefu now have a fish price monitoring program including Mkwiro and Msumarini where there was no previous data.

***Activity 4.3: Produce scientific papers and the final report.***

A draft of the first scientific paper has been completed and submitted to Coastal Management (see Activity 1.2 above). We also expect a thesis and scientific publication from Shauna Mahajan's MSc.

***Output 5: Human well-being and food security in target communities are improved over the long-term.***

***Activity 5.1: Conduct socioeconomic (basic necessities) surveys.***

We have compiled basic demographic and household and socioeconomic information on all the tengefu sites and will be conducting basic necessities surveys in the coming year.

### 3.2 Progress towards project outputs

***Output 1: Eight adaptive management plans are signed and endorsed as part of the bylaws of the BMUs within which the tengefu occur.***

It was expected that by the end of the review period, management plans would have been adopted by communities and endorsed by the SDF. Although good progress was made towards this output, we underestimated the length of time communities need to come to agreement on management actions. However, the fact that discussions have continued and action have been shown in some tengefu is a positive sign that the commitment is still there moving us to the final outcome.

***Output 2: Through the adaptive management process, communities gain management skills and a better understanding of the factors that enhance or impede success of community managed areas.***

Good progress has been made on this output: the training exercise went very well, communities are regularly monitoring their fisheries catches and fish prices in collaboration with the project gaining further skills in monitoring which they will need once they commence implementation of management actions.

***Output 3: Overexploitation and destructive fishing activities are reduced in 8 tengefu as management interventions are implemented.***

Some progress has been made towards this output. The draft management actions are currently being discussed by all but two tengefu (Mkwiro and Msumarini). It is expected that all the tengefu will commence implementation in the coming months. We also expect at least two more studies to start and maybe the third during the 2014 Fishers' Forum that will be held in August or September 2014.

***Output 4: Coral reef and reef fish recovery increases in 8 tengefu.***

The progress that has been made in this output is in collection of the baseline information that will be needed to evaluate whether there has been recovery in the tengefu once the management actions start being implemented.

***Output 5: Human well-being and food security in target communities are improved over the long-term.***

Progress has been made in collecting the baseline socioeconomic information as well as the fisheries catches and prices that will be used to compare with the subsequent years to assess progress in this output.

### 3.3 Progress towards the project Purpose/Outcome

The purpose level assumptions still hold and the indicators are adequate for measuring outcomes, we see no reason not to expect the project to achieve its purpose. However, there are some risks that we have to keep in mind. First, it is predicted that the El Niño event in 2014 will be as strong as the 1998 El Niño event that led to increased sea water temperatures in the Western Indian Ocean and a coral bleaching event that caused 50 – 70% mortality of hard corals in Kenya. However, the 1998 El Niño coincided with an Indian Ocean dipole event which exacerbated the situation. How the El Niño will develop this year is not clear but there is a potential for some coral mortality that could impact the project outcomes. Second, over the past year, there have been increased security risks on the Kenya coast. Although none have been associated with the project sites, we will continue to be on the alert for any risks that may impact our work going forward.

Overall, the main challenge has been to facilitate agreement within communities on the management actions. We are confident that many of the hurdles that have been encountered to date can be resolved, hence we envisage adoption and implementation of management actions over the coming months. The SDF is fully engaged in the process and this will help especially

where in cases where the management actions require engagement by the national management authority to be fully implemented.

### **3.4 Goal/ Impact: achievement of positive impact on biodiversity and poverty alleviation**

***Project Goal:** Community-managed closures (tengefu) across Kenya cover more area, and are more effectively and adaptively managed by local communities, leading to a reduction in overexploitation of marine resources and destructive fishing practices, and a consequent increase in productivity. This will produce the benefits of improved fishers' livelihoods, greater food security, and stronger protection of reef biodiversity.*

The project is contributing to this goal by undertaking to increase the capacity of eight Kenyan coastal communities to effectively manage community fisheries closures (tengefu).

