



## PROJECT IDENTIFICATION FORM (PIF)

**PROJECT TYPE:** FULL-SIZED PROJECT  
**TYPE OF TRUST FUND:** GEF TRUST FUND

### PART I: PROJECT INFORMATION

<b>Project Title:</b>	<b>Support to the Integrated Program for the Conservation and Sustainable Development of the Socotra Archipelago</b>		
<b>Country(ies):</b>	Republic of Yemen	<b>GEF Project ID:</b>	<b>5347</b>
<b>GEF Agency(ies):</b>	UNEP	<b>GEF Agency Project ID:</b>	1083
<b>Other Executing Partner(s):</b>	Ministry of Water and Environment (MOWE) / Environment Protection Authority (EPA); Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH; UNDP	<b>Submission Date:</b>	16 April 2013
<b>GEF Focal Area (s):</b>	MULTI FOCAL AREA (BD and LD)	<b>Project Duration(Months)</b>	48 months
<b>Name of parent program (if applicable):</b>	n/a	<b>Agency Fee (US\$):</b>	461,183

#### A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK:

Focal Area Objectives	Trust Fund	Indicative Grant Financing (\$)	Indicative Co-financing (\$)
<b>BD1 - Outcome 1.1</b> Improved management effectiveness of existing and new protected areas - <b>Output 1.</b> New protected areas (number) and coverage (hectares) of unprotected ecosystems: Improved design and management effectiveness of the existing network of Protected Areas (PAs) in the Socotra Archipelago World Heritage Site (WHS), Yemen (354,350 ha of terrestrial and 1,772,000 ha of marine PAs covering a total of 2,126,350 ha) <sup>1</sup>	GEF TF	1,070,000	4,300,000
<b>BD1 - Outcome 1.2</b> Increased revenue for protected area systems to meet total expenditures required for management - <b>Output 3.</b> Sustainable financing plan for the long-term preservation of the Socotra WHS	GEF TF	467,625	1,081,831
<b>BD 2 - Outcome 2.3</b> Improved management frameworks to prevent, control and manage Invasive Alien Species - <b>Output 1:</b> policy and regulatory frameworks (to manage invasive alien species) for production sectors are developed for the Socotra WHS	GEF TF	1,450,000	5,426,598
<b>LD 3 - Outcome 3.2</b> Good management practices in the wider landscape demonstrated and adopted by relevant economic sectors – <b>Output:</b> Government agencies collaborating on Sustainable Land Management (SLM) initiatives across sectors and at multiple scales	GEF TF	1,866,941	6,754,091
<b>Total project costs</b>		<b>4,854,566</b>	<b>17,562,520</b>

<sup>1</sup> The GEF project will specifically focus on the improved design and management of the network of Nature Sanctuaries (NSs) within the WHS. The NSs represent approximately 5% of the above WHS's PA network, however their conservation will underpin the improved management effectiveness of the entire WHS, as these areas are at the core repositories of GEBs in the WHS – ref section A.1.1 and A.1.3 for additional detail and the map of the Conservation Zoning Plan in Annexes.

## B. INDICATIVE PROJECT FRAMEWORK

**Project Objective:** reinforce national capacity to manage and protect the Socotra Archipelago WHS through a sustainable land-use approach and improved management of Invasive Alien Species.

Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
1. Improved Management effectiveness of the Protected Areas Network in the Socotra WHS	TA	<p>1.1 The management effectiveness of the existing PA network is measurably improved<sup>2</sup> taking stock of recent developments in conservation science, flow of ecosystem services and climate change scenarios.</p> <p>1.2 A financing mechanism to sustain the long-term conservation</p>	<p>1.1.1 Updated design of the WHS PA network (focusing on the network of Nature Sanctuaries – see maps in Annex 1)<sup>3</sup> on the basis of recent findings and research on terrestrial and marine biodiversity and human resource use, including i.e. recent approaches in conservation genetics and spatial conservation planning, ecosystem services assessments and climate change prediction models, considering especially ecological economics, vulnerability and trade-off analysis and CC mitigation planning<sup>4</sup></p> <p>1.1.2 A unified management structure for the Socotra WHS is established to reflect the changing governance structure in line with Yemen’s decentralization process and addressing the recommendations of the UNESCO World Heritage Centre<sup>5</sup></p> <p>1.1.3 Improved professional capacity of national GoY entities (esp. EPA staff) to support the above unified and participatory management of the WHS<sup>6</sup></p> <p>1.2.1 Legal, institutional and management framework for the “Socotra WHS Trust Fund” (TF) to</p>	GEF TF	1,352,387	4,500,000

<sup>2</sup> See additional details on each component provided in Annex 1, and: all project components (including component 1) will result in the improvement of PAMETT scores for the Socotra WHS. Namely, measurable improvements are anticipated in the assessment scores for questions # 1,2,4, 5 (PA design), 7 (Management Plan), 9 (resources inventory), 10 (research), 14 (staff capacity), 15-16 (budget and budget security), 21 (links to SLM), 23-24 (local community involvement), 27 (visitor facilities), 30 (general condition of property). Additional detail and baseline Tracking Tools will be provided at CEO endorsement.

<sup>3</sup> The GEF project will specifically focus on the improved design and management of the network of Nature Sanctuaries within the WHS. The NSs represent approximately 5% of the above WHS’s PA network, however their conservation will underpin the improved management effectiveness of the entire WHS, as these areas are at the core repositories of GEBs in the WHS – ref section A.1.1 and A.1.3 for additional detail and Conservation Zoning Plan Map in Annexes.

<sup>4</sup> Please refer to Annex 1 for additional detail on the background information and rationale for the required improvements of the PA network and focus of this component.

<sup>5</sup> This is a critical issue that is urgently required to (a) guarantee improved coordination among all stakeholders (govt. and non govt.) involved in the management of the WHS, and (b) to address one of the key comments raised by the UNESCO WHS review and ensure proper governance for and conservation of the WHS. The project will directly support the ongoing consultative efforts to establish this consultative and management body, in collaboration with GoY and building upon the efforts of the UNDP-GEF SGBP project. Additional detail and update will be provided at CEO endorsement.

<sup>6</sup> The professional capacity of EPA staff remains well below the required standards to manage the WHS (in spite of significant investments in capacity development so far). The level of capacity of other GoY entities at the local level is even lower, and still much lower than EPA’s. The project will support the design and implementation of training and capacity development programs for local staff of the EPA and of other GOY partners in Socotra, to enhance the level of locally available professional capacity to support WHS management and all the technical aspect covered by the GEF project (PAs, IAS, SLM, etc.). This will entail formal as well as on-the-job training activities and full detail will be provided at CEO endorsement.

		of the Socotra WHS is developed and operational	<p>provide long-term financing to support the management costs of the Socotra WHS is established – taking stock of achievements and lessons from prior GEF interventions.<sup>7</sup></p> <p>1.2.2 A pool of national, regional and international donors and key local institutions are engaged in TF design and a donor conference for the capitalization of the Trust Fund is organized</p> <p>1.2.3 The Socotra WHS TF is capitalized and operational</p>			
2. Invasive Species Management	TA	2.1 A community-based management framework to control Invasive Alien Species (IAS) in the Socotra WHS is established and operational <sup>8</sup> , and (a) institutional capacity is measurably improved and (b) IAS impact on the WHS is measurably reduced - providing the basis for replication at the national and regional level	<p>2.1.1 All existing invasive and potentially invasive species identified; current and potential impacts of IAS on biodiversity, integrity of the PA system, and local economy are valued, and data used as a basis to develop and implement community-based strategies for IAS management</p> <p>2.1.2 Pathways for IAS are identified and strategies for the prevention and control of new infestations by potential IAS are developed and implemented</p> <p>2.1.3 Enabling policy and institutional environment, including legislation and cost-recovery mechanisms (i.e. through service fees) for the management of IAS is developed/strengthened</p> <p>2.1.4 Awareness levels on IAS are raised and relevant information materials on risks, economic and social impacts and management of IAS are developed and utilized by key stakeholders including local communities</p> <p>2.1.5 Prevention and control measures for IAS mainstreamed in local trade, transport and travel sectors and across the production landscape</p>	GEF TF	1,363,636	4,000,000
3. Sustainable Land Management	TA	3.1 An integrated Sustainable Land	3.1.1 SLM Strategy (including guidelines for policy, legal and	GEF TF	1,697,219	7,000,000

<sup>7</sup> Please refer to the detailed description of Component 1 in Annex 1 for additional detail on the background and history of the concept of a Socotra Trust Fund – this concept and efforts are dating back to 1997 with the first UNDP-GEF Socotra Biodiversity Project. The project will take stock of all accumulated experience to date.

<sup>8</sup> This component will cover the invasion pathways and thus set systems in place to protect the entire WHS, however the initial focus for on-the-ground management action with the communities will be (a) the network of Nature Sanctuaries and (b) areas surrounding human settlements and the two ports and airport of the archipelago, that can be the primary source of invasions.

		Management Strategy (SLMS supporting the development of implementation of environmentally friendly subsistence rural 'productions sectors' (e.g. subsistence pastoralism, small family-owned date palm plantations, small household-scale vegetable gardens, etc.)- for the Socotra WHS to combat desertification and land degradation and improve and sustain traditional livelihoods in the face of climate change <i>(linked with EPA/GIZ "conservation and sustainable use of biodiversity" program)</i> <sup>9,10</sup>	regulatory frameworks) is developed on the basis of (a) existing extensive scientific and traditional knowledge information base, (b) data found in the existing EPA central database and Decisions Support System (DSS) for the Socotra WHS and (c) selected additional studies that may be commissioned through the GEF project if/as required (to be defined during project preparation)  3.1.2 Priority and innovative integrated sustainable land and water management measures identified in the SLM Strategy are implemented, integrated in the EPA (and other GoY departments) programs and local team structures, and lessons learned are widely disseminated (output 5.1.2). <i>[all interventions will be fully aligned with and complementary to EPA/GIZ-supported program "sustainable use of biodiversity"]</i> .			
4. Institutional Strengthening & Capacity Building <sup>11</sup>	TA	4.1 National Capacity for Integrated Strategic Programming for Environmental Protection in EPA and other government partners in the WHS is significantly increased – taking stock of lessons and achievement of prior initiatives (GEF and non-GEF) - <i>(linked with EPA/GIZ "conservation and sustainable use of biodiversity" program)</i>	4.1.1 A Comprehensive Institutional Strengthening and associated on-the-job Capacity Building Program for local government entities and EPA is developed and implemented <sup>12</sup>  4.1.2 The inter-agency coordination capacity of the EPA and local government is significantly increased, within the framework of the new "island-wide" government authority being established for the Management of the Socotra WHS – in follow-up to and consolidating the results of the former and ongoing GEF-funded projects.		132,397	500,000
5. Knowledge Management and Monitoring & Evaluation	TA	5.1 Costed Monitoring & Evaluation Plan developed and implemented, and lessons learned documented and widely disseminated - <i>(linked with EPA/GIZ "conservation and</i>	5.1.1 A costed Monitoring & Evaluation Plan is developed at preparation stage, revised at project inception and (a) implemented in support of adaptive project management and (b) integrated as part of the management practices of EPA and other local government entities		88,265	300,000

<sup>9</sup> The main existing initiative is the GIZ/EPA program "sustainable use of biodiversity". This is however in its very early stages and its scope and focus is being defined at the time of writing, in consultation with all partners. UNEP is in close contact with the GIZ and EPA team and full alignment and complementarity between this project component and the context of existing initiatives will be ensured during the PPG phase and clearly presented at CEO endorsement (including the definition of SMART indicators and clearly focused targets)

<sup>10</sup> Also this WHS-wide component will prioritize on-the-ground interventions and management measures to ensure the improved conservation of the WHS network of Nature Sanctuaries. This component will also focus on work with the local communities within the General Use Zones surrounding nature sanctuaries (see Map of Conservation Zoning Plan in Annex), to support a shift towards the development of sustainable and environmentally friendly subsistence rural 'productions sectors' (e.g. subsistence pastoralism, small family-owned date palm plantations, small household-scale vegetable gardens, etc.)

