Darwin Initiative Main and Post Project Annual Report

To be completed with reference to the "Writing a Darwin Report" guidance: (http://www.darwininitiative.org.uk/resources-for-projects/reporting-forms). It is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)

Submission Deadline: 30th April 2019

Darwin Project Information

Project reference	25-009
Project title	Fish for Tomorrow – Community sustainable fisheries management Nkhotakota District, Malawi
Host country/ies	Malawi
Contract holder institution	RIPPLE Africa
Partner institution(s)	District Fisheries Office, Nkhotakota District
Darwin grant value	£314,269
Start/end dates of project	1st July 2018 – 31st March 2021
Reporting period (e.g., Apr 2017 – Mar 2018) and number (e.g., Annual Report 1, 2, 3)	July 2018 – 31st March 2019 Annual Report 1
Project Leader name	Geoffrey Furber
Project website/blog/Twitter	www.rippleafrica.org
Report author(s) and date	Pam Haigh 12th April 2019

1. Project rationale

70% of people in Malawi, one of the world's poorest countries, live in poverty. Malawi's population has grown from 5 million in 1975 to over 19 million today and this growth is identified in the National Fisheries Policy as the main driver contributing to poverty, environmental degradation and unemployment. There is 80% livelihood and food security dependency on natural resources contributing to biodiversity loss - particularly noticeable in Lake Malawi, home to over 800 fish species.

In the 1970s, fish provided 70% of animal protein, but consumption has declined dramatically from 14kg/capita/year, to less than 6kg with serious nutritional implications for pregnant and lactating women, children and HIV sufferers. This also means a decline in economic benefits along the fish value chain and allied industries estimated at $1 billion/year.

Certain species have become over-exploited and fishers have changed effort, using longer and smaller meshed nets to catch Usipa (a freshwater sardine) – including anti-malaria mosquito nets. This indiscriminate use of undersized mesh means fish are caught before they have a chance to breed. Two of the formerly most common species, *Oreochromis karongae* and *Oreochromis lidole* (known as Chambo) are now classified as endangered on the IUCN Red List. The problem has been exacerbated by a lack of government enforcement of regulations due to chronic underfunding of fisheries, and previous failed top-down attempts to introduce participatory fisheries management. Without action, Usipa stocks will also soon diminish.

Fish for Tomorrow educates government, local leaders and lakeshore communities that the whole beach livelihood, associated value chains and nutritional well-being depend on sustainable fisheries behaviour. Women are actively engaged to stop illegal fishing that is damaging their family livelihoods. The nutritional benefits of the project benefit the broader Malawian population and those in neighbouring countries who rely on fish in their diets.

The project covers the three northern fishing strata of Nkhotakota District. These are shown on the map at Annex 4 as Strata 5.3, 5.4 and 5.5.

2. Project partnerships

We are working in partnership with the Nkhotakota District Fisheries team to deliver the project. This is the same model that we developed in Nkhata Bay District and our team in Nkhotakota have offices in the same building as the Fisheries team and RIPPLE Africa staff and fisheries extension workers work together to support the project. Malawi's Director of Fisheries supports our partnership and is keen for us to develop the same relationship with other District Fisheries officers and their teams in all of Malawi's lakeshore districts, given sufficient funding. We do not fund the salaries of the fisheries staff as these are funded by the Government of Malawi but in order to build the capacity of the team and enable them to get out to visit the fishing communities and develop strong relationship with the fishers themselves, RIPPLE Africa funds travel and subsistence costs as there is little government money available for this. Without this funding, the Fisheries Department cannot afford to operate or maintain vehicles and the support enables their activities to be done effectively.

In the last year, we have had a change of District Fisheries Officer. Originally we were working with Rogers Makwinja but he has now left the team to do a PhD and we now have a new District Fisheries Officer, Symon Ngwira. Mr Ngwira was already familiar with the Fish for Tomorrow project and was extremely keen to see the project introduced into Karonga District where he was DFO before the move to Nkhotakota. Our team in Malawi had already met and discussed the possible introduction of the project with him there and he had visited some of the fish conservation committees that we have set up in Nkhata Bay District. However, he was not familiar with the day to day running of the project and our Country Director and Project Manager have had to spend some time working with him to train him on this. He is now fully familiar with all aspects of the project and is working with them to plan activities, collect data and monitor FCC performance. This change was agreed by the Darwin Initiative team on 26th September 2018.

3. Project progress

3.1 Progress in carrying out project Activities

We have made good progress against the project activities. Details are shown at Annex 1 against each activity on the logframe

3.2 Progress towards project Outputs

We have made good progress against the project outputs. Details are shown at Annex 1 against each output on the logframe. We have revised the number of Fish Conservation Committees that we need to establish in the project area as the initial number that we anticipated that we needed was 42 based on the number of beach landing sites in the three strata. However, several of the beach landing sites are quite small and it has been agreed that we will have one FCC covering two beach landing sites where this is more appropriate. The number of FCCs that we now plan to have in total in the project area is 35 and we currently have 34 in place and fully trained.

