Darwin Initiative Annual Report

Important note:

To be completed with reference to the Reporting Guidance Notes for Project Leaders: it is expected that this report will be about 10 pages in length, excluding annexes

Submission Deadline: 30 April 2013

1. Darwin Project Information

Project Reference	19-020
Project Title	Responding to fish extirpation in the global marine biodiversity epicentre
Host Country/ies	Philippines
UK contract holder institution	Newcastle University
Host country partner institutions	Ateneo de Manila University
Other partner institutions	Haribon Foundation for the Conservation of Natural Resources
Darwin Grant Value	£294151
Start/end dates of project	1 April 2012 – 31 March 2016
Reporting period (eg Apr 2012 – Mar 2013) and number (eg Annual Report 1, 2, 3)	Apr 2012 – Mar 2013, Annual Report 1
Project Leader name	Nicholas Polunin
Project website	-
Report authors, main contributors and date	Nicholas Polunin, Margarita Lavides

2. Project Background

Because the Philippines is a global marine biodiversity epicentre, yet fishing intensity is great, it is likely that species have become locally extinct, yet there has been no investigation of this. The project will use surveys of fishermen's recollection of former catches together with underwater survey data at five major locations to determine likely threatened reef fish species and describe abundance trends of species and groups of these. The project will strengthen resource management capacity and help to reconcile any conservation needs with those of relevant sustainable livelihoods in one of these areas. It will also make policy recommendations from local to international levels.

3. Project Partnerships

The partner institutions are Ateneo de Manila University and Haribon Foundation, an agreement being signed early in the year between these and Newcastle University for the purpose of this project. However with Dr Lavides' transfer from Ateneo de Manila University to Haribon as of the 2nd year of the project, Haribon Foundation will be the host country partner institution from the 2nd project year onwards. A new project agreement is to be drawn up with Haribon. The present project is building its network in the Philippines. It is directly collaborating with Haribon Foundation's Global Environment Facility5-United Nations Development Programme (GEF5-UNDP) project on marine Key Biodiversity Areas (mKBA) whose focus is strengthening marine protected areas network at Lanuza Bay. The mKBA project's other sites and project holders are Verde Island Passage (Conservation International-Philippines), Davao Gulf (WWF-Philipppines), Tanon Strait (RARE) and Southern Palawan (BFAR-NFRDI). Apart from Dr Margarita Lavides, Ms Erina ('Yna') Molina, Mr Gregorio ('Ditto') dela Rosa and Angela Petines have been actively involved on the Philippines side. Apart from Prof. Nicholas Polunin, the Newcastle team has involved work by Prof. Steven Rushton and Dr Aileen Mill (statistical

modelling, survey design, training), Prof. Selina Stead (social survey design, training), Dr Mark Shirley (database design, training) and Dr Steven Newman (scheduled underwater surveys).

4. Project Progress

4.1 Progress in carrying out project activities

The project was successfully launched in Manila in May and in June/July the Philippines team spent a month in Newcastle for training (see Appendix 3). Fishermen surveys were completed for Lanuza Bay (Mindanao; see Appendix 3), Danajon Bank (Visayas) and Verde Island Passage (Luzon), and all the fishers' survey data for these sites have been entered into an Access database. Preliminary analysis including statistical modelling of the Lanuza data has been completed. An initial list of threatened/near locally extinct finfish species based on the Lanuza fishers survey has been drawn up. Plans have been made for a preliminary visit by the Philippines social team to Palawan, one of the other main study sites. Please see completed Annex 1.

4.2 Progress towards project outputs

The first input from the project into the next experts meeting on updating the National Biodiversity Strategy and Action Plan (NBSAP) has been set for April 2013. The Input of the project to the NBSAP will be facilitated by Dr Lavides' move to the Haribon Foundation, the former head of which, Anabelle Plantilla, is Project Manager of the NBSAP UNDP-GEF project, under the Department of Environment and Natural Resources - Protected Areas and Wildlife Bureau (DENR-PAWB), the CBD focal point for the Philippines. Please see completed Annex 1.

4.3 Standard Measures

Table 1 Project Standard Output Measures (* = attainment of these measures will be impacted by Dr Lavides' move from Ateneo de Manila University to the Haribon Foundation)

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
Established codes								
2	Number of people to attain Masters qualification	1				1	0	2*
3	Number of people to attain other qualifications	2				2	0	2
4A	Number of undergraduate students to receive training	4				4	4	17*
4B	Number of training weeks to be provided	4				4	4	14*
4C	Number of postgraduate students to receive training	0				0	0	4*
4D	Number of training weeks to be provided	8				8	15	64*
5	Number of people to receive at least one year of training	3				3	2	5*
6A	Number of people to receive other forms of education/training	0				0		700*
6B	Number of training weeks to be provided	0				0		10-44*
7	Number of training materials to be produced for use by host country	1				1	1	6
8	Number of weeks to be spent by UK project staff on project work in the host country	1				1	1	13
9	Number of species/habitat management plans (or action plans) to be produced for Governments, public authorities, or other	0				0	0	2

