



Darwin Initiative/D+ Project Half Year Report (due 31st October 2019)

Project reference	24-014 ref 3739
Project title	Carrots and sticks: incentives to conserve hilsa fish in Myanmar
Country(ies)/territory(ies)	Country 1: Republic of the Union of Myanmar (also known as Burma); Country 2: Bangladesh (collaborating country)
Lead organisation	International Institute for Environment and Development (IIED)
Partner(s)	Department of Fisheries; WorldFish; Network Activities Group (NAG); and Yangon University Zoology Department
Project leader	Dr Essam Yassin Mohammed
Report date and number (e.g. HYR3)	April 2019 – September 2019; HYR3
Project website/blog/social media etc.	https://www.iied.org/carrots-sticks-incentives-conserve-hilsa-fish-myanmar

1. Outline progress over the last 6 months (April – Sept) against the agreed baseline timetable for the project (if your project has started less than 6 months ago, please report on the period since start up to end September).

Output 1. Enhanced understanding of the biology and ecology of hilsa fishery

1.1: Following completion of the ecological survey by Yangon University, IIED has published a [working paper](#), titled: ‘Spawning seasonality of hilsa (*Tenualosa ilisha*) in Myanmar’s Ayeyarwady Delta’. A copy of the paper is available up on request.

1.3: The second paper on migratory routes of hilsa is still in the process of being completed because further analysis has been done by IIED. The IIED team is working closely with host-country partners (Yangon University in particular) to enhance the quality of the manuscript. A working paper will be published before the next annual report.

Output 2. Enhanced understanding of the complex socio-economics of hilsa fishery in the Ayeyarwady Delta

2.2: The assessment of preferences using the choice experiment method is on track for completion in Q3 Y3. In July 2019, SRUC (Scotland’s Rural College) visited Myanmar to conduct training on data collection and entry with Network Activities Group (NAG), and to pilot the survey. NAG then surveyed 115 respondents and SRUC conducted preliminary analysis on those data (results available upon request). The survey paused during the monsoon season and resumed in October as planned. Collection of data from the remaining 270 respondents is due to be completed in November.

2.3: IIED will use the results of the choice experiment (2.2), which is near completion, to estimate the short-term economic cost of fishery closures (working paper due Q3 Y3).

2.4: In October 2019, IIED began drafting a whitepaper on the design of incentive-based hilsa management in the Ayeyarwady Delta. This is on track for completion in Q3 Y3, once final results from activity 2.2 and 2.3 are available. We intend to share the whitepaper with government at the National Multi-stakeholder Workshop in Q4 Y3 (activity 2.5).

Output 3. Use and non-use values of hilsa fishery estimated and business case developed

IIED will use the results of the choice experiment (2.2), which is near completion, to produce the following deliverables:

3.1: Working paper on the economic value of the hilsa fishery (due Q3 Y3).

3.2: Working paper on income elasticity of willingness to accept for hilsa conservation (due Q3 Y3).

3.3: Policy briefing on the business case for incentive-based management of the hilsa fishery (working paper due Q4 Y3).

Output 4. Sustainable finance mechanism developed

4.1 and 4.2: Neither of these activities are due for completion until Q4 Y3 but we have made progress towards them. In September we hired a consultant to conduct a diagnostic analysis of fiscal fisheries policy in Myanmar and how fiscal reform could generate finance for incentive-based management. We will present the results and recommendations from this analysis at the multi-stakeholder workshop on fiscal reforms for sustainable fisheries management (4.1). The research will also provide the basis for our policy briefing on fiscal reforms to finance incentive-based management (4.2).

Output 5. A transboundary hilsa fishery management expert group in place

5.2: We do not plan to launch the expert group until the end of the project in Q4 Y4, when the closing workshop will be held. However, building on the dialogue started at the transboundary knowledge-sharing workshop held in March 2019 (5.1), progress has been made towards forming the group. In June 2019, the WorldFish ECOFISH project in Bangladesh organised a meeting with Fishery Association/Federation leaders from India, Bangladesh and Myanmar to discuss transboundary hilsa management. Khin Maung Soe (our project's DoF liaison / Inland fisheries governance expert) from WorldFish Myanmar was invited to attend. Unfortunately, it was postponed due to the current complex political relationship between the two countries. We have been given reassurance from WorldFish Bangladesh that the meeting will be rearranged over the coming months.