3.3 Progress towards the project Outcome

We have made good progress against the project outcome. Details are shown at Annex 1.

3.4 Monitoring of assumptions

Assumptions for Output 1	
Fish Bylaws for Nkhotakota District are signed off by District Councillors and Executive Committee before the project start date.	Signed on 22nd May 2018 prior to the start of the project.
Traditional Authorities, Senior Chiefs, Village Headmen, community members and District officials are fully supportive of the project and its introduction into the new areas.	All are supportive – regular stakeholder meetings are held.
Catch data systems developed in Nkhata Bay District can be replicated in Nkhotakota District and we are able to find fishers who can be trusted to give accurate data on a daily basis.	We are using the same catch data systems in both districts and are carrying out spot checks on data to ensure accuracy and reliability.
Assumptions for Output 2	
Community members, particularly women, agree to join Fish Conservation Committees.	In some areas women have been more reluctant to join. Particularly where the population is predominantly Muslim. We have worked with Chiefs in these areas to encourage more to join and have achieved our 30% overall female membership target.
Data collected is accurate.	We are carrying out regular and scheduled spot checks on data relating to the FCCs' activities to ensure continued engagement in the project, accuracy and reliability.

Baseline survey is done to enable us to identify increased understanding.	We now have baseline data from Fisheries to establish the situation prior to the project start date. Baseline data is at Annex 5.
FCC members are active and effective.	We have established a monitoring system for FCCs which scores each on how effectively they are carrying out their role. Annex 6 shows a traffic light summary page from Nkhata Bay District which is used to highlight where further training needs to be carried out.
Men are fully prepared to involve women in committee activities and family decisions.	This is ongoing and is to be measured by community surveys – draft questionnaires are currently being trialled.
Socio-economic survey developed is effective in assessing women's views.	This is ongoing and is to be measured by community surveys – draft questionnaires are currently being trialled.
Minimal political interference.	We have established good working relationships with district governance structures and with Fisheries at the national level. Malawi's Director of Fisheries, Friday Njaya is very supportive of the project – redacted letter of support at Annex 7.
Assumptions for Output 3	
Chambo breeding areas are easy to identify.	We have been working with Fisheries and local communities and have identified 10 in the project area.
Community members are willing to become members of the Fish Conservation Committees in breeding areas and understand their responsibilities.	No problems with recruitment of FCC members in the project area, apart from the issue with women members in some areas mentioned above.
Fish Conservation Committees in the breeding areas are active and effective at carrying out their protection duties.	The monitoring system for FCCs at Annex 8 assesses how the FCC is performing generally and in our M and E plan, we undertake quarterly inspections of Chambo breeding areas – see Annex 9 for a recent report on an inspection in the project area.
Community members understand the need for the project and the importance of natural vegetation in breeding areas.	This is ongoing and is to be measured by community surveys – currently being trialled.
Political support for establishing nursery sanctuaries.	We have established good working relationships with district governance structures and with Fisheries at the national level.
Climate change does not cause lake to recede exposing sanctuaries.	Some breeding areas in the project area are seasonal and dry up in the dry months. We work with FCCs to determine how to best protect baby fish when this occurs.

3.5 Impact: achievement of positive impact on biodiversity and poverty alleviation

It is still early days to be seeing much improvement on biodiversity and poverty alleviation. However, we do have one FCC in the project area where they have now established savings groups as they are aware that they need to save so that they can support their families better during the closed season and

can afford to do this as they are already experiencing higher earnings from their fish sales as they are catching larger fish. We hope to encourage more fishers to learn how to manage their funds better by joining existing savings groups or establishing their own.

4. Contribution to the Global Goals for Sustainable Development (SDGs)

The project addresses:

- SDG 1 – End Poverty by improving income security for fishers and fish sellers
- SDG 2 – End Hunger as fish is an important animal protein source
- SDG 5 – End Gender Inequality by empowering women as FCC members
- SDG 14 – Life Below Water by introducing and enforcing conservation bylaws
- SDG 17 – Partnerships for the Goals, building the capacity of District Fisheries

5. Project support to the Conventions, Treaties or Agreements

The project supports Malawi's Convention for Biological Diversity targets as follows:

- **Target 4 -** through development of local bylaws with relevant stakeholders and national and district Fisheries offices
- **Target 7 -** through harvesting within ecological limits
- **Target 11 -** by protecting fish nurseries and breeding areas, encouraging plant growth and minimising damage caused by drag nets
- **Target 12 -** increasing mesh sizes and protecting breeding and nursery areas will help prevent extinction of known threatened species
- **Target 15 -** through empowering members of fishing communities in Nkhotakota to take ownership of their fish resource, diversify their livelihoods, access family planning services and manage fish stocks sustainably. The project also encourages women to become active project participants