	implementing agencies in the host country							
10	Number of individual field guides/manuals to be produced to assist work related to species identification, classification and recording	0				0	0	2
11A	Number of papers to be published in peer reviewed journals	0				0	0	2
11B	Number of papers to be submitted to peer reviewed journals	0				0	0	6
12A	Number of computer based databases to be established and handed over to host country	3				3	3	10
12B	Number of computer based databases to be enhanced and handed over to host country	3				3	3	5
13A	Number of species reference collections to be established and handed over to host country	0				0	0	0
13B	Number of species reference collections to be enhanced and handed over to host country	0				0	0	0
14A	Number of conferences/seminars/ workshops to be organised to present/disseminate findings	0				0	0	2
14B	Number of conferences/seminars/ workshops attended at which findings from Darwin project work will be presented/ disseminated	0				0	0	10
15A	Number of national press releases in host country	3				3	3	4
15B	Number of local press releases in host country	2				2	3	10
15C	Number of national press releases in UK	0				0	0	1
15D	Number of local press releases in UK	0				0	0	2
16A	Number of newsletters to be produced	0				0	0	4
16B	Estimated circulation of each newsletter in the host country	0				0	0	1000
16C	Estimated circulation of each newsletter in the UK	0				0	0	300
17A	Number of dissemination networks to be established	2				2	2	5
17B	Number of dissemination networks to be enhanced/ extended	0				0	0	1
18A	Number of national TV programmes/features in host country	0				0	0	1
18B	Number of national TV programmes/features in UK	0				0	0	0
18C	Number of local TV programmes/features in host country	0				0	0	2
18D	Number of local TV programmes/features in UK	0				0	0	0
19A	Number of national radio interviews/features in host county	1				1	0	5
19B	Number of national radio interviews/features in UK	0				0	0	2
19C	Number of local radio interviews/features in host country	1				1	1	5
19D	Number of local radio	0				0	0	2

	interviews/features in UK							
20	Estimated value (£'s) of physical assets to be handed over to host country	2387				2387		6699
21	Number of permanent educational/training/research facilities or organisations to be established and then continued after Darwin funding has ceased	0				0	0	1
22	Number of permanent field plots to be established during the project and continued after Darwin funding has ceased	0				0	0	42
23	Value of resources raised from other sources (ie. in addition to Darwin funding) for project work	13,597				13,597		102,381
New Project specific measures								

Table 2 Publications

Type (eg journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (eg contact address, website)	Cost £
None to date				

4.4 Progress towards the project purpose and outcomes

Progress has been made towards identifying vulnerable reef finfish species, and a database created for modelling changes in reef finfish abundances based on fishers' knowledge, at one site, while the data for two other sites (out of the total five) have been collected and databases for these are being completed. The fisher surveys in Lanuza Bay indicate that two species have become almost extinct there, namely a large parrotfish *Bolbometopon muricatum* and large wrasse *Cheilinus undulatus*. The data from Lanuza are being analysed for other actual or potential extirpations.

5. Monitoring, evaluation and lessons

There is regular liaison between Newcastle University and the Philippine team, reports including completed databases are sent for review by the Newcastle University team, the main focus being on the milestones. The one milestone in Year 1 was achieved (see minutes from three of the Newcastle meetings, Appendix 3), and the benefit of this has been seen in the development of the first data set by the Philippine team (Access database available on request) and the initial results of the statistical modelling.

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

Not applicable

7. Other comments on progress not covered elsewhere

None to add.

8. Sustainability

The project launch substantially promoted the project, while the field work has got successfully underway. The plan is to seek additional funding in due course to enhance the present research and outputs and achieve continuation after the present project has ceased.

9. Dissemination

The project has not completed any data analysis as yet, however significant local publicity surrounded the project launch, including articles in the *Manila Times* (13, 19, 20 and 21 May 2012), *Business Mirror* (15 May) and *Tempo* (16 May) (see Appendix 3).

10. Project Expenditure

Table 3 project expenditure during the reporting period (1 April 2012 – 31 March 2013)

Item	**Budget** (please indicate which document you refer to if other than your project application or annual grant offer letter)	**Expenditure**	**Variance/ Comments**
Staff costs specified by individual M N Lavides EP Molina G Delarosa J Mejasco D Limpot M Shirley N Polunin S P Rushton S M Stead			
Overhead costs			
Travel and subsistence			
Operating costs			
Capital items/equipment (specify) Toshiba Laptop Apple Macbook i-phone Printer Apple Microsoft Software External Hard drive Applications – Annual registration Other Computer Accessories			
Others: Consultancy			
Others (please specify)			
TOTAL			

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

I agree for LTS and the Darwin Secretariat to publish the content of this section (please leave this line in to indicate your agreement to use any material you provide here)

