Appendix 1 – Project Logical Framework

Project summary	Measurable indicators	Means of verification	Important assumptions
Goal To help Egypt, a country rich in biodiversity but poor in resources, meet its obligations under the Biodiversity Convention.	• After 12 months provide checklist of holothuria. • From 1-24 months, one species reference collection • After 24 months provide recommendations for sustainable fishery and biomedical properties • After 36 months, 10 EEAA rangers and 30 locals trained in stock assessment/ mariculture	• Information included in NBUs NBS • Fieldguide to Holothuria of the Red Sea • Computer database and GIS system • Final Report of project Scientific Committee • 3 MSc theses • Publications in scientific literature • Minutes and reports of all progress meetings	• EEAA to continue monitoring beyond Darwin funding • Mariculture not only to prove viable but local communities to develop and operate their own systems based on training • Additional funding/ sponsor found to support work on bioactive substances
Purpose To develop the first example of a sustainable sea cucumber fishery along the Red Sea coast of Egypt	• After 24 months, fishery management plan • After 24 months, primary analysis of biomedical benefits completed • After 36 months, pilot mariculture system in operation/ feasibility study completed • After 36 months, trained rangers and fishermen	• Sea cucumber management plan • 3 MSc theses related to the fishery resource, mariculture and biomedical compounds • Publications in the scientific literature • Final report of project scientific committee • Press releases/ newsletter articles	• Recommendations are accepted and incorporated into policy • Information generated ie: species, economic value, rational use accepted and incorporated into NBU's NBS • Mariculture to offer a viable alternative to fishing for local communities
Outputs • Produce a fishery management plan for sea cucumbers • Produce a pilot mariculture system • Identify secondary compounds of potential biomedical value • Train EEAA rangers and local fishermen in stock assessment and mariculture respectively	• After 12 months species list and reference collection established • After 24 months stock assessment, database and GIS system established • After 24 months bioactive compounds and their activity identified • After 36 months, pilot mariculture system operating	• 3 MSc theses • Field guide to Holothuria of Red Sea • Papers published in scientific literature • Final report of Scientific Committee • Minutes and reports of all progress meetings • Press releases/ newsletter articles	• Recommendations of the management plan accepted/ incorporated into policy • EEAA to continue monitoring beyond Darwin funding • Mariculture to prove economical and therefore expanded by the trained fishermen
Activities • Stock assessment for Holothuria along Red Sea • Development of mariculture system for sea cucumbers • Isolation of bioactive compounds and their specific activity • Training of Egyptian scientists, EEAA rangers and local fishermen	• £160, 700 requested from Darwin Initiative • £170, 308 donated by partner institutions • species list and collection established • After 24 months database and GIS system established • After 24 months bioactive compounds and activity identified • After 36 months, pilot mariculture system operating	• Cost statement for grant will be available from Hull University Research Office • Minutes and reports of all progress meetings • Press releases/ newsletter articles • Final report of Scientific Committee • Papers published in scientific literature	• Secondary compounds with potentially useful bioactivity are found • In vitro fertilisation and culture of plankton stages proves successful in mariculture