The project addresses the following AICHI targets

- **Target 1 -** ensuring that residents of Nkhotakota understand the value of biodiversity to economy and food security, and how they can conserve and use fish stocks sustainably
- **Target 4** - supporting government departments and stakeholders to achieve or implement plans for sustainable production, marketing and consumption of resources
- **Target 6** - ensuring fish stocks in Lake Malawi are harvested sustainably through by allowing fish to reach breeding age before being harvested, ensuring fish stocks are harvested legally, encouraging communities to fish in ways that have limited impact on threatened species or vulnerable ecosystems and ensuring that the impact of fisheries is within safe ecological limits.

The Country CBD Representative is aware of the project but there have been no formal meetings this year.

6. Project support to poverty alleviation

Where the project has been working for a number of years, Chambo fishers are reporting that they are catching more and larger Chambo and other species of fish as bycatch - some of which have not been seen for years. They are making more money because larger fish fetch higher prices, increasing their overall income. We have some preliminary findings which support this in the Darwin project area and are now gathering further data to verify this. Our

predicted income graphs at Annex 5 are based on catch data multiplied by average beach market prices as it has not been possible yet to establish a reliable measurement system for actual income for fishers.

We are supporting fishers to budget and to establish savings groups as in Nkhata Bay District. More work will be done on this as the project becomes more established.

7. Project support to gender equality issues

Women are encouraged to become members of the Fish Conservation Committee and in the project area they constitute 30% of total FCC membership. We have developed a questionnaire to measure the impact of their increased participation in the project on their wellbeing levels and this is currently being trialled to establish its effectiveness as a qualitative measure of impact. We hope to finalise this in the next few months to allow us to begin to gather this information.

8. Monitoring and evaluation

A Monitoring and Evaluation Workplan has been developed to cover the project activities. This is attached at Annex 10. All extension workers (both Fisheries and RIPPLE Africa) are aware of the need for high quality monitoring and evaluation and have been fully trained to ensure that the workplan is followed. Regular meetings between Fisheries and RIPPLE Africa are held to discuss any issues and find solutions.

We have changed our Monitoring and Evaluation Manager during this period. Claire Mollatt had been working as our Monitoring and Evaluation Manager since May 2017, setting up effective data collection and monitoring systems for this and RIPPLE Africa's other environmental projects. An element of Claire's salary was allocated to this project to enable her to ensure that the data collection systems for the new project area were set up accurately, to monitor the data collection process and ensure that it was effective and accurate, to analyse the data and report on the progress of the project. However, in November 2018, Claire decided to return to her home country of Zimbabwe as she is now keen to settle down there, given the country's improving political situation. She remained in post with us until the end of December to hand over to the new staff.

To ensure effective Monitoring and Evaluation we have now recruited two new personnel.

- Sammy Kachikunje is a Malawian national who will be working with Sam Manda and Hope Nyirenda (RIPPLE Africa's environmental data input officer) to ensure that catch and income data is collected and entered onto our computerised data systems accurately and in a timely manner.
- In addition, Ann Cleverly is now working with us in the UK to analyse the data, identify any issues with data collection and improve our data handling and presentation systems. Ann is working closely with Sam and Sammy on data collection and also with Geoff Furber on data analysis and data reporting. Ann also works in Malawi when required.

This change was agreed by Darwin on 5th February 2019

9. Lessons learnt

As this project is an extension of our fish conservation work in other areas of Lake Malawi, we have been able to learn from our previous experiences to ensure that the Darwin funded project works as well as possible. However there have been three issues which we have faced in the first year:

- We had a poor fisheries extension worker in Stratum 5.5 who failed to do the work agreed. This was discussed with Fisheries but their HR processes were extremely slow at addressing the issue and this held up progress. However, he has now been relocated and is being retrained and the new Fisheries Extension Worker is proving very dedicated.
- The Chair of one of our FCCs in Stratum 5.5 (Ngala) was found to be using a mosquito net for fishing with the support of the Chief (who was also allowing his relatives to use mosquito nets). However this was flagged up through our FCC performance monitoring process and with the support of the Traditional Authority, the FCC Chair was replaced and the Chief received further training and is now fully on board with the project
- We had a change of District Fisheries Officer during this reporting period. Whilst Mr Ngwira was already familiar with the project as he had visited FCCs in Nkhata Bay in his previous role as DFO in Karonga, he was not fully aware of the detail of the project. We therefore had to spend some time with him to ensure that he was aware of how the project works and the requirements of his extension workers. We will ensure that full training is carried out when there is a change of DFO in any other areas in which we work.