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2012-2013

Project summary	Measurable Indicators	Progress and Achievements April 2012 - March 2013	Actions required/planned for next period
Goal: *To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but constrained in resources to achieve* ⇒ The conservation of biological diversity, ⇒ The sustainable use of its components, and ⇒ The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources			
Purpose Identify vulnerable reef finfish species, model changes in reef finfish abundances, enhance local capacity in local resource management, reconcile any conservation needs with sustainable livelihoods, recommend policy from local to international levels	* Vulnerable species identified * Relevant policy derived and delivered at international, national and a local area * Resource management capacity in Lanuza Bay enhanced * Training and experience required to sustain project outputs in future achieved	* Vulnerable species: initial list of species based on Lanuza fishers' knowledge drawn up; species meriting attention include *Bolbometopon muricatum* (humphead parrotfish) and *Cheilinus undulatus* (Napoleon wrasse), with 16 other finfish species in the candidate list and being analysed. * Database and statistical training and substantial field experience provided	Analysis of fishers' knowledge survey for Lanuza will be finalized. A draft paper will be submitted to a scientific journal. Analysis of fishers' knowledge for Danajon Bank and Verde Island Passage will commence. Training needs analysis at Lanuza will be conducted while household surveys to kick off work on sustainable livelihoods will commence. At least two training sessions at Lanuza will be conducted.
Output 1. Vulnerable marine finfish species identified in 5 key marine biodiversity areas	1.0 Inception workshop and database/statistics training conducted 1.1 Fishers' knowledge of threatened species surveyed, data processed and analysed 1.2 Underwater visual census conducted, presence/absence data gathered and analysed 1.3 List of vulnerable species drafted	Milestone M1 reached, 3 out of 5 fisher surveys completed, data for one site analysed, preliminary candidate vulnerability species identified from one site	
Activity 1.1 Inception workshop: in Manila, review of proposal, preparation for Newcastle training, inception of field work planning		Project launch and inception workshop conducted in Manila, attended by British Ambassador to the Philippines Stephen Lillie. Prof. Nicholas Polunin and Dr Margarita Lavides visited one major project site and met with national collaborators in terms of project objectives, roles, specific project sites and expected outputs of the project. Overall project plan for field work drawn up.	
Activity 1.2 Training in database and statistical modelling: in Newcastle University, introduction and application of Access, application of R to time-		Project co-coordinator and 2 project staff completed training in Access databasing and design and statistical modelling at Newcastle University, including application	

series and multivariate data		of R to time-series and multivariate data, for one month in June/July.
Activity 1.3 Fishers' knowledge, socio-economic and underwater surveys conducted: presence-absence data by site, socio-economic variables derived for Output 5		Fishers' knowledge surveys conducted at 3 project sites, Lanuza Bay (Mindanao), Danajon Bank (Visayas) and Verde Island Passage (Luzon). Socio-economic and underwater surveys scheduled for years 2-4.
Activity 1.4 Analysis of vulnerable species: entry, processing and statistical analysis of data, technical report		Data from Lanuza fishers' knowledge surveys processed into database and statistical modelling done. A draft paper for submission to a peer reviewed scientific journal is being prepared. Data on fishers' knowledge from the two other sites (Danajon and VIP) to be done. Fishers' knowledge surveys for Pollilio and Palawan scheduled for year 2.
Output 2. Changes in abundance of reef finfish families and fishery target species modelled for 5 key marine biodiversity areas	2.1 Fishers' retrospective perceptions of abundance trends surveyed and analysed; 2.2 Abundance trends in underwater visual census and landings data analysed; 2.3 Trends compared between methods within and among sites, drivers analysed; revised vulnerable species list	Fishers' retrospective perceptions of abundance trends at 3 project sites (Lanuza, Danajon and Verde Island Passage) surveyed and will be analysed in the second year. The other sites (Pollilio and Palawan) to be surveyed and treated in the same way. Underwater visual census and landings data scheduled for years 2-4. Comparison of trends between methods, drivers analysed and revisions to vulnerable species list to be completed in year 4.
Activity 2.1. Fishers' knowledge of fish abundance trends: own catch and size data, recollection of decadal trends, data on fishers themselves		This activity has been done for 3 project sites (Lanuza, Danajon and VIP). Survey data has been collated and analysis will be completed in year 2
Activity 2.2. Underwater survey and landings data: new data from 1.2, previous underwater visual data (e.g. Danajon Bank 1997-present, Lanuza Bay 2002-2009), landings data normalised by effort data (data from BFAR/NFRDI)		Scheduled for years 2-4
Activity 2.3 Fish abundance trends analysed across methods, among locations, writing and submission of papers for peer-reviewed publication		Scheduled for year 4
Output 3. Capacity of LGUs and POs for local resource management in conservation site enhanced	3.1 Training in marine ecology, fisheries and conservation conducted 3.2 Workshops on management needs and training on fisheries monitoring conducted 3.3 Communication plan and materials (ie. posters, fliers, radio ads) produced and future funding plan	Scheduled for years 2-4

	drafted	
Activity 3.1 Training sessions: in Lanuza Bay, marine ecology/fisheries, participatory monitoring		Scheduled for year 2
Activity 3.2. Workshops on management needs and training in fisheries monitoring, participatory management, indicators; in Lanuza Bay		Scheduled for years 2-3
Activity 3.3. Communication planning, production and distribution of posters, flyers, radio plugs etc in Lanuza Bay area		Scheduled for years 3-4
Output 4. Conservation needs reconciled with sustainable livelihoods	4.1.Human behavioural drivers of any diversity losses assessed 4.2 Existing conservation-livelihood agreements with fishers' organizations; initiatives and new options including continuity mechanisms evaluated; 4.3 Any new livelihood options with conservation agreements **(**e.g. low-impact mariculture) installed; management system reviewed and improved; 4.4 Economic impact of livelihood options of participant groups surveyed	Scheduled for years 2-4
Activity 4.1 Social-economic drivers of diversity losses assessed: analysis of socio-economic data from Output 1, relationships across the sites, writing of report and paper		Scheduled for years 3-4
Activity 4.2 Conservation-livelihood agreements assessments, options and training needs: workshops, iterative feedback etc in Lanuza Bay		Scheduled for years 3-4
Activity 4.3 Installation of new livelihood option under conservation agreement (e.g. low-		Scheduled for years 3-4