<sup>11</sup> See also explanatory footnote in output 1.1.3 above

<sup>12</sup> This component will also will specifically target and involve community members working with the EPA to manage the network of Nature Sanctuaries

		<i>sustainable use of biodiversity” program)</i>	5.1.2 Information materials on recent findings and lessons learned in biodiversity conservation, IAS, sustainable land management and climate change issues and good practices are developed and widely disseminated locally, as well as at national and regional level (e.g. by inclusion of in EPA’s and Ministry of Education’s awareness and education programs with local wildlife clubs and in school curricula at the local level)			
Sub-Total					4,633,904	16,300,000
Project management cost				GEF TF	220,662	1,262,520
<b>Total project costs</b>					<b>4,854,566</b>	<b>17,562,520</b>

#### C. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF AVAILABLE, (\$)

Sources of Cofinancing for baseline project	Name of Cofinancier	Type of Cofinancing	Amount (\$)
National Government	Ministry of Water and Environment (MOWE) / Environment Protection Authority (EPA)	In-kind	4,227,520
National Government	MOA (Agriculture), MOT (Tourism), MOLA (Local Administration), MOE (Education), MOC (Culture), MOFW (Fish Wealth), MOPD (Planning and Development)	In-kind	500,000
Bilateral Aid Organization	Government of Germany-BMZ / GIZ implemented program	Grant	7,680,000
Bilateral Aid Agency (ies)	Italy, Japan, USA, France, FFEM (support to MOWE/EPA and Socotra Program)	Unknown at this stage	2,000,000
Others	Senckenberg Research Institute and Biodiversity and Climate Research Centre (Germany), University of Tuebingen (Germany), University of Birmingham (UK), BirdLife International (UK), University of Rome (Italy), CABI (Kenya), Qatar Museums Authority (Qatar), Institute of Evolutionary Biology (CSIC-UPF), (Spain).	In-kind	700,000
Others	Royal Botanic Gardens Edinburgh (RBGE) / Centre for Middle Eastern Plants (CMEP) (UK)	Grant	355,000
GEF Agency	UNEP	In-kind	300,000
Other Multi-lateral Agencies	UNDP, UNESCO WHC regional Office, EU, WB	Unknown at this stage	1,000,000
Local Government	Local district(s) governments in Socotra	In-kind	500,000
CSO	“Friends of Soqotra” (international CSO) and local community-based NGOs in Socotra	In-kind	300,000
<b>Total Cofinancing</b>			<b>17,562,520</b>

#### D. INDICATIVE TRUST FUND RESOURCES (\$) REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY

GEF Agency	Type of Trust Fund	Focal area	Country Name/Global	Grant amount (\$) (a)	Agency Fee (\$) (b)	Total (\$) (a + b)
UNEP	GEF TF	Biodiversity	Yemen	2,987,625	283,824	3,271,449
UNEP	GEF TF	Land Degradation	Yemen	1,866,941	177,359	2,044,300
<b>Total Grant Resources</b>				<b>4,854,566</b>	<b>461,183</b>	<b>5,315,749</b>

#### E. PROJECT PREPARATION GRANT (PPG)

Please check on the appropriate box for PPG as needed for the project according to the GEF Project Grant

- (up to) \$150k for projects up to and including \$6 million
- |                       |                         |
|-----------------------|-------------------------|
| Amount Requested (\$) | Agency Fee for PPG (\$) |
| <b>150,000</b>        | <b>14,250</b>           |

**PPG AMOUNT REQUESTED BY AGENCY(IES), FOCAL AREA(S) AND COUNTRY(IES) FOR MFA AND/OR MTF**

GEF Agency	Type of Trust Fund	Focal area	Country Name/Global	(in \$)		
				PPG (a)	Agency Fee (b)	Total c = a + b
UNEP	GEF TF	Biodiversity	Yemen	90,000	8,550	98,550
UNEP	GEF TF	Land Degradation	Yemen	60,000	5,700	65,700
<b>Total PPG Amount</b>				<b>150,000</b>	<b>14,250</b>	<b>164,250</b>

**PART II: PROJECT JUSTIFICATION**

**A. PROJECT OVERVIEW**

**A.1. Project Description**

**A.1.1 The Global environment problems, root causes and barriers**

*[Please refer to Annex 1 for background and context information on the Republic of Yemen and a description of the natural and cultural values of the Socotra Archipelago World Heritage Site, including a summary of past and ongoing projects there, and location map]*

The delicate ecological balance between people and nature, underpinning the preservation of the natural and cultural values of the Socotra World Heritage Site is now severely threatened by desertification, land degradation and the rapidly increasing pressures originating from outside the archipelago. A similar loss of biodiversity and natural resource base happened to many other biodiversity-rich islands in the past, and if allowed to happen in the Socotra WHS, it may represent a major loss in terms of globally important biodiversity, that is also the basis for the long-term sustainable livelihood of the local population, and a great cost to the Republic of Yemen as a whole. This is the main problem the GEF project is trying to address: **preventing the irreversible loss of the unique ecosystems, Biodiversity and Natural Resources of the Socotra WHS**. This is based on the well-documented trend indicating that more species have gone extinct on islands than anywhere else – mainly as a result of invasive alien species (IAS). Including i.e.: 80-90% of all reptile extinctions; 80-93% of all bird extinctions; 50-81% of all mammal extinctions. Islands have suffered 64% of IUCN-listed extinctions and have 45% of IUCN-listed critically endangered species. In the past 500 years, IAS have contributed to the extinction of nearly half of global bird extinctions: 67% of globally threatened birds inhabiting oceanic islands are affected by IAS compared to 30% of globally threatened birds on continents. For example, over half of the endemic birds of the Hawaiian Islands are now extinct, due to habitat loss, introduced predators and diseases.

The main underlying causes, external factors and pressures affecting the Socotra WHS include immigration, uncontrolled infrastructure development, poor governance at local and central level, desertification, soil erosion and land degradation, over-use of the limited available natural resources (both marine and terrestrial), increased threats to the islands' ecological balance and food security by invasive alien species, suboptimal coordination among government entities and donors operating in the Socotra WHS, lack of predictable and long-term financing mechanisms to sustain the management of the WHS. All existing studies unanimously point to the fact that a sustainable development pathway for the archipelago has to rely on the long-term preservation of its unique terrestrial and marine natural assets, as well as its cultural heritage (Cheung & DeVantier, 2006; Van Damme & Banfield, 2011; Van Damme, 2012). However the mounting pressure associated with external influx of people and goods, with the associated uncontrolled developments, increasing invasions by alien species, and loss of traditional land management practices are all resulting in loss of biodiversity and land degradation. These factors are jeopardizing the basis for the nature-based sustainable economic development and the very future of the archipelago and its people. The situation and threats are very well illustrated in several recent publications in respect to the Socotra WHS (e.g., Scholte et al., 2011; Van Damme & Banfield, 2011; Van Damme, 2012), and the same factors have negatively affected other similarly important islands in the world, at their early stages of development (which is where the Socotra WHS is, at this juncture). *[Please refer to Annex 2 for a diagram illustrating the root causes, threats and barriers underpinning the problem that the project is trying to address]*

**A.1.2 The baseline scenario and associated projects**

The investments by the Government of Yemen (GoY) and its partners and donors (including the GEF) in the Socotra Archipelago have been quite significant, relatively to economic context of Yemen and to the limited national budget. 6

Tangible progress and results have been achieved since the first GEF-supported intervention in 1997 (UNDP/GEF Socotra Biodiversity Project), and efforts are still ongoing (ref. list of baseline projects below). However the current level of investment can only address the root causes illustrated above to a limited extent, because (a) the development of the necessary professional capacity and awareness has just began in recent years, and from a very low baseline level; (b) there continues to be a chronic lack of adequate financial resources to manage a WHS of this size and complexity; (c) the surrounding political and socio-economic context is so difficult that other development aspects are seen as priority (e.g. healthcare, governance, education, water supply etc.), (d) donor support remain essential at these initial stages tends to be short-term, unpredictable and linked to political stability (i.e. all donor support virtually stopped in the period 2010-2012 during the 'Arab spring' in Yemen). Recent experience of GEF projects in the Socotra Archipelago WHS clearly shows how the development of adequate national capacity and financial sustainability mechanisms is an essential but costly and time-consuming effort that will require a consistent much longer-term engagement by the GoY and its partners and donors. A continued effort will be needed of the coming generation, to help create the human and financial capital that can sustain the long-term management of such a remote and complex network of community-based marine and terrestrial protected areas. Currently, financial support from central government provides only for EPA's staff salaries and some limited operational costs. Additional Technical Advisory support and ad-hoc investments are provided through ongoing initiatives supported by the German Government/EPA/MOWE, the UNDP/GEF "Socotra Governance and Biodiversity Project" MSP, which focuses on select priority interventions. These are also complemented by several smaller, effective (including GEF Small Grants funding) in the Socotra WHS. The baseline scenario includes a range of interventions, mainly focusing on the very basics of PA management, sustainable use of natural resources by local communities, and local governance issues. These ongoing efforts complement and support the efforts of the EPA in the WHS, and provide a platform of baseline initiatives that will underpin the proposed new GEF project. However, in the business as usual scenario, critical underlying issues such as biodiversity conservation and community-based PA management, management of invasive alien species, securing long-term financial sustainability of the PA network, continued capacity development, and sustainable land management would not be specifically covered by any of the baseline investments.

The Socotra Archipelago WHS is at a crossroads between a sustainable development path, and losing its unique biodiversity and natural resource base. Several other biodiversity-rich island ecosystems in the world went through the same crossroads in their past history, but the opportunity was missed (e.g. Galápagos, Cabo Verde, Canary Islands, Reunion, etc.). In the case of the Socotra WHS it is not too late, because the Archipelago's development has actually only just started in the past decade or so (see Van Damme, 2012).

In the current business-as-usual scenario, both short and long-term financing to the preservation of the WHS remain unpredictable and insufficient, and are mainly linked to short-term donor support. The critical issues outlined above (and especially WHS governance & sustainable land management, including IAS management) will not be addressed. In this scenario, the history of the Socotra WHS will end up reading just like many other once-biodiversity-rich islands around the world: the unique opportunity of avoiding the biodiversity and economic losses occurred in almost all other similar islands at their earlier stages of development (i.e. where Socotra is now), will be missed.

The GoY and several international donors and partners have joined forces in recent years, to document and preserve the unique natural and cultural heritage of the Socotra WHS. These efforts started in 1997, catalyzed by the first and yet largest GEF project in Yemen (UNDP/GEF Socotra Biodiversity Project 1997-2001), and are continuing to date. These provide a significant platform for the project in terms of existing baseline data, experience, established relationships at national and international level, and local professional capacity that were not previously available (i.e. pre-1997). The ongoing and planned baseline projects build upon the above solid platform, and include a range of interventions supported by the GoY and donor funding, including:

(1) GoY Support for the Socotra Branch of the Environment Protection Authority (EPA), with quite significant ongoing and planned annual investments in terms of staff, equipment and infrastructure (relatively to the context of Yemen). The EPA operates on many fronts to support the management of the existing Protected Area network, environmental research and monitoring of terrestrial, (including underground) and marine ecosystems, environmental education and awareness, liaison with local governments and other government bodies to foster and support sustainable use of natural resources, control of invasive alien species (IAS) and species export, support the development of local community-based environmental NGOs, etc. These investments by the GoY and the EPA Socotra budget have consistently and significantly increased since 1997, and the trend is expected to continue in coming years.

The work of EPA in Socotra also links up to the national level where the GoY is also investing significant amounts in supporting the mandate of EPA and MOWE, and tentative total figures for GoY support that will constitute the baseline7

investments for this project are projected amount at over 4,727,520 USD for the coming years (ref. also section I, table C total for – government co-financing). This baseline co-financing includes: 45 full time technical (15) and support staff (30) of the EPA Socotra branch, with fully equipped offices, library, meetings rooms, plant herbarium, marine lab, diving centre, 4WD vehicles, satellite communication facility, education/awareness display rooms, GIS system and associated database and Decision Support System encompassing all existing information on the Socotra WHS, etc.

The EPA team is structured as follows, providing an outline of ongoing work by EPA & partners that will underpin the GEF project intervention:

**(i) Protected Areas Management Team:** works on the management of protected area in very close collaboration with local community groups. Associations for the management of protected areas have been established in recent years at priority sites and include the Nature Sanctuaries of: Dihamri, Homhil, Ditwah, Wadi Dahero and Roosh. Each PA is established and managed in partnership with a local community group in the area, who are responsible for management of the PA, ecological monitoring programs, law enforcement, community education and awareness programs, establishment and management of community campsites and associated visitor services and hospitality management – all these tasks are implemented with support and oversight from the PA team of the EPA Socotra branch. Besides the local PA community, the EPA's PA team operates in close collaboration with all EPA sections/teams as listed below, with selected international partners and with other island-wide community groups including i.e.: Socotra ecotourism society (support tourism promotion for all island), women groups (support handicraft development and marketing for all island), bee-keepers association (support honey packaging and marketing for all island), Socotra cultural heritage association (promotes cultural tourism island-wide).