10. Actions taken in response to previous reviews (if applicable)

Not applicable

11. Other comments on progress not covered elsewhere

None

12. Sustainability and legacy

We have been fortunate that the project has been showcased on an international level as our Country Manager, Force Ngwira, was one of three finalists in the Tusk Awards for Conservation in Africa 2018. See Annex 11

The project has also been highlighted in the USAID Request for Applications for the REFRESH project and over the last few months, we have had visits from several potential bidders. We have also had visits from USAID's Environmental Team Leader, Keith Metzner and Climate Change Specialist, Bruce Sosola who is based in Malawi. We are currently discussing possible partnerships with organisations who would like us to work with them to spread the project to other districts, such as Salima, Dedza, Karonga, Rumphi and the islands of Likoma and Chizamulu. This has already raised our profile in Malawi and internationally.

The main risk to the project is related to ongoing funding. Whilst we are extremely grateful for the Darwin Initiative funding which will enable us to run the project until March 2021, we are aware that we will need to find further funding to continue the work after that. We eventually plan to introduce a fishing permit system, which will generate funds to cover the running costs of the project but this requires fishers to be confident that their increased income from fishing will continue. Therefore we intend to seek further funding to allow sufficient time to convince them that endangered species are being protected effectively and fish stocks are increasing to a level where their income from fishing will support higher permit fees.

13. Darwin identity

We have highlighted the Darwin Initiative support for the project in our website https://www.rippleafrica.org/get-involved/company-trust-fundraising and have also posted about it on Facebook.

We have also provided material for the Darwin Newsletter in November (page 15) on the unexpected increased demand for the project from Salima District once they had seen the impact of the project in Nkhotakota and Nkhata Bay Districts. This was shared through Facebook and Twitter on 28th November.

The Darwin Initiative is recognised in Malawi as an important vehicle for conservation initiatives and this has been extremely helpful in gaining the interest of other potential funding partners. This project is part of our larger Fish for Tomorrow project for which we are now seeking further funding to enable the project to be introduced in new districts.

14. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2018 – 31 March 2019)

Project spend (indicative) since last annual report	2018/19 Grant (£)	2018/19 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Monitoring & Evaluation (M&E)				
Others (see below)				
TOTAL				

Capital costs were the purchase of 2 motorbikes for Stratum 5.5, and one each for the other two strata and the purchase of a laptop for the office for data inputting. At the time of applying for Darwin funding, we forecast a higher expenditure on overheads and travel and subsistence than we have actually had. However, this has been offset by the increase in our operating costs and consultancy costs. The change of Monitoring and Evaluation Manager was agreed by Darwin. During the handover period, we had two staff in post to enable training to be carried out. We also had a change of District Fisheries Officer during this period, which required additional training and meetings, thereby increasing operating costs. Change of DFO was also agreed by Darwin.

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2018-2019

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	Actions required/planned for next period
Impact Lake Malawi fishing communities manage fish resources sustainably and improve biodiversity through protection of endangered species, breeding areas and regulation of fishing gears thereby securing their livelihoods and improving nutrition.		Initial progress has been good in the Darwin project area and we are starting to see some positive changes in terms of the attitudes of fishing communities towards sustainable fishing. However, it is perhaps too early to see biodiversity improvements.	[redacted]
Outcome Fishing communities, supported by Fisheries Department in Nkhotakota District are empowered and take ownership of managing sustainable fishing methods, reducing illegal practices and protecting breeding/nursery sanctuaries for Chambo and Usipa	0.1 420 Fishers and community members are trained and active members of 42 Fish Conservation Committees by July 2019. Of these 125 will be women 0.2 All Chambo breeding / nursery areas in Nkhotakota District will be identified by September 2018 and will be protected by FCC members by March 2019 0.3 Fishers earnings stabilised by catching larger Chambo and Usipa and therefore earn a higher income from April 2019 until project end	0.1 We have revised the number of FCCs that we need to establish to 35 as some beach landing sites are close enough for two to be managed by one committee. We have 34 fully established and trained now and will have the remaining one trained by the end of this year. Of 340 committee members 102 are women – 30%. 0.2 We have now identified ten Chambo breeding areas in the project area and protecting each of these is the responsibility of the nearest FCC. 0.3 We are measuring fishers earning in order to establish a baseline – see Annex 5. This is a predicted income figure based on beach prices multiplied by average fish catches	0.1 We have identified one further FCC and have recruited the committee members – training will take place during the next period. 0.2 We are in the process of identifying more breeding areas – some of these are in lagoon areas which dry up at the end of the rainy season, so we are keen to highlight these and plan how best to conserve the fish in these as a priority. 0.3 Fishers earnings will continue to be measured along with the catch data for the project area using the same method.