impact mariculture, conservation-compatible fishing gear) set up with peoples organisation(s) in Lanuza Bay, funding agreement e.g. as in some existing projects materials covered by LGUs and/or the POs		
Activity 4.4 Surveys to compare income and savings levels of participants at start of project and following project, including participants in any livelihood project		Scheduled for years 2 and 4
Output 5. Policy recommendations made at local, national and international levels	5.1 Lanuza Bay policy paper completed 5.2 National level policy paper completed 5.3 Recommendations made to IUCN	Scheduled for year 4
Activity 5.1 Formulation with LGUs and POs in Lanuza Bay of local policy, submission of policy paper on Lanuza Bay		Scheduled for year 4
Activity 5.2 Formulation with government agencies of paper targeting national policy including NBSAP, National Fisheries Strategy Plan, submission to BFAR/NFRDI, DENR-PAWB etc		Project inputs to NBSAP already being progressed through the Philippine Partner's involvement in updating of NBSAP with reference to Aichi Biodiversity Targets and CBD in general, through Haribon work in the GEF5-UNDP Project. Inputs to national fishery policies through NFRDI and BFAR scheduled for years 3-4.
Activity 5.3 Recommendations to IUCN Red List Authority: e.g. status of species/families to be revised		Scheduled for year 4 and likely to extend beyond the end of the project

Annex 2 Project's full current logframe

Project summary	**Measurable Indicators**	**Means of verification**	**Important Assumptions**
Goal: Effective contribution in support of the implementation of the objectives of the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species (CITES), and the Convention on the Conservation of Migratory Species (CMS), as well as related targets set by countries rich in biodiversity but constrained in resources.			
Sub-Goal: New knowledge	* Threatened marine finfish	* Uptake of lists by NBSAP, IUCN	[redacted]

gained, stakeholder-led management capacity built and new conservation action taken to conserve marine biodiversity in Philippines hotspots	added to national and international listings * Management measures taken in response * Ongoing research and outreach activity on species trends and distributions and their drivers * Key personnel training level increased	Red List * Planning of new actions e.g. marine protected areas motivated by project outputs * New project proposals, papers and other means of dissemination * Increased competence and skills of key staff * More positive management attitudes	[redacted]
Purpose: Identify vulnerable reef finfish species, model changes in reef finfish abundances, enhance local capacity in local resource management, reconcile any conservation needs with sustainable livelihoods, recommend policy from local to international levels	* Vulnerable species identified * Relevant policy derived and delivered at international, national and a local area * Resource management capacity in Lanuza Bay enhanced * Training and experience required to sustain project outputs in future achieved	* Progress and final reports, peer-reviewed scientific papers * New projects planned and proposals to funding agencies submitted * Popular articles, related outreach materials and their uptake * Support for future biodiversity conservation science and actions	* LGU and other government agencies continue to be supportive of the project * PO and other community groups continue to be receptive of the project * Funding schemes remain available for local and national studies in future
Outputs			
1. Vulnerable marine finfish species identified in 5 key marine biodiversity areas,	1.0 Inception workshop and database/statistics training conducted Fishers' knowledge of threatened species surveyed, data processed and analysed Underwater visual census conducted, presence/absence data gathered and analysed List of vulnerable species	* Workshop minutes, copies of trainee-completed database and statistical assessments * Data and technical reports * Paper submitted for peer-review publication	* Fishers are amenable to survey * Agencies permit access to further data * Weather conditions do not impede underwater data gathering

	drafted		
2. Changes in abundance of reef finfish families and fishery target species modelled for 5 key marine biodiversity areas	Fishers' retrospective perceptions of abundance trends surveyed and analysed; Abundance trends in underwater visual census and landings data analysed; 2.3 Trends compared between methods within and among sites, drivers analysed; revised vulnerable species list	* Data and technical reports * Papers submitted for peer-reviewed publication * Popular articles, other outreach materials	* Fishers are amenable to survey * Agencies permit access to further data * Weather conditions do not impede underwater data gathering
3. Capacity of LGUs and POs for local resource management in conservation site enhanced	Training in marine ecology, fisheries and conservation conducted Workshops on management needs and training on fisheries monitoring conducted 3.3 Communication plan and materials (ie. posters, fliers, radio ads) produced and future funding plan drafted	* Minutes and feedback from sessions on local competence and awareness of conservation actions * Progress and final reports * Seminar training materials * Communication plan	* Political conditions do not substantially impede project or deliverables * LGUs and POs continue to be receptive to training and materials
4. Conservation needs reconciled with sustainable livelihoods	4.1 Human behavioural drivers of any diversity losses assessed 4.2 Existing conservation-livelihood agreements with fishers' organizations; initiatives and new options including continuity mechanisms evaluated; 4.3 Any new livelihood options with conservation agreements **(**e.g. low-impact mariculture) installed;	* Minutes of consultations with LGUs and POs on livelihoods initiatives/options for Lanuza Bay * Paper on socio-economic drivers of any losses * Report on design and management of new conservation-livelihood agreement project and agreed funding plan, aim to involve ≥25 families * Surveys of income and savings	* LGUs and POs continue to be receptive to training, seminars and conservation-livelihood agreements * Extreme weather does not substantially affect any conservation-compatible livelihood project(s)

	management system reviewed and improved; 4.4 Economic impact of livelihood options of participant groups surveyed	levels of participants before and after project; aim for ≥20% savings by target families *Enforcement reports for marine protected areas	
5. Policy recommendations made at local, national and international levels	5.1 Lanuza Bay policy paper completed 5.2 National level policy paper completed 5.3 Recommendations made to IUCN	* Papers taken up by LGUs and/or POs in Lanuza Bay * Policy paper taken up by government agency, used to inform next NBSAP * Report to IUCN Red List Authority	* Local and international stakeholders remain receptive of project outcomes * Weather and political conditions do not substantially impede project or deliverables