**(ii). Research and Surveys Team:** this includes staff trained during the past 12 years in biodiversity surveys (mainly with GEF support) and equipment and facilities of the EPA-Socotra that will provide the baseline for the GEF project. Details:

(ii.a) Terrestrial Ecology team: manages periodic bird surveys (mainly with BirdLife International regularly published in OSME –Ornithological Society of the Middle East- and BLI bulletins; several scientific publications in peer-reviewed journals –examples available upon request); maintains the Socotra Herbarium and contributes to plant surveys using the permanent plots, photographic monitoring points and transects, remote sensing, (Herbarium was developed and is managed in collaboration with the RGBE-CMEP; Remote sensing: Univ. of Rome; Permanent plots Univ. of Prague, other partners – local staff trained in Edinburgh, Rome, Prague and on location); Other Zoological records and surveys on other taxa including: reptiles, amphibians, selected taxonomic groups of invertebrates, etc. (staff trained and collaborating with the Senkenberg Museum of Frankfurt, Univ. of Barcelona, Florence, and a range of international partners).

This team of the EPA also works on priority **IAS control programs**. In recent years the Socotra EPA & partners have successfully contributed to i.e. (a) control and eventual eradication of the Indian House Crow (*Corvus splendens*), (b) control of the expansion of *Prosopis spp.* – **all IAS programs have been entirely community-based and entailing initial awareness and education and close collaboration with local communities**. For example, for (a) local communities were involved in identifying Crow's nesting sites, climbing trees to destroy nests, monitoring and trapping adult of birds – resulting in complete eradication after 10 years of efforts with the EPA and BirdLife team (BLI publication on this is available). On (b): following initial awareness and education, communities are involved since 1999 with EPA in identifying and manually controlling/destroying existing stands of *Prosopis*, spotting and reporting any new stands across the island and collaborating with the EPA in their removal. This is also applied to other IAS species and the GEF project will build upon this existing capacity and positive experience to implement the IAS component. [ref. Annexes (component 2) for additional detail on past and ongoing baseline work on IAS]

(ii.b) Marine biodiversity and fisheries: marine biodiversity surveys and coral specimens collection (with Univ. of Senkenberg and BIF-K, Coral expertise from Australia, etc.); permanent underwater transects for coral and fish diversity set-up across the entire archipelago and monitored since 1999 by local and international staff; surveys of fish catch efforts with interviews to local fishing communities across the island; sea turtles conservation, monitoring, nest-protection and tagging program, ongoing since 1998 and now supported by the Univ. of Aden (Dr A.K. Nasher and EPA) in collaboration with several local community groups living near the main turtle-nesting beaches.

**(iii). Education and Awareness Team:** This team comprises a core technical team at the EPA office and a well-established informal network of >30 former ‘Environmental Extension Officers’ located in remote areas across the entire archipelago (including outer islands). The EAW team support the implementation of environmental education, training and awareness programs for all schools on the island, including on-site development and printing of awareness materials, posters, booklets, in Arabic; regular training programs for pupils – in all parts of the archipelago- and special courses for school teachers (i.e. including audio-visual equipment: projectors, display boards, generators and lighting for community meetings in remote locations, camera and video units, etc. etc.); establishment and support for school Wildlife Clubs (currently > 20 WCs are operational); the team also organizes periodical visit to the EPA centre and presentations organized for schools and other government departments; books on the plants and birds of Socotra. The training facilities and awareness caape

**(iv) Support and logistics:** operation of four 4WD vehicles, including small car mechanic/repair centre, power generation system for the EPA building (otherwise there is yet no 24/7 power supply grid on the island); diving centre; boat and outboard engine, etc.). This entails also (a) established operational systems for the procurement and stocking of fuels during the monsoon season (when no supplies reach the island), and (b) an effective liaison mechanism with mainland Yemen (i.e. mainly with Mukalla, Aden and Sana’a) for the procurement and timely delivery to the island of spare parts, and other items that are locally not available, by ship or plane.

**(v) Administration and finance:** the local EPA team administers government and donor funds through an established (with initial GEF support and TA) financial, administration and reporting system that has provided the basis for several government and donor-funded projects since 1997-98 onwards.

Other Government departments that will work closely with the EPA in the management of the Socotra WHS, both at the local and central level, include: Local district(s) governments in Socotra, MOA (Agriculture), MOT (Tourism), MOLA (Local Administration), MOE (Education), MOC (Culture), MOFW (Fish Wealth), and MOPD (Planning and Development). These partners will be involved in the design and operation of the governance mechanisms of the WHS, management of PAs, IAS management, SLM plan development and implementation, etc. Ref. to section A.4 on how this coordination will be ensured.

(2) In addition to government funding, international donors and partners have provided and continue to provide significant baseline investments in Yemen, supporting the EPA/MOWE and specifically the preservation of the politically stable and peaceful Socotra WHS as a springboard to subsequently expand conservation efforts in the rest of the country. In particular, significant baseline investments aiming to promote “*local economic development through a sustainable use of natural resources and through conservation of biodiversity in Yemen*” are currently financed by the German Federal Ministry for Economic Cooperation and Development (BMZ) and implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH (PN 2009.2231.0). Key target beneficiaries of this initiative are “*the people in need living in or around protected areas, using the natural resources for their means of livelihood*”. The German-funded program follows a multilevel approach reflected in three main components and including (a) at the central level: sector policy advice and institutional development of EPA with focus on capacity building, (b) at the local level: concrete action to support the living conditions of people using natural and biodiversity resources, the first local intervention zone being the Socotra Archipelago (UNESCO World Heritage), and (c) up scaling at national level: the positive results from local protected area management will be up-scaled in other parts of the country through EPA and other suitable partners for the identification and development of further protected areas in Yemen. The scope of this program is currently under elaboration by EPA/GIZ (project officially launched in Socotra in April 2013 and GIZ-EPA scoping mission ongoing) and the main portion of GIZ funding will underpin and complement the implementation of the integrated SLM program being developed by EPA with GEF support. This element of the project will be further developed during the PPG and in close consultation with the EPA/GIZ team.

(3) In addition, several other major national and international partners including i.e. UNDP (with GEF and non-GEF funding), Italy, France, USA, Japan, the Yemen GEF Small Grants Programme, BirdLife International, The BiK-F institute (Senckenberg, Germany), Ghent University (Belgium), Royal Botanic Gardens Edinburgh (RBGE) and its Centre for Middle-Eastern Plants (UK), UNESCO WHS Centre, members of the international “Friends of Soqotra” network, etc. have been and continue to be significantly involved in research, conservation and sustainable development of the Socotra Archipelago. The roles of each stakeholder and their contributions to the baseline investment and GEF project are illustrated in section A.2. The above-listed international institutions have played and continue to play a critical role in

supporting the efforts of the Government of Yemen and the EPA Socotra in the management and conservation of the WHS. The value of such ongoing and planned baseline investments is quite significant and it is fully complementary with, and additional to, the EPA programs listed above. These investments provide an excellent basis for most aspects of the GEF project, and particularly for (a) formal and on-the-job training in various aspects of BD research and PA, IAS management for existing and newly recruited local EPA staff, (b) operation and upgrading of existing Herbarium, specimens collections, laboratories and diving facilities of the EPA Socotra, (c) targeted IAS research and IAS management, (d) development and publication of educational and awareness materials supporting most project components, (e) GIS and DSS operation and upgrading, (f) advocacy and fund-raising efforts in support of the establishment of the Socotra Trust Fund and for WHS management, etc. etc. Specific **selected examples include** (please refer to section A.2 and Annexes for more detail):

**Royal Botanic Gardens Edinburgh (RBGE) / Centre for Middle Eastern Plants (CMEP) (UK):** The RBGE has a long history of published botanical work in the WHS herbarium operations, and collaborated with the EPA on plant research and BD surveys as well as herbarium maintenance, plant databases, and plant IAS management - The Centre for Middle Eastern Plants (Royal Botanic Garden Edinburgh) has been awarded a research grant entitled ‘Conserving the Flora of the Socotra Archipelago: integrating evolution into conservation’. This program is closely aligned with the GEF proposal, and will use molecular evidence to incorporate conservation of evolutionary processes into the Protected Areas system of the Socotra WHS. This will include maintaining a high quality database of Socotra plant distributions and establishment of traditional uses and cultural practices, as well as plant functional types, for consideration in improved Protected Area design (component 1).

**Senckenberg Research Institute and Biodiversity and Climate Research Centre (Germany) – BIF-K:** the BIF-K operates a fully equipped marine and environmental center in Hadibu, Socotra, which stems from almost two decades of collaboration with the local EPA branch on marine BD and fisheries as well as zoological research. Collaborates with EPA marine team in the regular surveys of underwater transects, turtles surveys, fisheries surveys, etc.

CABI: involved in major IAS control programs worldwide and recently also in the Arab region, will provide significant expertise in IAS management through know-how sharing, joint training with its other existing programs, as well as taking advantage of a range of databases and publications on IAS that will be adapted to the context of the Socotra WHS and translated in Arabic. This will support the cost-effectiveness of the project, with significant cost-savings, and will also benefit other Arab-speaking countries in the region that can learn from the Socotra WHS example.

**BirdLife International (UK):** BLI expertise (and particularly Richard Porter – see list of references in Annex), supports regular bird surveys, targeted research and –in the process- provide highly-qualified on-the-job training for local EPA staff. This results and is regularly publishing results in peer-reviewed journals, regular updates of the Socotra portion of the Bird Atlas for the Middle East, regular revision of the status of the 22 IBAs in Socotra, etc.

**University of Tuebingen (Germany):** Ms Dana Pietch is conducting the only specific soil survey program in the Socotra WHS and in the process she is training local staff and providing significant baseline information on soil quality, soil and land-use mapping, land degradation patterns, etc. This contribution will be integrated in the EPA GIS and will underpin the development of the SLM for the WHS under component 3 of the project.

**University of Rome (Italy):** several researchers from the Univ. of Rome have been involved in recent years in supporting the local EPA branch in the framework of the UNDP-Italy program in support of EPA. These efforts will continue and will focus on (a) training and capacity development for the EPA GIS, PA management and terrestrial ecology teams (funded by the Government of Italy as a follow-up to the above UNDP-Italy program), and (b) joint research on the modeling and prediction of the effects of climate change on the archipelago’s ecosystems (Ref. recent publications by F. Attorre, in Annexes);

**Institute of Evolutionary Biology (CSIC-UPF), (Spain):** recently published studies on the genetic diversity of reptiles and amphibians unveiled significantly higher levels of diversity that originally known. This research will be expanded to cover other taxa and it will underpin the improved design of the PA network in the WHS. Training and capacity development for local EPA staff will also be undertaken as part of the process and this will also fully complement the scope of the GEF project.

**UNESCO WHC regional Office and Qatar Museums Authority (Qatar):** initial contacts are maintained with the UNESCO office with regards to the possible establishment of a state-of-the art visitor information centre for the Socotra WHS. This will fully complement most of the objectives of the GEF project, providing a platform to (a) enhance awareness and education efforts for local residents and foreign visitors alike, (b) disseminate the results and highlight the findings of recent BD research and promote the natural and cultural values of the WHS, thus supporting (c) fund-raising, Socotra TF establishment, PA management and IAS control, (resulting from better awareness of all actors), etc.

**Local community-based NGOs in Socotra:** The Socotra WHS features several community based groups and local environmentally oriented NGOs that were established in recent years, mainly with EPA and GEF support. These include: Socotra Women Association, Socotra Bee Keepers Association, Socotra Ecotourism Society, Socotra Cultural Heritage association, Socotra Fisheries Cooperatives, Management Associations for the protected areas of Dihamri, Homhil, Ditwah, Wadi Dahero and Roosh Protected Areas Management Associations, and several local Schools' Environmental Clubs (please refer to section A.2 and above under EPA community-based activities on PAs, IAS etc., for additional detail).

Several **Bilateral donors** and partners have been and will continue to be involved in supporting various aspects of WHS management that will complement and underpin the GEF project. **Selected examples** include, i.e. Italy: training for local EPA staff in GIS and DSS systems; Japan: small grants in support of local environmental awareness programs and waste management with EPA and local councils; USA: support to the establishment of and fund-raising for the Trust Fund, micro-grants for local community development programs; France: support to the EPA marine team following-up on the UNDP-FFEM program, etc.