In the first year of the project, we don't expect to see large changes on biodiversity status and poverty alleviation in these communities, as such changes take time. However, we are making some progress towards building the capacity for effective management of tengefu. Over time, this should increase the conservation and management of coral reefs in the coming years and is expected to result in improved local fisheries contributing to livelihoods and poverty alleviation and improved quality of life.

## **4. Project support to the Conventions (CBD, CMS and/or CITES)**

By the end of the project, we expect the project to have contributed to better management of coral reefs and associated ecosystems (Aichi Targets 1, 6, 10), habitat recovery and improved fisheries with potential positive outcomes for livelihoods (Aichi Targets 6, 10, 11, 14) and to reducing anthropogenic disturbance with the potential to increase the resilience of coral reefs and associated ecosystems to cope with climate change impacts (Aichi Target 15). During the period under review, the scientific information that has been collected is the first step towards assisting in meeting these goals (refer to 3.1 output 2).

We also expect the project to contribute to Kenya meeting its obligations under the Convention on Migratory Species (CMS) through increased protection of the coral reefs that provide critical habitat for marine turtles. The project has made some progress toward contributing to this goal through training communities with tengefus in monitoring and also in collection of ecological data from the coral reefs of the tengefu. In addition, the Kuruwitu, Bureni, Nyari and Mpunga tengefu areas are nesting grounds for green turtles and it is expected that data collected in these areas will be shared with the KWS for the national biodiversity database that KWS uses to compile its reporting to the conventions.

We have been in touch by email with the national focal point for Kenya based at KWS headquarters in Nairobi who is responsible for the CBD, CMS and CITES conventions and informed him about the project and the potential areas that the project can contribute to Kenya meeting its obligations under these conventions. In addition, we contributed to the review of the Coral Reef and Seagrass Ecosystems Conservation Strategy providing information about tengefus amongst other information on coral reefs of the Kenyan coast (see Annex 7). This strategy was in development prior to the initiation of the project and the project will contribute to its implementation through improving management of coral reefs. Finally, the project will also contribute knowledge on climate change through the coral reef monitoring which includes measures of coral bleaching.

## **5. Monitoring, evaluation and lessons**

The main method we have used to monitor the progress on project activities is to keep a checklist modified from the initial workplan (see Annex 8). We also keep a record of all communication, data collected, minutes of meetings and expenditures.



We initially planned for the PIC to meet every two quarters but this was not possible this year due to the availability of PIC members hence more communication was carried out by phone or email. However, the liaison officer made almost monthly visits to the project sites.

The main lessons we have learned from this year's work is that communities require a great deal of time for negotiations and that they require more on the ground supervision than initially anticipated. The sites are spread out over the entire southern Kenyan coast and it has been difficult for us to visit each site on an expanded basis. We plan to increase our on the ground presence by assigning the current liaison officer who lives in Kuruwitu to focus on sites north of Mombasa (Kuruwitu, Kanamai, Bureni and Msumarini) and engage one of the members of the community teams in the more southern sites to focus on those sites (Nyari, Mpunga, Mtangata and Mkwiro).

We had also only budgeted two PIC meetings per year, but we found these not to be adequate for jointly resolving issues that arose. Therefore we plan to convene PIC meetings four times a year going forward. Finally more time is required than we anticipated at the project sites to ensure and encourage a high level of community involvement, especially at the early stages of such work. This can be solved partly by the assignment of two liaison officers and also by working with SDF to provide updates whenever they visits the sites as part of the MCS work that they are conducting under the KCDP as southern Kenya is one of the targeted areas for KCDP.

## **6. Actions taken in response to previous reviews (if applicable)**

Not applicable.

## **7. Other comments on progress not covered elsewhere**

Not applicable.