Activities (details in workplan)

1.0 Inception workshop: in Manila, review of proposal, preparation for Newcastle training, inception of field work planning
1.1 Training in database and statistical modelling: in Newcastle University, introduction and application of Access, application of R to time-series and multivariate data
1.2 Fishers' knowledge, socio-economic and underwater surveys conducted: presence-absence data by site, socio-economic variables derived for Output 5
1.3 Analysis of vulnerable species: entry, processing and statistical analysis of data, technical report
2.1 Fishers' knowledge of fish abundance trends: own catch and size data, recollection of decadal trends, data on fishers themselves
2.2 Underwater survey and landings data: new data from 1.2, previous underwater visual data (e.g. Danajon Bank 1997-present, Lanuza Bay 2002-2009), landings data normalised by effort data (data from BFAR/NFRDI)
2.3 Fish abundance trends analysed across methods, among locations, writing and submission of papers for peer-reviewed publication
3.1 Training sessions: in Lanuza Bay, marine ecology/fisheries, participatory monitoring
3.2 Workshops on management needs and training in fisheries monitoring, participatory management, indicators; in Lanuza Bay
3.3 Communication planning, production and distribution of posters, flyers, radio plugs etc in Lanuza Bay area
4.1 Social-economic drivers of diversity losses assessed: analysis of socio-economic data from Output 1, relationships across the sites, writing of report and paper
4.2 Conservation-livelihood agreements assessments, options and training needs: workshops, iterative feedback etc in Lanuza Bay
4.3 Installation of new livelihood option under conservation agreement (e.g. low-impact mariculture, conservation-compatible fishing gear) set up with peoples organisation(s) in Lanuza Bay, funding agreement e.g. as in some existing projects materials covered by LGUs and/or the POs
4.4 Surveys to compare income and savings levels of participants at start of project and following project, including participants in any livelihood project
5.1 Formulation with LGUs and POs in Lanuza Bay of local policy, submission of policy paper on Lanuza Bay
5.2 Formulation with government agencies of paper targeting national policy including NBSAP, National Fisheries Strategy Plan, submission to BFAR/NFRDI, DENR-PAWB etc
5.3 Recommendations to IUCN Red List Authority: e.g. status of species/families to be revised

Annex 3 Onwards – supplementary material

(1) A Philippines press release and photo on launch

(2) Minutes of planning and training meetings in Newcastle in 2012

(3) Photographs of field work

(1) One of the Philippine articles on the project

The Manila Times.net

Saving our country's marine biodiversity

Published on 13 May 2012

Hits: 1,032

The Philippine marine ecosystem is known for its rich biodiversity. Our coral reefs are considered to be the most diverse marine ecosystem. However, we are also considered as the fourth highest in terms of ecological footprint in reef fishing.

Marine products are a staple in the Filipino diet but the impacts of this high demand for marine products is not known. The demand for marine products that is exacerbated by destructive fishing and climate change threatens the health of our reefs. These are important in establishing possible extinctions in marine species.

Thus, to be able to know more about our precious marine biodiversity, Newcastle University, Haribon Foundation and Ateneo de Manila University have collaborated on a Darwin-funded project dubbed, "Responding to fish extirpations in global epicenter of marine biodiversity to help save the marine ecosystem."

The purpose of the project is to identify vulnerable or locally extinct fish species and ascertain temporal abundance trends of fish groups and/or species in five key marine biodiversity areas of the country, including Verde Island Passage, Palawan, Danajon Bank, Bohol, Pollilio Islands and Lanuza Bay.

The project also aims to build the capacity in resource management of local communities in Lanuza Bay, including building on existing sustainable livelihoods. Results of fish extinction research and lessons in site conservation action are also aimed at assisting policy making at local, national and international levels. The project aims to gather knowledge obtained from the 1940s to 1950s surveys to further understand and strengthen collaboration with scientists, nongovernment organizations and fishing communities.

As in any ecosystem, everything is interconnected. How we use these resources will ultimately determine its survival. Fortunately, efforts are being undertaken to address the issue by increasing our knowledge and understanding. We are also privileged by the support and cooperation the academe in this endeavor.

On May 14, Darwin Initiative Project will be launched. This will be held at the Rizal Mini Theater and Faber Hall Function Room at the Ateneo De Manila University. The event will be held from 9 a.m. to 4:45 p.m., and registration will start at 8:30 a.m.

The launch will be led by Dr. John Paul Vergara, vice president of Loyola Schools of Ateneo De Manila University, John Lesaca, Haribon Foundation's chair, and Dr. Nicholas Polunin, professor of Marine Environmental Science at Newcastle University.

In our hands lies a great opportunity. Today we hold a grand chance to address this issue before us. Let us challenge it in a way to avoid unnecessary grief in the future. To not regret anything, let us challenge it today. Let us not waste the opportunity.