The total baseline investments underpinning the GEF project and co-financing in support of conservation development aspects of the Socotra WHS are currently estimated at around 17,562,520 USD over the project period (i.e. combining 1-2-3 above and as outlined in Table C). All aspects of the GEF are therefore expected to have a baseline investment to some extent. As outlined above, the baseline will be either either in terms of existing technical, operational and support capacity and recent/ongoing work undertaken in the same sector (e.g. PA management, IAS management, community involvement and community development programs, training etc.) that will underpin/benefit the GEF project, or as ongoing or planned investments and TA by collaborating partners. The coordination among all these efforts is indeed a daunting task and this has led to the recent establishment of improved **coordination** mechanisms (Socotra Conservation and Development Coordination Unit – 2010), that the GEF project will support and adopt as its main coordination mechanism, as outlined in section A.4.

It should be noted that in the framework of recent initiatives (described above) and in the baseline scenario, the critical issues of soil erosion, desertification and land degradation were under-studied, and are thus not yet addressed and are not properly reflected nor integrated in existing conservation and development plans for the archipelago. The project will contribute to addressing this important shortcoming of the baseline scenario by -for the first time- properly integrating SLM issues within the socio-economic context of this unique and biodiversity-rich Natural WHS.

#### A.1.3 The proposed alternative scenario

**Scenario with incremental GEF intervention:** to effectively address the above issues and threats, the GEF intervention envisages a blend of incremental technical support, on-the-job capacity building and critical barrier-removal actions. These interventions will build upon prior experience from GEF-funded projects in the same area, existing local capacity, and baseline data, and the GEF support will complement and enhance ongoing baseline investments. The GEF project will complement and add other critical dimensions to the 'business as usual' scenario (which already includes some limited GEF support), focusing on biodiversity conservation and community-based PA management, revision of the PA design based on latest science, management of invasive alien species, securing long-term financial sustainability of the PA network, improved WHS governance and sustainable land management. The project will generate significant global environmental benefits (see below) that would not otherwise be achieved the current 'business as usual' scenario, through the following main components: 1. Improved Management effectiveness of the network of Protected Area in the Socotra WHS; 2. Invasive Species Management; 3. Sustainable Land Management; 4. Institutional Strengthening & Capacity Building; 5. Knowledge Management and Monitoring & Evaluation. The project will be designed and implemented under the umbrella of the EPA, in full synergy and close coordination with the baseline investments of the GoY, GIZ, UNDP and other donors active in the Socotra Archipelago. Project objectives, outcomes and outputs are illustrated in detail in Table B above, and **Annex 3** provides a more detailed description of the rationale and scope of each project component.

#### A.1.4 The incremental cost reasoning and expected baseline contributions

A summary of the incremental cost reasoning is presented below in table format, and GEF co-financing contributions for each component are provided in Table B and C above. This will be further elaborated at CEO endorsement.

Baseline Scenario (Business As Usual)	GEF Incremental Contribution (what the GEF project will contribute)	Key Outcomes expected with the Alternative Scenario (BAU+GEF Increment)
<p><b>Component 1 – Protected Areas:</b> PA Zoning Plan remains unchanged and does not take into account recent developments. Some limited costs for staff salaries and operational costs are provided for the Socotra Branches of the EPA and other relevant ministries and local government in the Socotra WHS.</p> <p>Local professional capacity in the EPA and local government has improved in recent years. However it remains well below the required levels to manage the WHS and is still largely reliant on international support, especially on more technically complex tasks such as IAS management, conservation finance, SLM, etc.</p> <p>The UNDP/GEF SGBP medium-sized project (ongoing/on hold) provides some initial support and baseline studies for the mainstreaming of Biodiversity conservation, WHS management, and IAS management concerns in Local Governance. However project results are not yet clear at the time of PIF submission.</p> <p>There is yet no integrated management authority for the Socotra WHS, nor any mechanism to ensure the financial sustainability for the conservation of the WHS</p> <p>Funding and capacity for PA and WHS management remain limited and unpredictable. The UK and Yemen registered Socotra Conservation Fund (SCF) that was established as a result of the UNDP/GEF Socotra Biodiversity Project remains dormant and FoS have no sufficient capacity to mobilize donor support.</p>	<p>Provision of specific and highly qualified technical support to the EPA, from a network of international and national research and conservation institutions, to underpin a revision and improvement of the existing design of the Protected Areas network (both marine and terrestrial), taking into account all latest scientific studies and climate change considerations.</p> <p>PA design (Zoning Plan approved in year 2000) requires adjustment based on recent new scientific findings including i.e. discovery of a large karstic caves complex hosting unique biodiversity, discovery of new areas of high botanical biodiversity in the Western parts of the island, recent analysis of genetic samples for key taxonomic groups (e.g. reptiles) resulting in higher biodiversity richness and identification of new important areas for conservation, identified need to cover other zoological taxa to further assess the effectiveness of the original PA design, and emerging land degradation and climate change patterns that highlight the additional conservation importance of some specific “refugia” to protect the biodiversity of the WHS.</p> <p>The process for achieving an integrated institutional framework for conservation-oriented land use management for the Socotra WHS is supported – consolidating the outcomes of prior and ongoing UNDP/GEF support</p> <p>Strategies and mechanisms for the long-term financial sustainability of the management of the Socotra WHS are put in place, also building upon the experience of the SCF and initial inputs of prior GEF interventions.</p> <p>The GEF increment will focus on enhancing existing professional capacity and will (a) build upon, expand and consolidate the existing professional and institutional capacity, and (b) contribute to expanding GoY-budget support and developing new long-term financing mechanisms during the project lifetime, thus enhancing long term sustainability of GOY efforts to preserve and manage the Socotra WHS</p>	<p>The design of the existing PA network is significantly improved and provides a more effective basis for the long-term conservation of the biodiversity of the Socotra WHS, including community based sustainable land management and sustainable use of marine resources.</p> <p>A new island-wide Socotra management Authority is in place and operational, with EPA playing a central role in it.</p> <p>An appropriate financial mechanism (Conservation Trust Fund) to support the long-term conservation of the WHS is established and seed-funded by a consortium of donors.</p> <p>EPA is better equipped technically and financially to perform its mandate, and can better perform its technical tasks and coordination functions in collaboration with local government, communities, donors and all other stakeholders, setting the stage for the long-term conservation of the Socotra WHS</p>
<p><b>Component 2 – IAS Management:</b> The Management of Invasive Alien Species is identified as a major emerging threat to the survival of the islands’ ecological balance and endemic biodiversity, however IAS management is not yet effectively addressed in terms of professional capacity, legislative tools nor operational/management</p>	<p>A comprehensive plan for community-based IAS management in the Socotra WHS is developed with support of local community groups, local authorities and a consortium of leading international institutions.</p>	<p>The threat of IAS invasion is significantly reduced, thus ensuring the long term preservation of the unique Biodiversity of the Socotra WHS, as well as safeguarding the basis for sustainable nature-based livelihoods of local communities. This will be largely be based on accepted international norms and</p>

<p>arrangements – hence the threat of IAS invasion remains very high and is rapidly increasing in parallel with growing external influences and unplanned developments.</p> <p>The experience of other biodiversity-rich islands shows that the prevention of IAS invasions is by far more cost-effective than subsequent attempts at eradication: hence at this stage, lack of action on IAS management is not an option.</p>		<p>standards but adapted for use and replication in Yemen and the Arab region.</p>
<p><b>Component 3 – SLM:</b> EPA/GIZ “Conservation and Sustainable use of Biodiversity” program, focusing on addressing local community needs and promoting sustainable uses of Biodiversity (e.g. ecotourism), but not covering land degradation, soil erosion, IAS management, PA management.</p> <p>Collaboration between relevant entities of the GoY as well as among donor-funded projects is yet suboptimal and is hampering the development of a well-integrated sustainable land use plan for the Socotra WHS</p>	<p>The linkages between sustainable use of Biodiversity and conservation efforts by the EPA are made more explicit and transparent</p> <p>An integrated and community-based sustainable land use plan is developed in full synergy with the EPA/GIZ program and taking stock of all prior experiences and existing information and resources.</p> <p>The inter-agency and donor coordination capacity of the EPA, Local Government and then of the new Socotra WHS Management authority are enhanced through capacity building and Institutional strengthening support</p>	<p>An integrated and community-based sustainable land use plan is developed and implemented, clarifying and emphasizing the close linkages between BD conservation and local livelihoods, and underpinning the long-term preservation of the Socotra WHS.</p> <p>More coordinated and synergic interventions by GoY and donors result in a higher impact of all development support for the Socotra WHS</p> <p>A more harmonious land use planning process is started, aimed at the long term conservation and sustainable use of the Socotra WHS.</p>
<p><b>Component 4 – Capacity Development:</b> Technical and institutional capacity for PA, IAS and WHS management remains limited compared to the tasks at hand</p>	<p>Provision of specific formal and on-the-job capacity development programs in the framework of all the above components</p>	<p>Existing capacity is enhanced and consolidated, and new capacity is developed with a focus on PA, IAS and WHS management</p>
<p><b>Component 5 – M&amp;E:</b> no impact monitoring systems in place to assess effectiveness of management measures implemented in the WHS on PAs, IAS, Land Use, Sustainable Use of BD, etc.</p>	<p>An impact monitoring system is put in place and included in the EPA regular processes, and thus benefitting all development and conservation programs in the WHS, with trained staff and international supporting network of expertise.</p>	<p>Local professional capacity for adaptive management of PAs, IAS, WHS, Land Use Planning and sustainable use of biodiversity is significantly improved.</p>

#### A.1.5 Global environmental benefits

The Global Environment Benefits delivered by the project will be quite significant and include: Setting the stage for and addressing critical issues to ensure the long-term preservation of the Socotra Archipelago WHS that includes a land area of 3,730km<sup>2</sup> (or 373,000ha - of which 95% is protected), and is surrounded by 17,720 km<sup>2</sup> (or 1,772,000ha) of marine conservation areas. The target site is a now well-documented and globally recognized “*unique living museum and a masterpiece of evolution featuring almost 300 endemic plants (36% of the total), over 30 endemic vertebrates, and more than 300 species of endemic invertebrates (among those so far described). In addition, each of the archipelago’s three inhabited islands exhibits its own high level of endemism rendering the archipelago as a whole even more significant*” (UNESCO WHC). More detail on the biodiversity values and GEBs delivered by preserving the Socotra WHS are detailed above in section A.1 and are now well documented in the scientific literature, also as a result of recent efforts supported by the GEF (see list of publications in Annex). As an example, the archipelago hosts 10 endemic species of birds (Porter, RF & GM Kirwan, 2010) and the IUCN status for vascular plants is provided in the following table.

IUCN Status of Endemic Vascular Plants of the Socotra Archipelago	#
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(source: L. Banfield, www.socotraproject.org)	
Extinct	4
Extinct in the Wild	0
Critically Endangered	3
Endangered	27
Vulnerable	118
Near Threatened	14
Least Concern	118
Data Deficient	29

Given the high visibility and global recognition of the World Heritage Site, conservation efforts in the archipelago also have significant additional demonstration and educational values at the national and regional level, where the Socotra WHS experience can inform the establishment of new PAs and PA networks along the blueprint of the community-based Socotra model. In addition, the project will generate the same benefits at the global level, especially through established linkages with the international Global Islands Partnerships, IUCN and SIDS networks, to which the Socotra EPA team is already contributing with their experience and lessons learned in community based PA management. Other benefits of the project include the positive impact expected on the long term preservation of the unique cultural, language, traditional and archaeological

values of the Socotra WHS, which are still closely intertwined with the archipelago's natural resources, biodiversity and traditional land management practices. These features and values will be showcased in the planned development of an innovative visitor centre supported by UNESCO and GoY, that will help illustrate and promote the balance between biodiversity conservation and the language, culture and traditional livelihoods of the Socotri people.

#### A.1.6 Innovativeness, sustainability and potential for scaling up

This is one of the few and probably the most prominent Natural World Heritage Sites in the region, that appeared as one of the selected case studies in the recent 40<sup>th</sup> Anniversary Publication of UNESCO (Van Damme, 2012). Therefore the integrated approach being implemented through the project (i.e. combining SLM, IAS management, community based management of PAs, Conservation Financing Mechanisms, alternative livelihoods, and training – as a coordinated partnership among a broad range of donors and GOY) will provide an innovative example that is expected to (a) generate important lessons for other WHSs, (b) build new national expertise in new fields (i.e. on professional skills not previously available in Yemen), (c) contribute to the conservation of other threatened island ecosystems all over the world. The Socotra experience has a great potential for scaling up both at the national level (Yemen has some other 220 islands along its >4,000km coastline), as well as at the regional level, through exchange programs with neighboring Arab-speaking countries (which to some extent is already ongoing in recent years). The existing linkages with the Global Islands, IUCN and SIDS networks will also provide the avenue for international level exchanges of experience and capacity.