Capacity-building

Two training courses have been conducted by SRUC for NAG as part of our choice experiment. The first training took place in July 2019 over two days (20 people), and a one-day refresher was also provided in October 2019, following the break in data collection during monsoon season. NAG staff were trained in how to collect data for a choice experiment, data entry and how to design a database for ease of data manipulation. Day-to-day remote support was also provided by SRUC to NAG during data collection and entry, which helped to build local capacity.

Through working collaboratively on Output1, IIED and WorldFish Myanmar have also build capacity among Yangon University researchers in data analysis, report writing and general quality assurance. Dave Shearer, Director of Partnerships made the following comment about the spawning seasonality working paper on October 4th: "Congratulations! I really want to recognize the level of involvement of Myanmar partners in this publication – well done, this is the type of thing that really builds capacity and partnerships".

Partnerships and legacy

Flora and Fauna International and Charles Sturt University (Australia) have been collecting otoliths from hilsa in the Ayeyarwady Delta for chemical analysis to determine whether, or not, Myanmar has any landlocked freshwater populations – as scientists suspect that there are in Bangladesh. The study has found large numbers of hilsa juveniles at the confluence of the Chindwin and Ayeyarwady Rivers, and otolith analysis will confirm whether this is a migratory or landlocked population. This is important because migratory and landlocked populations are likely to have different spawning seasons, and will therefore require different management approaches.

Charles Sturt University has also agreed to analyse otoliths collected by Yangon University for this Darwin project, and has organised a sampling trip to collect water from the different Ayeyarwady areas, which can be used to further distinguish the different areas where hilsa are. The results of this collaboration are expected to further illuminate the findings published in our [working paper](#) on spawning seasonality of hilsa, and will therefore influence the Darwin project's management strategy recommendations.

WorldFish, Charles Sturt University, IIED and Yangon University have also discussed the prospect of developing a larger initiative around these preliminary results.

Government engagement

On 2nd September 2019, Michael Akester from WorldFish Myanmar presented the concept of a compensation scheme for hilsa fishers, and potential mechanisms for finance, to the Department of Fisheries Director General and Director of Research and Development. This was part of ongoing efforts to encourage commitment of the DoF to the ambition and goals of the project and was well received.

2a. Give details of any notable problems or unexpected developments/lessons learnt that the project has encountered over the last 6 months. Explain what impact these could have on the project and whether the changes will affect the budget and timetable of project activities.

There are no notable problems or unexpected developments.

2b. Have any of these issues been discussed with LTS International and if so, have changes been made to the original agreement? N/A

Discussed with LTS:	Yes/No
Formal change request submitted:	Yes/No
Received confirmation of change acceptance	Yes/No

3a. Do you currently expect to have any significant (e.g., more than £5,000) underspend in your budget for this year?

Yes No Estimated underspend: £

3b. If yes, then you need to consider your project budget needs carefully. Please remember that any funds agreed for this financial year are only available to the project in this financial year.

If you anticipate a significant underspend because of justifiable changes within the project, please submit a rebudget Change Request as soon as possible. There is no guarantee that Defra will agree a rebudget so please ensure you have enough time to make appropriate changes if necessary.

4. Are there any other issues you wish to raise relating to the project or to Darwin's management, monitoring, or financial procedures?

N/A

If you were asked to provide a response to this year's annual report review with your next half year report, please attach your response to this document. Additionally, if you were funded

under R25 and asked to provide further information by your first half year report, please attach your response as a separate document.

Please note: Any planned modifications to your project schedule/workplan can be discussed in this report but **should also** be raised with LTS International through a Change Request. **Please DO NOT send these in the same email.**

Please send your **completed report by email** to Darwin-Projects@ltsi.co.uk. The report should be between 2-3 pages maximum. **Please state your project reference number in the header of your email message e.g. Subject: 25-035 Darwin Half Year Report**