Miss Yna Molina, Dr Marge Lavides, HE the British Ambassador Stephen Lilley, Prof. Nick Polunin and Mr Dittor dela Rosa at the launch at Ateneo de Manila University (May 2012)

Philippines team plus Nick Polunin in Verde Island Passage area (May 2012)

Marge Lavides and Nick Polunin at reception following seminar at University of the Philippines Marine Science Institute (May 2012)

The Philippines and Newcastle teams at one of the meetings in Newcastle (June 2012)

(2) Minutes of planning and training meetings in Newcastle in 2012

Minutes of Initial Meeting
Darwin Project 19-020
Ridley 1.44
Newcastle University, UK
12 June 2012 | 9:00am – 12:30pm

Attendance:

Nick Polunin
Steve Rushton
Aileen Mill
Selina Stead
Mark Shirley
Steve Newman
Pia Schuchert
Ditto dela Rosa Jr.
Erina Molina
Marge Lavides

Highlights of the meeting

• Introduction of team members and its roles (Nick)

Nick = Project Leader
Marge = Project Co-coordinator
Selina = assists in the social science/surveys
Steve R = assists/lead in statistical modeling
Steve N = team member for UVC
Aileen = Steve R's group member to assist in statistical modeling
Pia = Steve R's group member
Mark = Steve R's group member to assist in Access databasing
Ditto = Project Senior Staff
Erina = Project Junior Staff

• Background and origin of Darwin Project (Nick and Marge)

i. Marge's thesis based on 2 small Philippine islands to be rolled over to 5 key marine biodiversity areas (Verde Island Passage, Palawan, Danajon Bank (Bohol), Pollilio Island, and Lanuza Bay, Surigao del Sur)

ii. Objectives of the Project:

1. Identify threatened/locally extinct fish species/groups using fishers' knowledge and diver surveys

2. Ascertain temporal abundance trends of fish species/groups to model changes over time using fishers' knowledge, UVC and fish landings data

3. Strengthen capacity of stakeholders in resource management in conservation site (Lanuza Bay)

4. Reconcile conservation needs with sustainable livelihoods (Lanuza Bay)

5. Make policy recommendations at local (Lanuza Bay), national and international (IUCN) levels

• Updates on Philippine Inception Workshop (Nick and Marge)

i. Key stakeholders/institutions (e.g. University of the Philippines-Marine Science Institute(UPMSI), Conservation International (CI), Project Seahorse etc) holding

current/historical data on fishers' knowledge, UVC and fish landings expressed their support and willingness to share data pending drafting and signing of MOA

ii. Re historical data from other institutions, confidence in data is important; but opportunities offered by other institutions other than previously identified can be potentially useful

• Site Selection

Participatory Mapping:
To be done through focused group discussions.
Key informant representatives of each of the municipalities may be the source of information
A detailed map (region, municipality, reef area, reef section, transect) to aid the key informants in answering the following questions
1. Where do you fish then? (past)
2. Where do you fish now? (present)
3. Where do others fish now? (present)
4. Where do others fish then? (past)
Detailed surveys
For Objective (1): Presence-Absence Surveys to be done in all pressure sites.
For Objective (2): Detailed UVC to be done in high pressure sites (current and previous)

• Stats-data

Horsepower of the boat and other fisheries effort units may be considered; per day or per hour unit effort may not be good enough for analysis
Market fish surveys may be done for triangulation and analysis
Marge PhD Access database may serve as examples for Access training
To have an idea on scale, for each site (region) e.g. Lanuza Bay, there are 6 coastal municipalities and 3 municipalities will be chosen based on availability of historical/current data e.g. UVC, fish landings etc; access; for each site (region), e.g. Lanuza Bay, about 250 fishers will be interviewed based on what the budget can accommodate
Darwin budget is the major limitation in terms of determining scale of data; possible project extensions may answer this limitation but for now we will focused on what Darwin budget for this Project can accommodate

• Nesting of data

5 Regions
Municipalities
Reef Areas
Reef Section
Transects

• Species selection re objective (1)

Information from social surveys will feed into the diver presence-absence surveys and will be reconciled with landings data
Should diver presence-absence data includes abundance? Size?

• Species selection for surveys re objective (2)

Ornamentals vs food fish? Or both?
A broad sweep of species on the first pass and look at the cryptic species on the second pass?
Abundance and biomass data are important in recruitment
Information from social surveys will also feed into the detailed UVC

Next Steps/Agreements:

• Marge, Ditto and Yna to meet with Selina and Nick on June 13, Wednesday, at 9:30am at Room 3.65 for brainstorming on social survey including questionnaire

• Also on June 13, Marge will present the video to give the team a background of her PhD thesis and the Darwin Philippine Projct

• Marge, Ditto and Yna to meet with Mark on June 14, Thursday, for an introduction to Access database and start on planning database

• Marge, Ditto and Yna to meet with Nick and Selina at 1030am Friday June 15, to continue on discussion regarding the questionnaire for social survey

• Darwin Team meeting on June 18, Monday, 9:30-11:00

• Meet with Nick on June 18, Monday, early afternoon

Prepared by:
Erina Pauline Molina
14 June 2012

Meeting Re: Social Surveys
Ridley 3.65
June 13, 2012 | 9:30 – 12:00; 2:00 – 3:30

Attendance

Selina Stead
Margarita Lavides
Nick Polunin
Ditto dela Rosa Jr.
Erina Molina

Highlights of the meeting

• Pre-fieldwork

Permits/permissions are ready except for Palawan and Polilio Island in which fieldworks are scheduled next year.
Detailed Maps of the sites will be prepared by Ditto.
Sample size i.e total number of fishers and list of registered fishers should be known.
Logistics / cost should be considered.
Glossary of local names will be needed.
Field guide c/o Haribon will be used.
The team may explore the possibility of using dropbox for the exchange of information.