#### A.2. Stakeholders

Category	Stakeholders	Roles and Contributions
National Government and affiliated organizations	MOWE (Water and Environment), EPA (Environment Protection Authority), MOA (Agriculture), MOT (Tourism), MOLA (Local Administration), MOE (Education), MOC (Culture), MOFW (Fish wealth), MOPD (Planning and Development), Office of HE The President of Yemen (Water and Environment Advisory Office), Customs Authority, Port and Airport Authorities, Local Government Authorities and Ministries' local branches in Hadibu and Qalansya Districts (Socotra), Local Council representatives in the SocotraWHS, Regional Hadramwt Governorate, Universities of Sana'a, Taiz, Dhamar, Mukalla and Aden, Yemen Marine Science and Research Authority (Aden), and others to be determined during the PPG.	The national government and a wide range of government-affiliated institutions will play a major role in the project and contribute a significant baseline investment on which the GEF contribution will build upon. These will include, i.e.: Management of Protected Areas including staff, infrastructure, equipment and operations; National and local level governance and land-use and development planning processes and underlying government staff and infrastructure, including relevant legal expertise; National and local level academic research based on extensive data collection and analysis (both in terms of space and time series) on climatic and environmental parameters, biodiversity conservation and natural resources management; coastal zone management and provision of other environmental data, etc.
Local Community Groups, including Women associations	The Socotra WHS features several community based groups and local environmentally oriented NGOs that were established in recent years, also with GEF support. These include: Socotra Women Association, Socotra Bee Keepers Association, Socotra Ecotourism Society, Socotra Cultural Heritage association, Socotra Fisheries Cooperatives, Management Associations for the protected areas of Dihamri,	Participation in all project consultation mechanisms and in all project components and activities (especially PA management, IAS management, SLM and sustainable livelihoods), including dialogues with EPA and local/central government authorities and working groups at all stages including: project design, implementation and monitoring and evaluation. The strong partnership between the EPA and local community groups has been the strong point of GEF-supported work in recent years (eventually leading to the Conservation zoning Plan in 2000 and establishment of the WHS in 2008), and this aspect will

	Homhil, Ditwah, Wadi Dahero and Roosh Protected Areas Management Associations, and several local Schools' Environmental Clubs.	continue to be enhanced and consolidated from this GEF project.
Private Sector	<p>The possible involvement of Private Sector will be explored during the PPG phase, focusing mainly on the engagement of small scale, community-based enterprises (SMEs – such as i.e. artisanal fisheries) active within the target areas.</p> <p>Larger investment groups at the national and regional (Arabian Gulf) level will also be involved in TF design and funding (to be defined during PPG).</p>	<p>Participation in project consultations mechanisms and in project activities including dialogues and working groups at all stages including: project design, implementation and monitoring and evaluation.</p> <p>Private Sector will also be engaged in a dialogue to support the environmentally friendly objectives of this project and the establishment and funding of the Trust Fund (Outcome 1.2) as a pathway towards a model green economic development for the Socotra WHS.</p>
International CSOs, conservation NGOs & other conservation-oriented partners	This includes a broad and diverse national and international network of “Friends of Soqatra” and other partners that have been instrumental in developing the capacity of the EPA, undertaking all prior GEF projects and in achieving WHS status. These groups continue to engage mainly in research and awareness on these islands, consolidating and expanding support to conservation and sustainable development efforts in the Socotra WHS. These are key stakeholders includes representatives from: Bik-F, CMEP/RBGE, BirdLife International, Qatar Museums authority (QMA) and a large number of universities and institutes (e.g., University of Rome, Senckenberg Institute, Qatar National history Museum, etc.)	Will be involved in various biodiversity conservation elements of the project including i.e.: biodiversity and ecosystem monitoring monitoring and field research (marine and terrestrial), training and capacity building, development of incentive-based mechanisms, conservation policies and legal instruments, community involvement, outreach and awareness programs; assessment and evaluation of the ecosystem services provided by the target protected areas; climate change modelling, land degradation/ soil erosion mapping, etc. All such contributions will be defined in detail during the PPG phase, and will be supported through in-kind support as well as grants
International Agreements and conventions	Ramsar Convention on Wetlands (Ramsar), the CBD Secretariat, Global Islands Partnership (GIsP), IUCN, SIDS network.	These partners will provide linkages with relevant international processes; guidance, training, awareness raising and educational materials to support the work of the EPA and assist in showcasing, sharing and disseminating the experience and achievements of the project in international fora.
UN and other International Organisations	GIZ, CABI (Centre for Agricultural Biosciences International), UNDP Country Office in Yemen, the UNESCO WHC and its regional office, UNEP Division of Environmental Policy Implementation (DEPI).	<p>The GIZ has extensive experience of development cooperation in Yemen, and is now funding a new initiative on the conservation and sustainable use of biodiversity in Yemen with a focus on Socotra. This initiative is implemented with MOWE/EPA, therefore the GEF project will be designed and implemented so as to maximise synergy and coordination with the German-funded initiative, possibly also with a unified management structure and execution arrangements (to be defined at PPG).</p> <p>CABI will provide specific expertise on IAS management and linkages with other parallel IAS management initiatives in other parts of the world. CABI's century-long work on invasive species has contributed to biodiversity conservation through policy support, innovative information products, and research on biological control.</p> <p>The UNDP Country Office in Yemen has accumulated significant expertise in supporting GEF and non-GEF projects in the Socotra archipelago and mainland Yemen since 1996. As such the UNDP CO team will be a key partner of UNEP in the design and implementation of the GEF project.</p> <p>The UNESCO WHC is set to provide support for the development of an education, awareness and visitor centre in Socotra in collaboration</p>

		<p>with EPA and project partners.</p> <p>UNEP and its specialised partner agencies will (i.e. in addition to the GEF Implementing Agency functions played by the UNEP GEF team) provide a wide range of technical in-kind contributions to the design and implementation of the project, including i.e.: linkages with parallel UNEP programmes of national and global nature and focusing on related issues; protected areas, conservation planning, environmental policy and climate change-related expertise; biodiversity databases, data analysis, decision-support and GIS systems; coastal zone management, wetlands and natural resources management, etc. The contributions of each division and UNEP partner organisations will be defined in detail during the PPG phase.</p>
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### A.3. Risks

Projects in the Republic of Yemen are inherently complex due to the specific socio-political situation. Project implementation therefore presents potential risks and challenges. However significant experience was gained in recent years in the specific context of the Socotra WHS, and the situation in Socotra is quite different from the rest of the country (i.e. with a far more secure and peaceful environment). Key risks envisaged during the implementation of the project include:

Identified Risk / Risk Level	Proposed risk management measures
1. Weak coordination among ministerial bodies and lack of support from central national government / Medium	Building on the lessons from prior GEF projects in Yemen and specifically on Socotra, it will be critical to foster government ownership and develop capacity from the onset and at all levels (local and central/national). The cross-cutting capacity development and awareness component 4 of the project will be critical in this respect. The project will also contribute to the institutional strengthening of the existing "Socotra Conservation and Development Coordination Unit" hosted by MOWE/EPA at central level, that will provide the conduit for coordination among all government and non-government and donors involved in the Socotra WHS. The project will also develop direct links with the highest levels in government (e.g. presidential office, Prime Minister Office, MOWE/EPA Headquarters in Sana'a) to ensure close communication and continued support for the outcomes of the project.
2. Government turnover leading to changes in political direction / Medium	To counter this risk it is essential foster a sense of Return on Investment (RoI) and demonstrate how the project benefits national interests. Particular attention needs to be devoted to sustaining government engagement through a combination of high level, public, and working level meetings in order to leverage maximum political commitment. All major agreements and key discussion should be clearly documented and signed off by any relevant government agencies.
3. Lack of understanding on the potential socio-economic importance of a well-preserved Socotra WHS for the whole of Yemen / High	The project will focus on further documenting and demonstrating and publicizing the actual and potential positive socio-economic impacts of a well-preserved Socotra WHS for the local people and for the whole of Yemen (mainly in terms of eco-tourism and fisheries development). Other potential economic and intangible values will also be highlighted and disseminated through project results, in terms of i.e. provisioning and regulating Ecosystem Services for the local population; awareness raising, cultural and educational values; demonstration values (i.e. providing examples for a "green economy" development pathway for islands and for other rural disadvantaged areas in Yemen and the region), etc.
4. Capacity gaps / Medium	This is a critical consideration in the context of Yemen where technical and professional capacity, especially in the new fields covered by this project, is yet extremely limited in comparison to existing needs. A sound and well-designed capacity building program under component 4 will be developed based on an assessment of exiting gaps and taking stock of lessons learned from prior GEF-supported efforts. This will be an essential aspect of the project and will underpin the foundation for project success and long term-sustainability of project results. In addition, the project will provide a platform for networking among PA practitioners in the region and with other islands and WHSs in the world.
5. Insufficient awareness of biodiversity conservation and climate change issues / Medium	With respect to biodiversity and climate change, several project partners (e.g. UNEP, GIZ, UNDP, BiK-F, RBGE, FoS network, GEF SGP Yemen, UNESCO) are already active on addressing these issues and working collaboratively with Yemeni authorities through synergistic parallel projects. The project will build upon the above current and planned initiatives to support and enhance awareness raising and education efforts of the EPA in the target areas, highlighting the potential of a well-managed Socotra WHS to improve livelihoods, while ensuring biodiversity conservation and enhanced climate change resilience.

6. Communities resident in areas surrounding target PAs are not supportive of conservation plans / Medium	This is a risk that can only be mitigated through continued and focused and well-targeted communication, consultation, education and involvement of local communities. This was the recipe for success during the formulation and first phase of implementation of the GEF-supported Conservation Zoning Plan (for which community support was of highest level). This effort will be revitalized and sustained throughout the new GEF project. A comprehensive and well-budgeted communication plan will be developed during the PPG and operationalized as a first step at the outset of the GEF project, to engage local residents in the new initiatives and mitigate any risks of misunderstanding or conflict. The project will also place emphasis on the generation of socio-economic benefits associated with the sustainable management and conservation of biodiversity in the WHS. Where applicable, priority in job creation and capacity building will be given to the disadvantaged social groups, including women groups, within the surrounding community.
7. The needs and priorities of the more economically disadvantaged groups of society, including Indigenous groups and Women associations are not adequately taken into account by development plans / Low	This risk is fully acknowledged also on the basis of the review of the lessons learned in previous UN and GEF projects at the global level. The experience in the Socotra WHS has been largely positive so far, and the positive lessons learned will be incorporated in project preparation. Therefore all aspects of the project's design, implementation strategy and monitoring and evaluation process will closely look at this important aspect and take this risk into account. This will inform the set-up of adequate stakeholder consultation and involvement mechanisms from project outset, with full support from all project partners, following existing GEF and UNEP guidelines and under the supervision of UNEP as the GEF implementing agency.
8. Climate Change Risks / Low	The anticipated impacts of climate change on the marine, costal and terrestrial ecosystems of the Socotra WHS are yet to be determined in detail. Some recent studies provide initial indications (e.g., Attorre et al., 2007) of possible scenarios with respect to the impact of climate change on the island's vegetation, and these are pointing to adaptation needs that may also underpin the revision of the design of the PA network. For marine areas and assuming that climate change has a negative impact on fish stocks, particularly in the coastal area of the gulf of and including Socotra, where subsistence and artisanal fisheries are still prevalent, this may also have a detrimental impact on local fish stocks through i.e. added fishing effort. While the real impact of climate change remains to be seen, this project will provide greater monitoring and assessment of populations and habitats to better identify changes, as well as to help identify and develop alternative livelihoods to local communities.