	compared with baseline (to be established)		
Output 1. **Establish and train 42 fish conservation committees in Fishing Strata 5.3, 5.4 and 5.5 and local leaders and support them in managing fishing practices in their beach areas**	1.1 42 Fish Conservation Committees each containing 10 members - 30% of whom are female and 60% of whom are non fishers - established by Dec 2018. All member details and details of fishers and fishing gears used at the landing sites where they will operate entered onto database by March 2019. 1.2 Training of all FCCs will cover fish management and conservation, impact of family size and other family lifestyle choices on the natural environment, finance issues and committee management. Priorities for training committees will be in the Chambo nursery and breeding areas, but all FCCs will be fully trained by July 2019 1.3 All FCCs will be encouraged to actively patrol their beach area, confiscate nets and train other members of their community – from when they are fully trained until March 2021. This FCC led training will mirror the training that the FCC received, including the importance of fish as a natural resource and of sustainable fishing as a means of improving nutrition and household income. It will also highlight the impact of continued human population	1.1 Now only planning to need 35 FCCs and 34 are currently fully up and running. Details of FCC membership and fishers and landing gears have now been entered onto the Access database for these. See Annex 12. 1.2 We have trained all established FCCs in the areas on • Fish management and conservation • Impact of family size and other family lifestyle choices on the natural environment. • Finance issues • Committee management (leadership skills) Priorities for training committees has been in Chambo nursery and breeding areas, but all current FCCs were fully trained by March 2019. The final FCC will be trained by July 2019 1.3 We have established an FCC performance template which will be used to measure the activities of each FCC and highlight any retraining needed (example from Nkhata Bay District is at Annex 13). This includes whether the wider community is aware of the fish conservation practices so that we can assess how active each FCC is in communicating with their fellow community members and local children.	

	growth on future prospects for both fisheries and livelihoods 1.4 More than 125 female FCC members feel that they are empowered and fully involved in the project and fish value chain by December 2019	1.4 Female membership details are collected for all FCCs and we are currently trialling a questionnaire for women who are on the FCC to measure the impact of this on their wellbeing and feelings of involvement in the project. Because the number of FCCs will now be 35, the total number of female committee members will be 105	
Activity 1.1 Agree with Department of Fisheries which staff will work in the chosen areas – reassign staff as required		This has been done in conjunction with the District Fisheries Officer and RIPPLE Africa staff and Fisheries Extension Workers are all now in place. There has been one change of Fisheries Extension Worker in Stratum 5.5. See Section 9 for details	We will continue to work in partnership with the District Fisheries team to ensure that staffing levels are maintained and that any issues are quickly addressed
Activity 1.2 Meet with Fisheries extension workers, Traditional Authorities, Group Village Headmen and Village headmen to launch project and agree where the FCCs will be located in communities where this has not already been done. Share by-laws.		This activity was carried out at the start of the project in order to identify the number and location of FCCs needed in the project area. Bylaws were shared with all stakeholders as part of this process	We will continue to address any ongoing concerns through our regular stakeholder meetings – these are scheduled quarterly meetings with occasional addition meetings in between as required
Activity 1.3 Meet with community members to launch the project, discuss how the project will benefit community members and seek volunteers to join the FCC where this has not yet been formed. Particular focus on encouraging women to participate		This has been done now in all areas and is the reason for the decision to reduce the planned number of FCCs	We will continue to monitor FCC performance and suggest membership changes as required
Activity 1.4 Generate an FCC register and enter details of all fishers at beach landing sites onto RIPPLE Africa database		Done – see Output 1.1 above	Changes are recorded twice a year
Activity 1.5 Adapt current training materials to include training on how population increase affects natural resources and on family planning with reference to local support available		Done – training now includes this in the Darwin area	We will continue to stress this in any retraining activity carried out
Activity 1.6 Train newly formed FCCs in management - priority to be given to those located near breeding areas		Done – see Output 1.2 above	This will be done if needed for new committee members
Activity 1.7 Monitor and support all FCCs to ensure that they are following local bylaws and spreading the message to other community members on the project		See FCC Performance Template at Annex 13	We have a planned programme of monitoring inspections for all FCCs and