• The Basics

Population -> Representative Sample -> Random Selection

• Research Question

What things changed over the years?

Targets are older fishermen.

• Methods : Social Surveys

Random sampling will be done but we will also conduct focused group discussions and key informant surveys which should include the elders/ older fishermen (may include key persons from POs)

Photocopying of questionnaires will be done on site but the team should bring enough for the first week of interviews.

Questionnaires will be linked to access via ID No.

The beginning of each questionnaire should include a brief introduction of the project.

Ice breaker questions are important to make the fisher comfortable i.e How did you get into fishing?

The Western Indian Ocean questionnaire will serve as a guide.

A site profile that will include the total population and a map of the area will be useful.

Only the best catch will be asked because fishers will most likely say that having to caught no fish (0) is their worst but the modelers should be consulted whether is it still useful to know the worst catch for confirmation.

Prepared by
Erina Pauline Molina

Minutes re: Updates
Darwin Project 19-020
Ridley 1.42
Newcastle University, UK
June 18, 2012 | 9:30 – 11:30

Attendance:

Nick Polunin
Steve Rushton
Selina Stead
Mark Shirley
Steve Newman
Ditto dela Rosa Jr.
Erina Molina
Marge Lavides

Highlights of the meeting

• Updates on the Access Database (Mark)

Initial relational diagram was made for the ecological part of the project. Social data still need to be included in the relational diagram.

Social and physical geography do not match.

The fishers in each municipality might use multiple sites of waters while a municipality does not necessarily contain entire reef areas.

• Updates on the social surveys

The revised questionnaire was emailed to the group.

The team will meet again on Friday.

A recap on the stats and database will be useful before the meeting.

It will be good to get inputs on some of the questions and to explore the pros and cons in dealing with data as a result of both qualitative and open-ended questions.

It will be good to know which data are more valuable in the statistical analysis

• Triangulation of Fisher's Knowledge

Modeling bias to verify data recall of fishers can be done by using variables that has historical data such as weather and price of fish

• Underwater surveys

Sample size and number of transects

• Because of budget constraints, the team can only spend 10 days in one site (Minus 1 day for degassing and 1 day for travel), a total of 8 days doing the fieldwork.

• In a team of 3, having 2 long dives per day, it can achieve 4 50-m transects per dive. In this case, there will be 8 transects per day resulting to 64 transects per site (Presence-absence). If we add abundance and length, we can only get 32 transects per site

• In a team of 4, having 2 long dives per day, it can achieve 8 transects per pair, having 16 transects per day, resulting to 128 transects per site (presence-absence)

• Having a team of 4 will be more efficient. Additional funding for the fourth person and extending the number of fieldwork days is needed.

Benthic Survey can be done by capturing big difference between among sites i.e estimating coral and rubble as a whole (English et.al)

Each diver may both do fish and get rough benthic estimates to get more transects.

Doing a power analysis will determine the number of samples/transects needed for one to be confident with his/her data. Variables include coral cover, fishing pressure, fish abundance, fishing effort and biomass.

We can also estimate the probability of extinction of a particular fish species based on the gap between the time it hasn't been seen and the time it was last seen.

We can also explore the possibility of letting fishermen help us with the benthic transects; however, there will be observer differences.

We still need to figure out how many species we need for the presence absence surveys.

Candidate species will include, fish species from Ting, vulnerable fish species from fish base and fish declines as a result of the historical UVC data and social data.

Ditto brought the Lanuza data for 2002-2009; that will give us an idea on how many fish species and families to be included in the presence absence surveys.

The key driver is the availability of existing data. We still need to look at what data we got for the five regions. Nick, Marge, Ditto and Yna still needs to sit down to determine which sites have data and to which of the sites is worthwhile to quantify data for diver surveys.

Presence absence surveys should be done in all 5 regions extensively while more extensive UVCs may be done in Danajon Bank and Lanuza only if we are not able to get additional funding to do extensive UVCs for the rest of the sites.

Next steps / Agreements:

• Marge, Ditto and Yna to meet Steve Rushton on Tuesday, June 19, at 15:00 in Room 365.

• Marge, Ditto and Yna to meet Steve Rushton on Wednesday, 8:00 at Room 5.51 as follow up to the Tuesday meeting. Team will meet again on Thursday if needed.

• Marge, Ditto and Yna to meet Mark on Wednesday, 9:30, at Room 5.51 to look at the social data.

• The team will meet on Friday, 9:30 at Room 1.42 for a recap on the stats and database before discussing the social surveys with Selina.

• Ditto to have a talk next Wednesday, June 27 then have a group dinner afterwards. Mark, Steve N, and Selina are available.

• Yna to search and organize a list of possible funding sources to support the extensive UVCs. Presence-absence surveys will be charged to existing Darwin budget.