#### **A.4. Coordination**

The project will be executed through the MOWE and EPA and will establish close synergy with parallel initiatives of that are funded by the GIZ and UNDP/GEF (also through the EPA). Discussions are ongoing with regards to the possible unification of project management structures with the above parallel initiatives, and the most suitable execution set-up will be further analyzed during the PPG. The project will be designed and implemented in close coordination with all key government and donor-funded programs both at national and site level. In particular, the project management structure will contribute to and support MOWE/EPA's central "Socotra Conservation and Development Coordination Unit" (SCDCU, established in 2010). This will ensure close collaboration with all other Government bodies and donors involved in the conservation and sustainable development of the Socotra WHS and including: GIZ program: "Conservation and sustainable use of biodiversity in Yemen" - (PN 2009.2231.0); UNDP Yemen / GEF and FFEM ("Socotra Governance and Biodiversity Project"); BiK-F (Germany) Field Research Station in Hadibu, Socotra; FoS (range of field studies by FoS members including universities), Italy-DGCS (ongoing programs including training for national staff of EPA), UNESCO (support to the Socotra WHS), WB/GEF project in support of PERSGA (Regional marine programs including also the Gulf of Aden and Socotra) and all other partners and donors that are currently or will be involved in supporting the Socotra WHS in various ways. The SCDCU partners will meet on a regular basis to review progress of all existing initiatives, share information on new and upcoming initiatives, identify synergies and common issues requiring attention, etc. This consultative mechanism will provide the membership for a project steering group, and will be overarching conduit for appropriate coordination and synergy among all the above ongoing initiatives, building upon the experience and lessons learned from earlier similar efforts in the period 2000-2004 with support from UNDP and Royal Netherlands Embassy (i.e. Socotra Coordination Unit). The project will also help consolidate EPA's existing links with other major conservation organizations in the Arab region, and namely with RSCN (Jordan), BirdLife international Regional Office in Amman and PERSGA.

With regards to IAS Management, there are several regional/global GEF projects underway elsewhere, in various stages of development and implementation, with which linkages and exchanges of best practices will be sought, through the 17

involvement of CABI as a key international partner in this GEF project. These include i.e. the recently completed UNEP-GEF Project, “Removing Barriers to Invasive Plant Management in Africa” (CABI was Executing Agency - EA) providing the opportunity to share experiences and lessons learnt during the implementation of this GEF project, on strengthening policy, building capacity, and creating awareness. Other relevant UNEP-GEF initiatives include the regional project “Mitigating the Threats of Invasive Alien Species in the Insular Caribbean”, where CABI is also the EA; a project recently initiated in Cameroon: “Development and Implementation of a National Monitoring and Control System (framework) for Living Modified Organisms (LMOs) and Invasive Alien Species (IAS)” under the GEF/UNEP Biosafety Programme; “Prevention, Control, and Management of Invasive Alien Species in the Pacific Islands”; and “Removing Barriers to Invasive Species Management in Production and Protection Forests in SE Asia”, with CABI as the EA. Most of these projects focus on awareness creation, capacity building, strengthening of IAS policy and the development of best management practices for selected target species. CABI is involved in most of these initiatives or in close collaboration through its former GISP partners, IUCN and TNC. Other relevant projects in the region include the UNDP/GEF Seychelles “Mainstreaming Biosecurity Project” that may also generate useful lessons for the Socotra WHS.

## **B. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:**

**B.1.National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAs, NAPs, NBSAPs, National Communications, TNAs, NCSAs, NIPs, PRSPs, NPFE, Biennial Update Reports, etc:** The project forms an integral element of the ongoing programs of the Ministry of Water and Environment (MOWE) and Environment Protection Authority (EPA) of the Republic of Yemen, and is fully consistent with the mandate of the MOWE/EPA and with national strategies, plans and assessments prepared under the relevant conventions ratified by the Republic of Yemen.

***Biodiversity:*** Yemen ratified the Convention on Biological Diversity (CBD) in 1996. Its commitment to Biodiversity conservation is also testified by the signature of other relevant conventions such as the Ramsar Convention for the Conservation of Wetlands, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the Convention on Migratory Species (CMS) and AEWAA (African Eurasian Waterbirds Agreement). The National Environmental Action Plan (NEAP, 1995), as well as the National Biodiversity Strategy and Action Plan (NBSAP, 2004), both clearly underscore the biodiversity conservation priorities addressed in this project.

Yemen, as a signatory to the CBD has an obligation with regard to IAS management. Article 8 (h) of the CBD calls on parties to prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats and species. The CBD and the 2020 Aichi Biodiversity Targets include: “*by 2020, IAS and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment*” (ref. CBD Target 9 in the table below). The project also contributes to one of the targets of the Global Strategy for Plant Conservation 2011-2020 and specifically: “*Effective plans in place to prevent new biological invasions and to manage important areas that are invaded for plant diversity*”. The project also directly contributes to the achievement of CBD Aichi Targets #: 1,2,4,5,6,9,11,12,13,14,18,19 and 20 [Ref. to table in Annex , summarizing how the project will support the achievement of each target and providing initial SMART indicators].

***Land Degradation:*** Yemen ratified the UNCCD in 1997 and the project is consistent with the priorities identified in NAPCD (2000), which are also reflected in Yemen’s latest PRSP (2003-2005). Yemen is a country severely affected by land degradation, drought and desertification. This situation is exacerbated by the effects of climate change and is jeopardizing the natural resource base underpinning major elements of the local economy in rural areas, which is mostly of a subsistence nature. These issues have so far not been addressed in the context of the Socotra WHS (other than by selected ad hoc studies on soil erosion and land use – ref. Annexes), therefore the project will support a first attempt in the country at the development of an integrated sustainable land management plan. The plan will aim at mitigating or preventing further land degradation and desertification in the Socotra WHS which is known to be very acute (Pietsch & Morris, 2010), and at maintaining the delicate balance between the subsistence livelihoods and production systems of the local population, and the conservation of biodiversity. This can be achieved through the preservation and restoration of traditional land use practices that have maintained a delicate balance between people and the archipelago’s unique biodiversity for millennia, but that are currently being lost (Miller & Morris, 2004). The SLM plan will be developed in a participatory fashion and in synergy with Component 1. The plan will bring together conservation and sustainable land management approaches within the unique context of the Socotra WHS, addressing desertification, land degradation and biodiversity conservation - for the first time in Yemen. This approach will support a shift towards environmentally friendly production systems within the “General Use Zones” of the WHS, including e.g. subsistence pastoralism, small-scale date palms farming, small household-scale vegetable gardens and related supporting rainwater harvesting and storage systems – taking stock of the wealth of traditional knowledge and existing local subsistence production systems. 18

This will be the first time for a project of this nature in the Yemen, a country with unique biodiversity and affected by serious land degradation, drought and desertification problems. This will be done hand in hand with the local approximately 44,000 members of the local communities. (Please refer to Annex 3 for detailed description of project components).

**Cross-cutting:** The project objectives are aligned with Yemen's Environment and Sustainable Development Investment Program (2003-2009), and take stock of the findings of the National Capacity Self-Assessment Project (2007). All project components will contribute directly and indirectly to national priorities for sustainable development and poverty alleviation as identified in Yemen's Poverty Reduction Strategy Paper (PRSP 2003-2005, latest available)<sup>13</sup> and in Yemen's Vision 2025 document. The project will also contribute to the achievement of the Millennium Development Goals, particularly with respect to: promoting environmental sustainability; supporting policy initiatives that enhance economic development, poverty reduction and social welfare; and strengthening good governance through promoting public participation and empowering people.

The project is being reflected in the UNDAF (2012-2015) and supports the following outcomes: (i) Outcome One on Governance by providing mechanisms for public participation in decision-making (ii) Outcome Two on Gender Equality and empowerment of women and ensuring that the project activities are consistent with national priorities on gender as set out in the PRSP; and (iii) Outcome Four on pro-poor growth.

### **B.2. GEF Focal area and/or fund(s) strategies, eligibility criteria and priorities:**

This multi-focal area project contributes to the achievement of GEF Focal Areas Strategic Objectives BD1 (Biodiversity), and specifically to the achievement of Outcome 1.1 "Improved management effectiveness of existing and new protected areas", Outcome 1.2 "Increased revenue for protected area systems to meet total expenditures required for management" and Outcome 2.3 Improved management frameworks to prevent, control and manage Invasive Alien Species. In the Land Degradation Focal Area the project contributes to LD3 "Outcome 3.2 Good management practices in the wider landscape demonstrated and adopted by relevant economic sectors". The project therefore also contributes to the achievement of Objective 1 of the Sustainable Forest Management / REDD+ Focal Area Results Framework, as it will contribute to the conservation of large areas of dryland forest.

### **B.3. The GEF Agency's comparative advantage for implementing this project:**

UNEP, as the GEF implementing agency for this project, will define and set-up adequate in-country execution arrangements in close collaboration with the MOWE/EPA, GIZ and UNDP, as the main actors with ongoing programs in support of the Socotra WHS. These execution arrangements will also be supported by UNEP's regional office for Western Asia (ROWA), based in Bahrain, and will (a) take stock of all prior experience of UN support for the Socotra WHS since 1996, and (b) develop operational synergies with other ongoing or planned UNEP and UNEP GEF initiatives in Yemen (including: Biosafety MSP, Efficient lighting FSP, Geothermal project MSP)

The project is consistent with the following areas of UNEP's mandate in the GEF (as identified in the UNEP Action Plan on Complementarity, approved in May 1999 by the GEF Council): UNEP contributes to the ability of the GEF and of countries to make informed strategic and operational decisions on scientific and technical issues in programs and project design, implementation and evaluation, through scientific and technical analyses. These include assessments, targeted research, methodology development and testing and structured program learning projects. UNEP implements projects to promote specific technologies and demonstrate methodologies and policy tools that could be replicated on a larger scale by other partners. The project is fully consistent with and complementary to the objectives and expected outcomes of the ongoing UNEP Program of Work for 2012-2013, specifically under the Ecosystem Management and Environmental Governance sub-program.

Furthermore, the project is consistent and complementary to the objectives and expected outcomes of the UNEP Marine and Coastal Strategy, particularly the Ecosystems for Humanity strategy to 'enhance the understanding of the status, trends and key drivers impacting marine and coastal ecosystems and the services they provide for human well-being and poverty alleviation as a basis for informed and coherent policy making and governance' with expected outcomes of 'global marine and coastal biodiversity targets met by countries and regions through enhanced access to appropriate and timely scientific information.', 'compatible tools, guidelines and frameworks developed for defining, assessing and valuing marine and coastal habitats and their ecosystem services', 'integrated and regular national, regional and global regular assessments of the status, trends and key drivers of marine and coastal ecosystems' and 'enhanced understanding

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<sup>13</sup> See Yemen Poverty Reduction Strategy Paper, July 10, 2002.

and awareness of the role of marine and coastal ecosystem services for human well-being and climate regulation’.

**PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)**

**A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):**  
 (Please attach the [Operational Focal Point endorsement letter\(s\)](#) with this template. For SGP, use this [OFP endorsement letter](#)).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Dr Khalid S. Al Shaibani	Chairman, Environment Protection Authority (EPA) – GEF Operational Focal Point	MINISTRY OF WATER AND ENVIRONMENT	FEBRUARY 16 <sup>TH</sup> 2013

**B. GEF AGENCY(IES) CERTIFICATION**

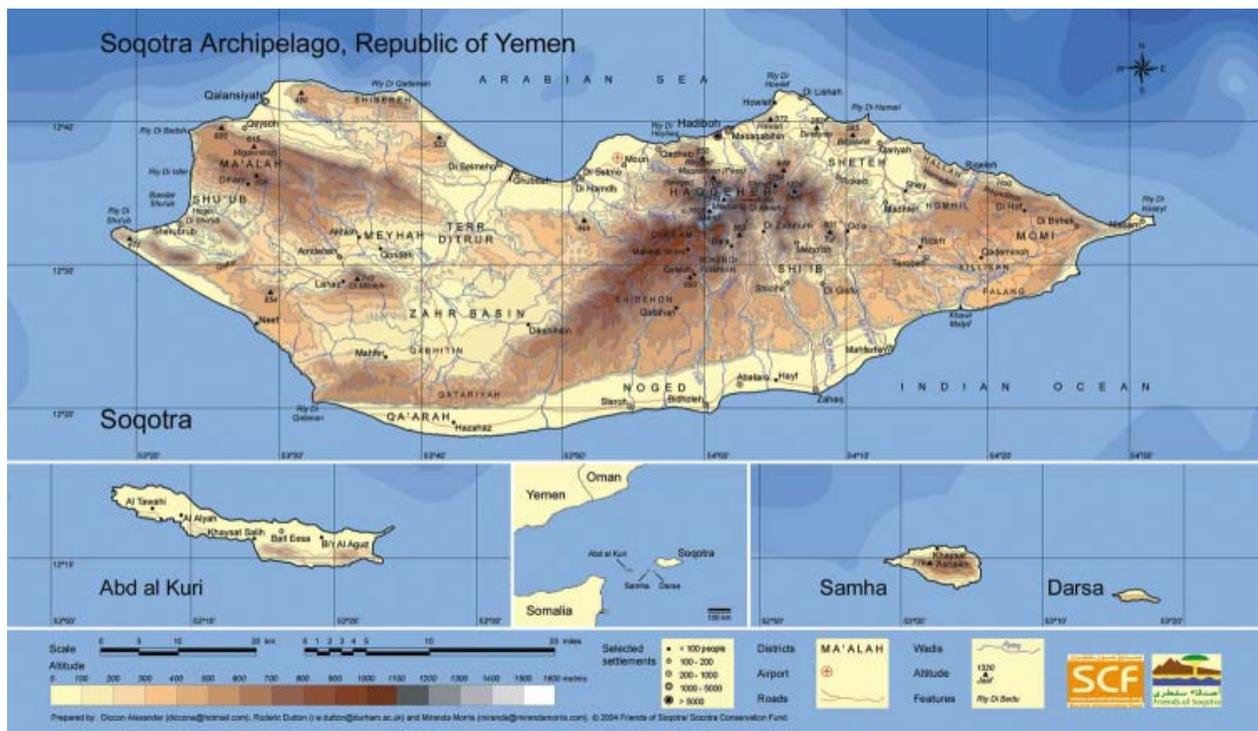
**This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for project identification and preparation.**