			this will continue to be followed and retraining done as required
Activity 1.8 Develop socioeconomic survey to assess women's wellbeing and involvement and carry out initial survey to establish baseline		Draft questionnaire in the process of being trialled - see Output 1.4 above	Once tested and finalised, we will establish the baseline
Activity 1.9 Carry out quarterly surveys to compare results against baseline		No action as yet	We will begin to carry out the surveys as part of our normal monitoring process
Output 2. **Identify all Chambo breeding and nursery areas and ensure that protection measures and sanctuaries are in place for all of these**	2.1 Survey Strata 5.3, 5.4 and 5.5 between July and September 2018 to identify and map Chambo breeding areas	2.1 Surveys have been carried out in partnership with Fisheries and ten Chambo Breeding areas have been identified. Mapping has now been completed and the map is at Annex 14	
	2.2 Provide more in depth training on Chambo and Usipa breeding cycle, seasons and need for protection of breeding areas. Particularly the importance of preserving natural vegetation such as reeds in shoreline areas, which offer protection for the Chambo fry. Also the importance of using larger mesh and closed season for Usipa. Targeting those FCCs who will be closest to the sanctuaries and responsible for their protection by November 2018.	2.2 Training of all FCCs located in breeding areas was carried out before November 2018. We are checking their understanding of their responsibilities and knowledge of the bylaws as part of the FCC monitoring cycle	
	2.3 Ensure that FCCs stop all fishing activities in breeding areas, respect the closed season and confiscate all mosquito nets (used for Chambo and Usipa) as a priority by February 2019	2.3 This is part of the FCC Performance Monitoring process.	
	2.4 FCC members will train non FCC community members on the importance of protecting fish breeding areas and respecting closed seasons by July 2019	2.4 This is part of the FCC Performance Monitoring process.	

Activity 2.1. Carry out survey with District Fisheries to identify all Chambo nursery and breeding areas and develop simple management plans		10 Chambo breeding areas have now been identified and the FCCs responsible for each of these are planning how best to manage them. Each breeding area has been audited to assess how best to continue protecting it. See Annex 9 for a sample of the report produced	FCCs management plans for the area include details of how they will protect the breeding area. We will continue to assess their success through the Audit programme
Activity 2.2. Produce map of breeding and nursery areas of Chambo		This has been done – see Annex 14	Additional breeding areas identified will be mapped
Activity 2.3. Work with Fisheries to identify the breeding cycle and seasons of different sizes of Usipa		No research has been carried out so far	We plan to work with Fisheries to improve our knowledge of Usipa breeding cycles
Activity 2.4. Provide additional training to FCCs in nursery and breeding areas on protection of their breeding Chambo population, in particular the need to protect reeds and other protective vegetation		See Output 2.2 above	Retraining will be carried out as required following breeding area inspections
Activity 2.5. Explain the biology of the fish and the need to allow juveniles to grow, and initiate a program to confiscate all mosquito nets for Chambo and Usipa		Training includes information about the need to protect baby fish and the chart at Annex 15 shows how many mosquito nets have been confiscated in the project area.	Ongoing support and retraining as required.
Activity 2.6. Monitor activities of FCCs in breeding areas to ensure that the lagoons etc are being protected and to monitor fish numbers		The FCC performance template at Annex 13 shows how we monitor the activities of the FCCs and assess their effectiveness.	Ongoing support and retraining as required.
Activity 2.7. Develop community survey to assess knowledge of all community members on need to protect breeding areas		We have built this into the FCC Performance monitoring process and we have therefore decided that we do not need an additional community survey	We will continue to measure this as part of the FCC performance monitoring process
Activity 2.8. Carry out quarterly surveys to assess community knowledge		See above	See above
Output 3. Output 3. Measurement systems for Chambo and Usipa catches and income of fishers are developed and introduced, collecting accurate data to measure the success of the project and	3.1 Develop the catch monitoring system to operate in this project area by Dec 2018	3.2 This has been established and we are collecting catch data for Chambo and Usipa along with beach prices to enable us to identify the economic vale of the catch 3.2 We now have 24 fishers trained to collect catch data	

feedback to community management	3.2 Data collectors are selected and trained by April 2019 3.3 From April 2019, collect data on a daily basis for selected data collection fishers and establish economic value chain that the catch will generate segregated for Chambo and Usipa 3.4 Fisher's income generated by catches of larger Chambo and Usipa will increase by an average of 20% per annum against the baseline figure from April 2019 until project end.	3.3 We are getting daily information from them on their catch, the size of fish caught and also for days on which they are not fishing, the reasons for this (moon, wind etc). This will be shared with the Fisheries Research Unit to increase their knowledge on fishing activities in the area. 3.4 See Annex 5 for baseline catch and income data.	
Activity 3.1. Agree with partners how the catch monitoring system will work in Nkhotakota District		All partners are happy with the monitoring system	We will assess whether any changes are required
Activity 3.2. Select and train the fishers who will collect the data and the extension workers who will monitor the data collection process		Done – see Output 3.2 above	We are planning to train up more data collectors for Utaka but as this is a seasonal species, we are currently looking at how best to do this.
Activity 3.3. Train the administrator in Nkhotakota to input the catch data onto the spreadsheet system already developed for Nkhata Bay District		Done	We will carry out checks to ensure that data is entered correctly
Activity 3.4. Collect the catch data and monitor to ensure that it is accurate		We conduct simple checks at the landing site to measure accuracy of data collection We cross check with data from other landing sites to identify any anomalies.	To continue as now
Activity 3.5. Collect prices of different sizes of fish from the market on a quarterly basis to enable income assessment to be kept up to date		We have a daily reporting system in place to identify beach selling process to enable us to identify values of fish catches	To continue as now
Activity 3.6. Collect family income data through socio-economic survey to measure change in impact of fish caught on households		Not started as yet	We are planning to introduce this in the next 12 months