Prepared by:

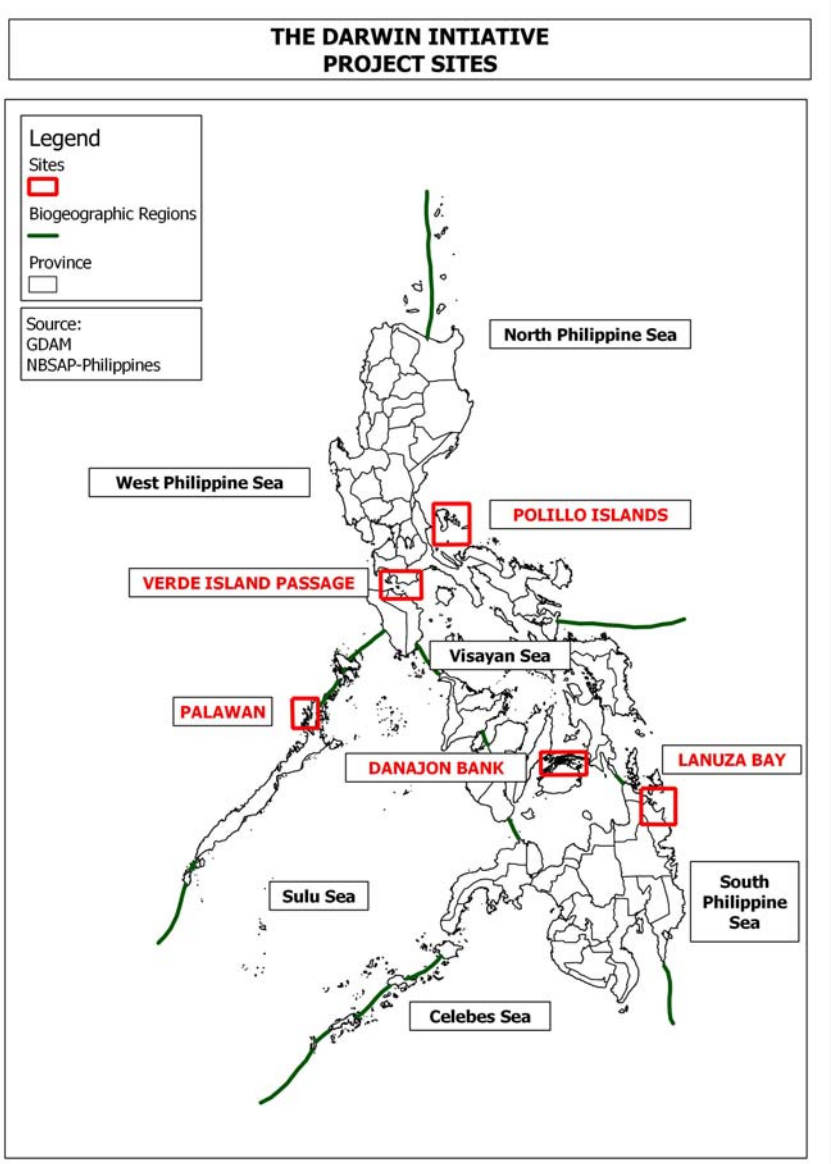
Erina Pauline Molina

18 June 2012

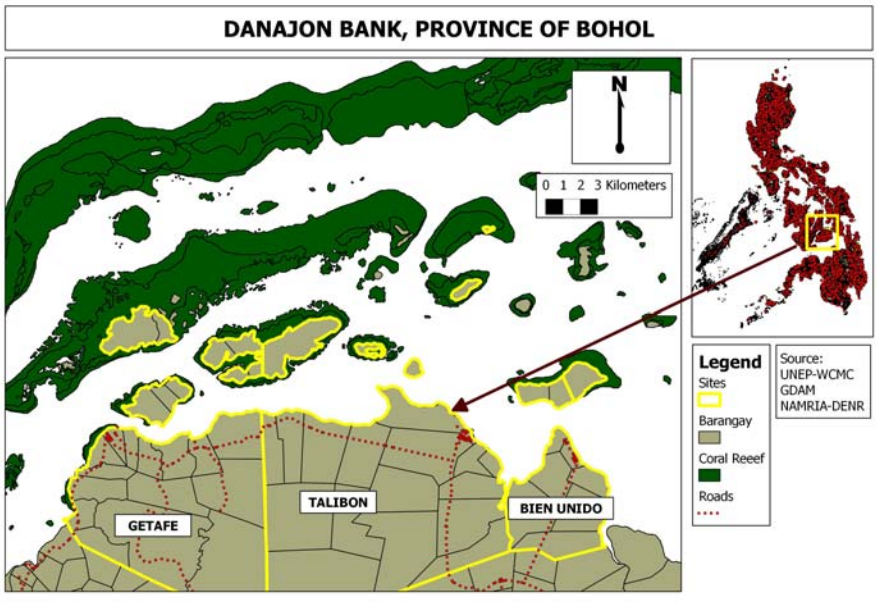
(3) Photographs of field work and maps of areas

Yna Molina with Lanuza Bay fisherman discussing past catches (August 2012)

Ditto dela Rosa identifying commonly caught reef fish species with fisherman in Lanuza Bay (August 2012)



Location of the five selected marine Key Biodiversity Areas selected for study



Map of one of the five mKBAs – Danajon Bank (Bohol)

Checklist for submission

	Check
Is the report less than 5MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	Yes
Is your report more than 5MB? 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.	
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.	Yes
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.	No
Have you involved your partners in preparation of the report and named the main contributors	Yes
Have you completed the Project Expenditure table fully?	Yes
Do not include claim forms or other communications with this report.	