## **8. Sustainability**

The main factors that could affect the sustainability of tengefu in the future are the level of national support that tengefu are provided, overall improvements in fisheries management through strengthening the BMUs and improving general MCS along the Kenyan coast. To this end, we have held discussions with the SDF and KCDP (detailed in section 2 above) in key areas we identified as needing strengthening. We expect the SDF with KCDP support under the Fisheries component could greatly improve the long-term sustainability of tengefu and community managed areas by:

- Increasing over time the support provided for the Annual Fishers' Forum. At the moment, the SDF organizes with stakeholders (including WCS) an Annual Fisheries Day. We have been lobbying for the Fishers' Forum to also become an annual event that is part of the SDF workplan. As with the Annual Fisheries Day, stakeholders such as WCS, can assist in its organisation but for the Annual Fishers' Forum to have long-term national impact, SDF needs to take the lead;
- Producing a document that details a formal mechanism for incorporating tengefu management guidelines within the BMU bylaws. Production of a document detailing a process to be followed, as has been done for the BMUs, would help rationalize the current tengefu and also assist in establishment of new ones;
- Implementing and maintaining a fisheries catch monitoring and MCS program at a subset of landing sites on the Kenyan coast. This will greatly improve fisheries management as a whole, greatly reduce the current conflicts over fishing grounds and enhance compliance of fisheries regulations across the coast.

These national level activities will greatly assist in making the tengefu on the Kenyan coast more sustainable by providing national level recognition and support over the long-term. In

addition, because Kenya is slowly moving to a devolved system of governance, the county governments are increasingly taking on responsibility for management of the resources within their jurisdiction. The project sites lie within Kilifi and Kwale counties. We invited the Kwale and Kilifi county fisheries representatives to the sensitisation meetings and the inception workshop. Although it is not yet clear how the county governments will manage fisheries resources, we will continue to update them on the project thus ensuring that tengefu are on their resource management radar.

## 9. Darwin Identity

We used the Darwin Initiative logo and talked about the project at every opportunity, such as at the project inception workshop, the Fishers' Forum and the training exercise that drew a range of participants. Although some of the stakeholders that we interacted with including SDF, KMFRI, other NGOs and some communities in the south coast were already aware of the Darwin Initiative, many others were not. We were also able to talk about the project at other meetings including the KCDP meetings on fisheries monitoring and MCS, the Marine Science for Management Workshop in Mombasa, and the ESPA SPACES project meeting in Maputo.

## 10. Project Expenditure

**Table 1 project expenditure during the reporting period (1 April 2013 – 31 March 2014)**

<b>Project spend since last annual report</b>	<b>2013/14 Grant (£)</b>	<b>2013/14 Total actual Darwin Costs (£)</b>	<b>Variance %</b>	<b>Comments (please explain significant variances)</b>
Staff costs (see below)			-7%	
Consultancy costs			7%	
Overhead Costs			1%	
Travel and subsistence			5%	
Operating Costs			9%	
Capital items (see below)			10%	
Others (see below)			9%	
<b>TOTAL</b>			<b>0%</b>	