Agency Coordinator, Agency name	Signature	DATE (MM/dd/yyyy)	Project Contact Person	Telephone	Email Address
Maryam Niamir-Fuller, Director, GEF Coordination Office, UNEP, Nairobi		April 16, 2013	Edoardo Zandri, Task Manager, Biodiversity, UNEP Nairobi	+25420762 4380	Edoardo.zandri@unep.org

## Annex 1. Background and Context: Yemen and the Socotra Archipelago World Heritage Site (WHS)

**Republic of Yemen:** Yemen is one of the poorest countries in the Arab region, although it is ranked 140th on the Human Development Index (HDI), which places it amongst the medium human development countries. Ever since the unification of the country in 1990 its relative position on the HDI index has remained steady, with very slow progress towards attaining the MDG goals. At 3.02%, the country has one of the highest population growth rates globally, with the population expected to double in 23 years to around 40 million. This increases the demand for educational and health services, drinking water and employment opportunities. Yemen faces a severe water shortage, with available ground water being depleted at an alarming rate, and the country is also threatened by severe land degradation, especially by desertification (FAO, 2005). The Yemeni economy is caught in a jobless slow growth cycle leading to stagnant per capita incomes and rising levels of unemployment, particularly amongst the youth. The analysis contained in the Common Country Assessment (CCA) 2005 has identified the following four underlying reasons for the poor outcome of development interventions in Yemen: (a) Lack of transparency and participation; (b) Disempowerment of women and children; (c) Inequitable and unsustainable use of water resources; and (d) Jobless growth, in the face of rising population. Poverty is widespread, with about 45% of the population living on less than US\$ 2 per day and social development indicators, such as child malnutrition, maternal mortality, and education attainment remain poor. There are also large gender disparities, with significant gaps in women's access to economic, social and political opportunities. This situation was exacerbated by the recent political crisis, and Yemen now faces a formidable web of economic, environmental, and political challenges which contribute to the country's low level of human development. Expanded and concerted international cooperation is required to address a wide range of development issues, including those related to democratic governance where important steps are being taken.

### Location Map



Map: courtesy of Friends of Socotra

**The Socotra Archipelago:** this unique Natural World Heritage Site (first natural WHS in Yemen and one of a few in the Region) is a globally significant centre of biodiversity, and Socotra is ranked among the top ten continental islands in the world in terms of botanical diversity. Owing to its remote geographic location (480 km south of the Arabian Peninsula and 240 km east of the Horn of Africa) and long isolation, Socotra has a unique assemblage of animal and plant species. It is often referred to as “the Galápagos of the Indian Ocean”, and the application for inclusion in the World Heritage List

states that: *“The Socotra Archipelago is a unique living museum and a masterpiece of evolution featuring almost 300 endemic plants (36% of the total), over 30 endemic vertebrates, and more than 300 species of endemic invertebrates (among those so far described). In addition, each of the archipelago’s three inhabited islands exhibits its own high level of endemism rendering the archipelago as a whole even more significant”*. The archipelago is the most important centre for biodiversity within the Horn of Africa biodiversity hotspot identified by Conservation International (one of only two hotspots that are entirely arid). BirdLife International identified 22 Important Bird Areas within the archipelago, and it forms one of the world’s 221 globally important Endemic Bird Areas. The Worldwide Fund for Nature (WWF) lists it as one of their 200 Ecoregions and it is also included in the regional network of important Marine Protected Areas. The site also has all the required characteristics for designation as AZE site (Alliance for Zero Extinction), and this is currently being explored. It was designated by UNESCO as a Man and Biosphere Reserve in 2003 and as a Natural World Heritage Site in 2008. The first Ramsar site in Yemen was also nominated in Socotra (Qalansiya Lagoon) in 2007. There is also an extremely rich marine diversity that is still being studied. Its marine environment contains a combination of species originating from all neighboring seas (Indian Ocean, Red Sea, and Persian Gulf), even the Pacific Ocean. It possesses well-preserved coral communities that exhibit a unique array of fish assemblages.

The archipelago is also characterized by a unique cultural heritage: the Socotri people speak a unique non-written pre-Islamic language of ancient origin, and their cultural traditions host a wealth of traditional knowledge on the sustainable use of natural resources and biodiversity. The documentation and conservation of these cultural values is considered as the basis for the preservation of the delicate balance between nature and human livelihoods in the archipelago. This consideration was the basis for all recent support provided for community-based conservation by the GEF and other donors, and the archipelago now hosts some of the few and outstanding examples of community-based protected areas in the region. For additional information please see Cheung & DeVantier (2006), Banfield et al. (2011), Miller & Morris (2004), Scholte et al. (2011), Van Damme (2009; 2011; 2012).

The United Nations system and in particular UNDP Yemen has been (and is still) working very closely with the Government of Yemen on environmental issues in general and specifically to support the protection of the Socotra Archipelago, since 1997. A brief summary of past and ongoing conservation initiatives supported by the UN is provided below [all projects listed are implemented with the EPA/MOWE of Yemen]:

- Socotra Biodiversity Project (1997-2001): funded by the Global Environment Facility and implemented through UNDP. It was the first and to date the largest GEF project in Yemen. Main achievements: developed a national team of the Environmental Protection Authority with recognised biodiversity conservation capacity (over 80 staff: now the largest and most experienced branch of EPA Yemen); developed the first Socotra Conservation Zoning Plan through a consultative community and science based process (plan approved in year 2000); supported the establishment of several conservation oriented NGOs in the island of Socotra; supported the design and implementation of several other parallel and subsequent initiatives in the Archipelago, such as the EU Masterplan and several GEF Small Grants Programs, as well as a range of UN and donor funded projects on health, water management, governance, fisheries development, ecotourism, sustainable agriculture and livestock management, either as small grants or as part of UN projects follow-up phases (see below);

- Socotra Conservation and Development Programme (SCDP) - Phase One: implemented through and funded by UNDP and the Royal Netherlands Embassy (2001-2003). Continued support for the conservation of Biodiversity in the archipelago, and expanded work to integrate a range of development projects initiated in the previous phase (see above). Provided the basis for the UNESCO nomination as Man and Biosphere Reserve (2003), and subsequent World Heritage Site (2008), as well as for the nomination of first Ramsar sites in Yemen (2007). Provided the basis for subsequent SCDP 5-year extension with funding from Italy, and further GEF support (see below); supported the first explorations of the island's significant cave systems and, with it, also major archaeological findings (De Geest, 2006). Played a major role in mitigating the impact of road constructions in the island.

- Socotra Conservation and Development Program (SCDP) - phase two: implemented through UNDP and funded by UNDP and Italy (2004-2008). Training for national staff, establishment of the basis for an integrated Decision Support System to support better environmental governance for the archipelago's sustainable development.

- Socotra Governance and Biodiversity Project: funded by the GEF and UNDP and implemented through UNDP (2008-ongoing, currently on hold at the time of writing, but will be resumed soon). Establishing a legal and institutional framework for the management of the World Heritage Site in close collaboration with the local government authorities and in line with the decentralization process of Yemen, Support to decision support systems, support to local CSOs. For

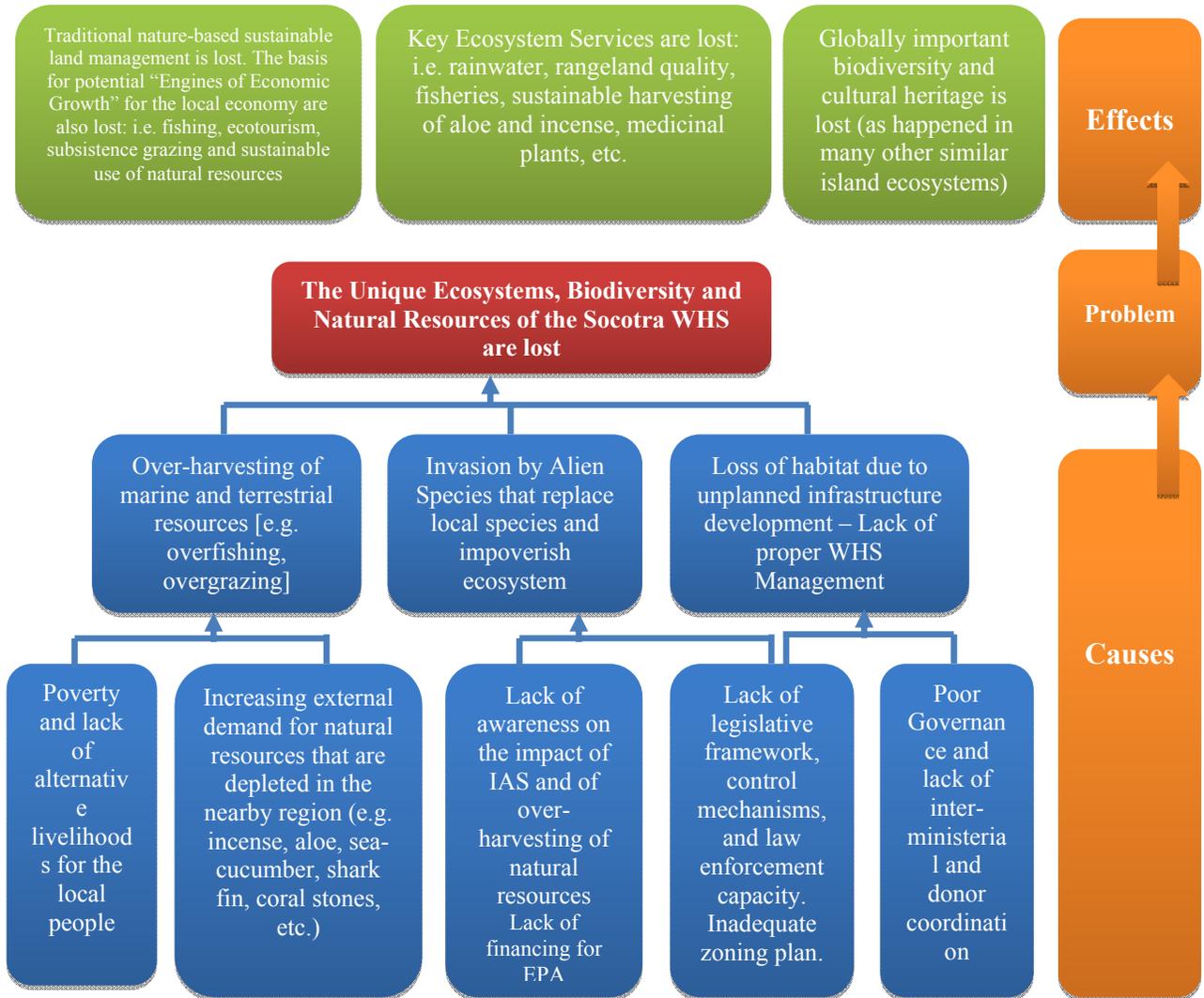
more info: <http://www.socotraproject.org/> and [www.undp.org/ye](http://www.undp.org/ye)

The achievements, lessons learned and challenges faced by all the above projects, and other non-GEF funded initiatives, have all been carefully reviewed and considered in the initial design of this proposed GEF project.