Annex 2: Project's full current logframe as presented in the application form (unless changes have been agreed)

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Impact: Lake Malawi fishing communities manage fish resources sustainably and improve biodiversity through protection of endangered species, breeding areas and regulation of fishing gears thereby securing their livelihoods and improving nutrition. .			
Outcome: Fishing communities, supported by Fisheries Department in Nkhotakota District are empowered and take ownership of managing sustainable fishing methods, reducing illegal practices and protecting breeding/nursery sanctuaries for Chambo and Usipa.	0.1 420 Fishers and community members are trained and active members of 42 Fish Conservation Committees by July 2019. Of these 125 will be women 0.2 All Chambo breeding / nursery areas in Nkhotakota District will be identified by September 2018 and will be protected by FCC members by March 2019 0.3 Fishers earnings stabilised by catching larger Chambo and Usipa and therefore earn a higher income from April 2019 until project end compared with baseline (to be established)	0.1 Database of FCC membership and fishing gear used, training records, minutes of meetings and surveys of FCC activities 0.2 Mapping of Chambo breeding areas and assessment of natural habitat, quarterly tracking of FCC activities, such as net confiscations and awareness training 0.3 Catch quantities and income from fish sales per month	• Fish Bylaws for Nkhotakota District are signed off by District Councillors and Executive Committee before the project start date • Traditional Authorities, Senior Chiefs, Village Headsmen, community members and District officials are fully supportive of the project and its introduction into the new areas • Catch data systems developed in Nkhata Bay District can be replicated in Nkhotakota District and we are able to find fishers who can be trusted to give accurate data on a daily basis.
Output 1. Establish and train 42 fish conservation committees in Fishing Strata 5.3, 5.4 and 5.5 and local leaders and support them in managing fishing practices in their beach areas	1.1 42 Fish Conservation Committees each containing 10 members - 30% of whom are female and 60% of whom are non fishers - established by Dec 2018. All member details and details of fishers and fishing gears used at the	1.1. Details on database of FCC membership and date established	• Community members, particularly women, agree to join Fish Conservation Committees • Data collected is accurate

	landing sites where they will operate entered onto database by March 2019. 1.2 Training of all FCCs will cover fish management and conservation, impact of family size and other family lifestyle choices on the natural environment, finance issues and committee management. Priorities for training committees will be in the Chambo nursery and breeding areas, but all FCCs will be fully trained by July 2019 1.3 All FCCs will be encouraged to actively patrol their beach area, confiscate nets and train other members of their community – from when they are fully trained until March 2021. This FCC led training will mirror the training that the FCC received, including the importance of fish as a natural resource and of sustainable fishing as a means of improving nutrition and household income. It will also highlight the impact of continued human population growth on future prospects for both fisheries and livelihoods. 1.4 More than 125 female FCC members feel that they are empowered and fully involved in the project and fish value chain by December 2019	1.2 Record of training and post training questionnaires to ensure that members understand their roles and responsibilities, their understanding of the project and their understanding of how lifestyle changes will positively impact on natural resource availability and income that they can generate 1.3 Record of FCC activities including net confiscations, questionnaire and survey results, photos, case studies and feedback from extension workers 1.4 Survey of female FCC members to measure their involvement levels and wellbeing, case studies	• Baseline survey is done to enable us to identify increased understanding • FCC members are active and effective • Men are fully prepared to involve women in committee activities and family decisions • Socio-economic survey developed is effective in assessing women's views • Minimal political interference