**11. OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum). This section may be used for publicity purposes.**

## Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2013-2014

Project summary	Measurable Indicators	Progress and Achievements April 2013 - March 2014	Actions required/planned for next period
<p><b>Goal/Impact</b></p> <p>Community-managed closures (tengefu) across Kenya cover more area, and are more effectively and adaptively managed by local communities, leading to a reduction in overexploitation of marine resources and destructive fishing practices, and a consequent increase in productivity. This will produce the benefits of improved fishers' livelihoods, greater food security, and stronger protection of reef biodiversity.</p>			
<p><b>Purpose/Outcome</b></p> <p>The outcome of this project is the increased capacity of Kenyan coastal communities to effectively manage eight community-managed closures (tengefu). Establishing participatory processes and developing and testing adaptive management plans will build the capacity of communities to protect and benefit from the biodiversity on which they depend (through the restoration of coral reefs and associated species), and improve their livelihoods and quality of life (through greater food security and income). We expect that increased participation in management, networking and outreach will also improve social organization, resulting in communities that are able to effectively negotiate and resolve conflict over shared resources.</p>	<ol style="list-style-type: none"> <li>1. Eight tengefu communities will have significantly increased knowledge and skills in managing their tengefu by participating in the adaptive management planning process and adopting and institutionalizing the plan by year 1.</li> <li>2. Eight tengefu communities will be more able to manage their fisheries and coral reef resources, have more confidence in interacting with fisheries managers and other stakeholders and have</li> <li>3. Eight tengefu communities have increased motivation and confidence in managing destructive fishing practices by actively participating in regulation and removal of gears that destroy coral reefs and compromise fisheries and by implementing monitoring and surveillance programs by Year 2. increased independence in managing their tengefu by implementing at least 3 key management actions from the plan by Year 1.5.</li> <li>4. Residents of 8 tengefu communities</li> </ol>	<p>It is still early in the project to comment on the outcome. However, the main stakeholders of the project have remained committed in the process of building capacity for management of tengefu. Also across the south coast, there continues to be interest from other communities in community fisheries closures indicating that at least the momentum for acceptance of community closures has been maintained. The main challenge has been the lack of a clear process of incorporation of the fisheries closure plans into the BMUs. We have discussed this with the SDF to develop a formal documented process so that all community closures have a standardized procedure to guide their formal establishment into the BMUs.</p>	

	have increased access to basic necessities and improved household incomes by Year 3.		
<b>Output 1:</b> Eight adaptive management plans are signed and endorsed as part of the bylaws of the BMUs within which the tengefu occur.	Indicator 1.1. Assessment reports, adaptive management plans, project evaluations, reports of meetings, Indicator 1.2. BMU by-laws, project evaluations, reports of meetings	Good progress has been made in the collection of information for the plans, discussions and drafting of the plans. However, SDF does not have a documented formal process for incorporating community closures within established BMUs. We will be working with SDF to get this document drafted, discussed and finalized by SDF in collaboration with other projects (KCDP) in Kenya  Challenges were experienced in keeping up with the reports of meetings, getting all relevant stakeholders to be available for all meetings.	
<b>Activity 1.1.</b> Conduct project inception workshop to discuss and agree on detailed work-plans roles and responsibilities of project participants		Activity completed  Challenges revolved around getting all relevant persons to be available at the same time for discussions and meetings	
<b>Activity 1.2.</b> Conduct participatory assessments (socioeconomic, ecological and institutional) and draft adaptive management plans with communities		Most assessments have been completed except for Mkwiro and Msumarini and the information has been discussed with communities during the meetings to discuss the draft plans. The data from these assessments are in a database  Challenge has been completing the reports from the assessments in a form that is useful for communities. We have found that oral dissemination works best and that written reports though useful to the donor and PIC, are less valuable as a communication tool for communities.  Draft template management actions has been produced and communities are now discussing these in preparation for implementation.	
<b>Activity 1.3.</b> Facilitate process with communities for review and adoption of the adaptive management plans and prepare for incorporation of the plan into the BMU by-laws by the Ministry of Fisheries Development		Meetings to discuss the management actions were held with communities except at Mkwiro and Msumarini where the area for closure was just recently decided upon. Some of the tengefu are not formally within a BMU and we are discussing the mechanism that can be used to implement action pending establishment of BMUs	
<b>Output 2:</b> Through the adaptive management process, communities gain management skills and a better understanding of the factors that enhance or impede success of	Indicator 2.1. Progress reports of key management action; reports of meetings  Indicator 2.2. Annual Fishers Forum and community learning exchanges reports, scientific publications	The Annual Fishers Forum was convened on the 12th September 2013 .  It is too early in the project to evaluate the management capacity of the tengefu management teams or appropriateness of indicators	