Output 2. Identify all Chambo breeding and nursery areas and ensure that protection measures and sanctuaries are in place for all of these	2.1 Survey Strata 5.3, 5.4 and 5.5 between July and September 2018 to identify and map Chambo breeding areas 2.2 Provide more in depth training on Chambo and Usipa breeding cycle, seasons and need for protection of breeding areas. Particularly the importance of preserving natural vegetation such as reeds in shoreline areas, which offer protection for the Chambo fry. Also the importance of using larger mesh and closed season for Usipa. Targeting those FCCs who will be closest to the sanctuaries and responsible for their protection by November 2018. 2.3 Ensure that FCCs stop all fishing activities in breeding areas, respect the closed season and confiscate all mosquito nets (used for Chambo and Usipa) as a priority by February 2019 2.4 FCC members will train non FCC community members on the importance of protecting fish breeding areas and respecting closed seasons by July 2019	2.1 Accurate map of all breeding areas 2.2 Training record of FCCs in breeding areas and photos 2.3 FCC activity logs, case studies, questionnaires to test understanding of this issue with FCC members and other members of the community	• Chambo breeding areas are easy to identify • Community members are willing to become members of the Fish Conservation Committees in breeding areas and understand their responsibilities • Fish Conservation Committees in the breeding areas are active and effective at carrying out their protection duties • Community members understand the need for the project and the importance of natural vegetation in breeding areas • Political support for establishing nursery sanctuaries • Climate change does not cause lake to recede exposing sanctuaries
Output 3. Measurement systems for Chambo and Usipa catches and income of fishers are developed and introduced, collecting accurate data to measure the success of the project and feedback to community management	3.1 Develop the catch monitoring system to operate in this project area by Dec 2018 3.2 Data collectors are selected and trained by April 2019	3.1 Details of fishermen on the database and written details of how the monitoring system will operate 3.2 Training records	• The monitoring system being used in Nkhata Bay District can be easily replicated in Nkhotakota District

	3.2 From April 2019, collect data on a daily basis for selected data collection fishers and establish economic value chain that the catch will generate segregated for Chambo and Usipa 3.3 Fisher's income generated by catches of larger Chambo and Usipa will increase by an average of 20% per annum against the baseline figure from April 2019 until project end.	3.3 Records of daily catches – quantity of fish caught and their size - entered onto monitoring database, lifestyle questionnaire results, case studies 3.4 Income earned by catch data monitors, survey responses from non catch data monitors to establish validity of measurement system	• Fishers selected as data collectors are honest and provide accurate data • Baseline assessment of income is available to measure impact of the project on household income

Activities (each activity is numbered according to the Output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)

Agree with District Council and Department of Fisheries the issuance of By-laws for Nkhotakota District, modelling on Nkhata Bay

1.1 Agree with Department of Fisheries which staff will work in the chosen areas – reassign staff as required
1.2 Meet with Fisheries extension workers, Traditional Authorities, Group Village Headmen and Village headmen to launch project and agree where the FCCs will be located in communities where this has not already been done. Share by-laws.
1.3 Meet with community members to launch the project, discuss how the project will benefit community members and seek volunteers to join the FCC where this has not yet been formed. Particular focus on encouraging women to participate
1.4 Generate an FCC register and enter details of all fishers at beach landing sites onto RIPPLE Africa database
1.5 Adapt current training materials to include training on how population increase affects natural resources and on family planning with reference to local support available
1.6 Train newly formed FCCs in management - priority to be given to those located near breeding areas
1.7 Monitor and support all FCCs to ensure that they are following local bylaws and spreading the message to other community members on the project
1.8 Develop socioeconomic survey to assess women's wellbeing and involvement and carry out initial survey to establish baseline
1.9 Carry out quarterly surveys to compare results against baseline

2.1 Carry out survey with District Fisheries to identify all Chambo nursery and breeding areas and develop simple management plans
2.2 Produce map of breeding and nursery areas of Chambo
2.3 Work with Fisheries to identify the breeding cycle and seasons of different sizes of Usipa
2.4 Provide additional training to FCCs in nursery and breeding areas on protection of their breeding Chambo population, in particular the need to protect reeds and other protective vegetation
2.5 Explain the biology of the fish and the need to allow juveniles to grow, and initiate a program to confiscate all mosquito nets for Chambo and Usipa
2.6 Monitor activities of FCCs in breeding areas to ensure that the lagoons etc are being adequately protected
2.7 Develop community survey in key breeding areas to assess knowledge of all community members on need to protect breeding areas
2.8 Carry our quarterly surveys to assess community knowledge, including baseline survey to monitor effectiveness of training

3.1 Agree with partners how the catch monitoring system will work in Nkhotakota District
3.2 Select and train the fishers who will collect the data and the extension workers who will monitor the data collection process
3.3 Train the administrator in Nkhotakota to input the catch data onto the spreadsheet system already developed for Nkhata Bay District
3.4 Collect the data and monitor to ensure that it is accurate

3.5 Collect prices of different sizes of fish from the market to enable income assessment to be kept up to date
3.6 Collect family income data through socio-economic survey to measure change in impact of fish caught on households

Annex 3: Standard Measures

Not applicable

Table 1 Project Standard Output Measures

Code No.	Description	Gender of people (if relevant)	Nationality of people (if relevant)	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
Established codes								

Table 2 Publications

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)

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

Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	□
Is your report more than 10MB? If so, please discuss with 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.	□
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. However, we would expect that most material will now be electronic.	X
Have you involved your partners in preparation of the report and named the main contributors	□
Have you completed the Project Expenditure table fully?	□
Do not include claim forms or other communications with this report.	