community managed areas.		
<b>Activity 2.1.</b> Conduct training/skills needs assessment and implement appropriate trainings based on the findings.		Skills assessed and BMU training including monitoring of catches completed
<b>Activity 2.2.</b> Design and implement appropriate awareness and learning exchange programs for communities based on results of the assessment in Activity 2.1		Fish catch data collection training modified for the communities Annual fishers forum More training will be needed in the coming year
<b>Activity 2.3.</b> Monitor and evaluate success and uptake of training and awareness programs		Monitoring protocol for evaluation of training uptake needs to be developed
<b>Activity 2.4.</b> Convene Annual Fishers Forum		Convened
<b>Output 3:</b> Overexploitation and destructive fishing activities are reduced in 8 tengefu as management interventions are implemented.	Indicator 3.1. Gear use survey report, Surveillance and monitoring plans, compliance reports, coral reef and reef fisheries reports  Indicator 3.2. Project evaluations, observations and discussions with communities	Commences in the coming year
<b>Activity 3.1.</b> Draft operational procedures for administration, conservation and surveillance actions from the adaptive management plans		Commences in the coming year
<b>Activity 3.2.</b> Implement three key management actions guided by the operational plans		Commences in the coming year
<b>Output 4:</b> Coral reef and reef fish recovery increases in 8 tengefu.	Indicator 4.1. Catch monitoring, market survey and coral reef and reef fisheries monitoring data	Fisheries catch monitoring has commenced at sites not previously monitored, and has been initiated at new sites (Mkwiro and Msumarini). Coral reefs monitored at all but Mkwiro and Msumarini which will commence in the following months.  Key results: Coral cover ranges from a low of 21% (Kuruwitu) to 34% (Mradi) Finfish biomass from 50 kg/ha (Bureni) to 360kg/ha (Kuruwitu)
<b>Activity 4.1.</b> Monitor coral reef and reef fish health and report at the Annual Fishers Forum		Fishers' Forum was convened, monitoring is ongoing
<b>Activity 4.2.</b> Monitor fisheries, fish catches and prices at tengefu landing sites		Ongoing
<b>Activity 4.3.</b> Publish and report findings at appropriate fora		Baseline review of all Kenyan tengefu including project sites drafted and has been submitted to the journal Coastal Management

		Msc thesis Shauna Mahajan completed, Caroline Abunge (Pwani University Kenya) and Ashley Perl (Stockholm University) commenced MSc under the project. Discussion had been held on an MSc to evaluate the fishers forum
<b>Output 5:</b> Human well-being and food security in target communities are improved over the long-term.	Indicator 5.1. Basic household necessities surveys	Initial information collected in the surveys, will need to be compared over time. Indicator seems appropriate
<b>Activity 5.1.</b> Conduct basic necessities surveys		Baseline information has been collected through household surveys, fisheries catch and prices monitoring

## Annex 2 Project's full current logframe

Activity	No of Months	Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Output 1	Eight adaptive management plans are signed and endorsed as part of the bylaws of the BMUs within which the tengefu occur.												
1.1	Inception workshop	0.5											
1.2	Assessments and draft adaptive management plans	5											
1.3	Review, adopt and incorporate plans into BMU bylaws	2											
Output 2	Through the adaptive management process, communities gain management skills and a better understanding of the factors that enhance or impede success of community managed areas.												
2.1	Training needs assessment and training activities	2											
2.2	Awareness programs and learning exchanges	6											
2.3	Monitor and evaluate awareness programs	1.5											
2.4	Annual Fishers Forum	1.5											
Output 3	Overexploitation and destructive fishing activities are reduced in 8 tengefu as management interventions are implemented.												
3.1	Draft operational procedures for management	0.5											
3.2	Implement management actions	6											
3.3	Evaluate and adapt management actions	1.5											
3.4	Conduct empirical studies on management effectiveness	3											
Output 4	Coral reef and reef fish recovery increases in 8 tengefu.												
4.1	Monitor coral reef and associated ecosystems health	2											
4.2	Monitor fisheries and fish prices	5											
4.3	Produce scientific papers and the final report	3											
Output 5	Conduct basic necessities surveys												
5.1	Conduct socioeconomic (basic necessities) surveys	2											
All Outputs	Project monitoring and evaluation	6											

## Annex 3 Standard Measures

**Table 1 Project Standard Output Measures**

Code No.	Description	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	Total to date	Number planned for reporting period	Total planned during the project
2	2 Kenyan students and 2 Europeans students to attain Masters qualification (MSc, MPhil etc)	0	2	2		0	0	4
6A	60 Kenyan participants to receive other forms of education/training	60		30		60	60	90
9	Management plans	8				0	8	8
11A	Number of papers to be published in peer reviewed journals		1	1		0	0	2
11B	Number of papers to be submitted to peer reviewed journals		1	1				2
14A	Number of conferences/seminars/workshops to be organised to present/disseminate findings	1	1	1		1	1	3
14B	Number of conferences/seminars/workshops attended at which findings from Darwin project work will be presented/disseminated.		1	1		0	0	2
15A	Number of national press releases in host country(ies)		2	2		0	0	4
15B	Number of local press releases in host country(ies)		2	2		0	0	4
23	Value of resources raised from other sources (ie. in addition to Darwin funding) for project work	26,242	102,000			26,242	26,242	128,242



**Table 2**                      **Publications**

Type (eg journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (eg contact address, website)	Cost £
Coastal Management	McClanahan TR, Abunge CA, Muthiga N A (in review) Establishment of community managed fisheries closures in Kenya- Early evolution of the Tengefu movement	Taylor & Francis Group	In review	

## **Annex 4 Onwards – supplementary material (optional but encouraged as evidence of project achievement)**

### **ACRONYMS**

BMU – Beach Management Unit

CBD – Convention on Biological Diversity

CITES - Convention on International Trade in Endangered Species of Flora and Fauna

CMS - Convention on Migratory Species

EAWLS - East Africa Wildlife Society

ESPA – Ecosystem Services for Poverty Alleviation

KESCOM - Kenya Sea Turtle Conservation Committee

KMFRI - Kenya Marine and Fisheries Research Institute

KWS - Kenya Wildlife Service

MCS – Monitoring Control and Surveillance

MPA - Marine Protected Area

NGO - Non Governmental Organization

PIC – Project Implementation Committee

SDF – State Department of Fisheries

SPACES - Sustainable Poverty Alleviation from Coastal Ecosystem Services

WCS – Wildlife Conservation Society

### **Table of contents of supplemental materials**

Annex 5. Report of the Annual Fishers' Forum

Annex 6. Powerpoint presentation given at the Inception Workshop

Annex 7. Thesis project proposal (Shauna Mahajan)

Annex 8. Title page of manuscript submitted to Coastal Management

Annex 9a. BMU training exercise agenda

Annex 9b. BMU institutions training module Powerpoint presentation

Annex 9c. Fish species ID card

Annex 10. Powerpoint presentation given at the Fishers' forum

Annex 11. Coral Reef and Seagrass Ecosystem Conservation strategy 2014 – 2018 (Cover page)

Annex 12. Checklist for monitoring project activities

## Checklist for submission

	Check
Is the report less than 10MB? If so, please email to <a href="mailto:Darwin-Projects@ltsi.co.uk">HYPERLINK "mailto:Darwin-Projects@ltsi.co.uk"</a> Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	X
Is your report more than 10MB? If so, please discuss with <a href="mailto:Darwin-Projects@ltsi.co.uk">HYPERLINK "mailto:Darwin-Projects@ltsi.co.uk"</a> Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	X
Have you included means of verification? You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	X
Do you have hard copies of material you want to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number.	
Have you involved your partners in preparation of the report and named the main contributors	X
Have you completed the Project Expenditure table fully?	X
Do not include claim forms or other communications with this report.	