**Annex 2. Root causes, threats and barriers underpinning the problem that the project is trying to address, summarized in the form of a simplified “problem tree”**

The following diagram attempts to summarize the root causes, key threats, barriers and effects underpinning the key problem that the GEF and baseline projects are trying to address, in the form of a “problem tree”.

**Diagram 1: Root causes, threats and barriers underpinning the Problem that the project is trying to address, summarized in the form of a simplified “problem tree”**



### Annex 3. Detailed description of project components

#### **Component 1 - Protected Areas:**

*Improved Protected Areas Effectiveness:* this component will focus improving the effectiveness of the existing system of protected areas, as measured through the Protected Areas Management Effectiveness Tracking Tools (PAMETT). An improved PAMETT score will be mainly achieved through improved/updated design of existing zoning plan, continued capacity building for EPA, and in conjunction with the results and expected outcomes from this and all other project components (PA financing mechanism, legal/management framework for WHS management, IAS management, SLM, capacity development, knowledge management and impact monitoring and evaluation). The Conservation Zoning Plan for the Socotra WHS was the first network of Protected Areas formally established in Yemen, and it was gazetted by presidential decree no. 275 of the year 2000 (with GEF support). It includes all land in the archipelago and includes the 12 nautical miles surrounding the archipelago encompassing a total area of 21,450 km<sup>2</sup> with 3,730 km<sup>2</sup> of land area and 17,720 km<sup>2</sup> of marine area. The plan assigns different areas into four management zones, with increasing levels of protection: General Use Zone (1.4% of total area), Resources Use Zone (23.5%), National Park (72.6%) and Nature Sanctuary (2.5%) (see Cheung & DeVantier, 2006). The plan was developed with GEF support and the result of extensive community consultations and multi-disciplinary scientific research and field surveys in years 1998-2000 (also with GEF support; Scholte et al., 2011). During the first 12 years from its first establishment, a significant amount of new research and field studies were conducted (Zajonz, U., Van Damme, K., Lavergne, E., Setzkorn, K. and Jansen van Rensburg, J. - Eds., 2012). These now provide the basis for a revision and improvement of the Zoning Plan, reflecting the results of most recent studies such as, i.e.: the review of the population and distribution of the birds of Socotra (Porter, RF and Suleiman AF, 2013, *in prep.*); review of the status of all IBA sites in the archipelago (Porter, RF, Internal Report for BirdLife International, 2013); recent publication on the population and ecology of the Egyptian Vulture (Porter, RF & AS Suleiman, 2012); discovery of an entire karstic system beneath the island (De Geest, 2006), climate change impact prediction models developed for the island's vegetation and some other taxa (Attorre et al., 2007), DNA-based studies on the genetic diversity for some taxonomic groups in the archipelago (e.g. reptiles) (Sindaco et al., 2011), identification of new areas rich in plant endemism that are not yet adequately protected (Banfield et al., 2011), as well as important freshwater, coastal zone (including remnants of coastal mangrove forest) ecosystems not yet having the correct level of protection as their potential role in CC ecosystem-based adaptation is also not properly valued (Van Damme and Banfield, 2011). The coastal and marine ecosystems of the WHS are showing an apparent decline in inshore fish biomass productivity (Zajonz, U. et al.; unpubl.) hinting to substantial overfishing and loss of sustainable traditional management practices. The zoning plan also assumed that areas important for plants would contain areas of special zoological interest; however this is yet to be verified scientifically by i.e. pooling data on different taxonomic groups. Basic data for some taxa is also still lacking, and "advanced" ecological data for most groups is also still lacking such as ecological corridors, meta-population studies and population genetics, species relationships, food-webs, dispersal capacities, phylogenetic diversity. The law enforcement and monitoring capacity of the EPA Socotra branch is also yet suboptimal, and this has not yet allowed the proper protection of some important areas (e.g. Homhil and Dihamri) and the full implementation of key aspects of the zoning plans both on terrestrial, coastal and marine habitats (Van Damme, 2012). In spite of the above constraints, an informal assessment of the PA Management Effectiveness of Socotra WHS (R. Klaus, *unpubl. data*) indicates that the site is still above regional averages and thus there is an opportunity and challenge to maintain and improve current PAMETT rating by (a) revising and improving Zoning Plan design and underpinning management, legislative and regulatory framework, (b) mobilizing additional, long-term and predictable financial resources to sustain and enhance Protected Area management (d) continue to develop local professional capacity and further strengthen liaison with local communities and local authorities. These are the focus of the EPA, MOWE and their partners and donors in the Socotra WHS, however current baseline investments would not be sufficient to address the above issues without the incremental GEF intervention and additional long-term support. This component, in connection with component 4 (output 4.1) will also support the improved capacity of national EPA Socotra staff to support the participatory management of the WHS through consultative processes with the local government and local communities, education and awareness programs, biodiversity monitoring programs, GIS database and knowledge management system, building upon the existing capacity and infrastructure of the EPA and the supporting international network of research institutions (e.g. Friends of Socotra). The Centre for Middle Eastern Plants (Royal Botanic Garden Edinburgh) has been awarded a research grant entitled 'Conserving the Flora of the Socotra Archipelago: integrating evolution into conservation'. This program is closely aligned with the GEF proposal, and will use molecular evidence to incorporate conservation of evolutionary processes into the Protected Areas system of the Socotra WHS. This will include maintaining a high quality

database of Socotra plant distributions and establishment of traditional uses and cultural practices, as well as plant functional types, for consideration in Protected Area design. The maps below illustrate the terrestrial and marine Conservation Zoning Plan (2000) that will be reviewed and updated through this component, with a focus on the improved design of the network of Nature Sanctuaries as the key to preservation of the entire WHS network and delivery of GEBs by the project:

**Terrestrial PAs:**

**Marine PAs:**

*Sustainable financing mechanism:* One of the key underlying problems jeopardizing the preservation of the Socotra is WHS is the chronic lack of sufficient and predictable financing to manage the site and its network of PAs. Prior GEF-supported efforts towards the establishment of a “Socotra Conservation Fund” have laid some important foundations and tested some fund-raising avenues in this respect. The SCF was registered in UK and Yemen and operated from 2001 to 2009 as a conservation NGO in support of biodiversity conservation in Socotra. It received and administered significant Grants from bilateral donors and private sponsors, and implemented a broad range of small scale conservation projects in the archipelago. However it only managed to operate as revolving-fund mechanisms, and was not upgraded to the status of a properly capitalized “Trust Fund” such as those established for other special conservation areas around the world (E.g. Bwindi Impenetrable Forest Trust Fund, Uganda). The SCF eventually became “dormant” in 2010 and has not resumed operations since. In parallel, and also envisaged among the objectives of the initial GEF Socotra Biodiversity Project, the “Friends of Socotra” association was established in the UK in 2001 as an international non-profit organisation with broad membership (ref section A.2 on stakeholders). The FoS has been successful in establishing and maintaining an active network of international and national experts interested and committed to supporting the preservation of the Socotra

WHS. However also the FoS is not in a position to assist in raising and managing the significant funding required for the conservation of the WHS. The FoS is however well positioned for playing an active role in the technical design and implementation of this GEF project. In this respect, the objectives of the first GEF project in Socotra were only partly met. Component 1 (outcome 1.2) of the project will therefore take stock and build upon of past experience, a strong international support network, and the local capacity generated. This component will combine the positive lessons and capacity developed through the SCF's and FoS' very different strategies and experiences, and will focus on creating and financing a special Trust Fund for the Socotra WHS. This will entail the review of latest best international practice on Conservation Trust Funds, selection of the most appropriate model and adaptation to the context of the Socotra WHS. This component will support an intensive liaison and PR effort with donors and partners (mainly from the region), to support the formal establishment and capitalization of the Fund. The GEF project will not have sufficient resources to capitalize the fund and, based on initial informal consultations held during PIF development, it is expected that bilateral and regional (Gulf States) public and private donors will contribute to the achievement of this objective. The CMEP is in the process of designing, preparing and submitting a Darwin Initiative grant proposal for education and capacity development alongside sustainable financing mechanisms in Yemen, which will likely be submitted later in 2013 and will be aligned with the activities of this GEF project.

**Component 2 - Invasive Alien Species Management:** there is currently no suitable legal and institutional framework, nor sufficient national technical capacity and awareness for the effective management of Invasive Alien Species (IAS) in Yemen. The conservation of globally important biodiversity in protected areas and agricultural landscapes is under threat from a wide range of human-induced pressures, including the accidental and intentional introduction of IAS. IAS are “biological pollutants”, posing a significant threat to native species, food security, water resources and sustainable development. Their impact is notoriously highest on island biomes. Control of IAS is now considered as a “global public good” by UNEP. Also, the World Summit on Sustainable Development noted that countries need to strengthen their efforts to control IAS and encouraged the development of an effective work program on IAS at all levels. In Yemen, the issue of IAS management is relevant both at the national level and at critically important sites in the country. In particular, the development and implementation of an IAS management strategy is identified among the three most urgent issues to be addressed in the globally important Socotra Archipelago Natural World Heritage Site (IUCN/UNESCO, 2008).

*IAS in the Socotra Archipelago:* recent developments in the archipelago are rapidly impacting on Socotra's ecosystems (Van Damme & Banfield, 2011). The intensification and diversification of horticultural practices (including home gardening) has resulted in the intentional introduction of many exotic species, some potentially invasive, for which currently no local or national management systems nor specific legislation exists. Goods for local consumption are introduced by air and sea, known pathways through which IAS may easily enter, for example through timber, plants for horticulture and a daily import of *qat* leaves (*Catha edulis*) from the mainland. Fungi, diseases and invertebrates, including mites, may also be inadvertently imported as contaminants, negatively affecting local agriculture (e.g., date production) and biodiversity on Socotra. Preventing the introduction of invasive and potentially invasive species is the most cost-effective management strategy.

Some well-known exotics that are known to be invasive on the Arabian Peninsula and in Africa, are already present on Socotra. Baseline scientific surveys on the status of IAS on Socotra have just started and have so far identified 87 exotic plant species. Introduced rats are also likely to increase in numbers posing a significant threat to biodiversity, in particular ground-nesting birds and reptiles, and even to human welfare through agricultural losses and the spread of diseases. Currently these IAS are limited in abundance and distribution, and as such have had perceived minimal impacts. However they should be removed while populations are still small and localized. The development of an early detection and rapid response mechanism is therefore critical to ensure that any exotics, which have the potential to become invasive, are eradicated before populations become widespread, because management costs increase exponentially as IAS populations consolidate and expand. Cognizance should also be taken of the fact that increased disturbance and climate change will also facilitate the establishment of many introduced species, and lead to the proliferation of IAS on the island. Lack of awareness and the absence of management strategies pertaining to the risks and high economic costs related to the introduction and spread of IAS, at community as well as government levels, is virtually non-existent on Socotra. First attempts to raise awareness of the problem have recently been initiated with the successful eradication of the Indian house crow (*Corvus splendens*) with support from GEF. Yet the threat from other IAS remains, including the documented presence of ‘transformers’, i.e., IAS that have the ability to transform complete ecosystems (e.g. rats, some exotic ants/plants).

A lack of legal provisions, capacity and financial resources to deal with IAS is also a significant impediment to conservation managers. There is no legislative basis or governmental IAS management framework or strategy nor

coordination or surveillance efforts between different sectors in Socotra or at national level. There are no regular surveys for IAS to provide opportunities for early detection and rapid response of IAS, yet introductions through an increase of trade, agricultural activities and tourism are actively taking place, without scientific consultation or sufficient local and national capacity to address the issue. The scientific advisory team of MOWE/EPA is fully aware that cost-effective measures to prevent further environmental degradation are extremely urgent and cannot be postponed. Lessons learned from other islands clearly show how IAS are linked directly with extinctions (e.g., birds and reptiles) and irreversible changes in traditional landscapes (Van Damme & Banfield, 2011).

Because of increased marine-based trade and planned expansion of harbors on Socotra, considered a high risk invasion pathway, measures should be put in place now to prevent any additional introduction of IAS which may threaten native species – Socotra has lost none of its endemic birds or reptiles in the last century, which is remarkable. However the lessons learned from other archipelagos around the world on IAS management (i.e. the Galapagos) clearly indicate that preventive measures are the most cost-effective means to minimize or avoid species loss, and that continuous efforts are needed to prevent invasions as early as possible. In addition, UNESCO is increasingly strict in monitoring World Heritage Sites and recently provided negative comments for failures in IAS management of Henderson and Gough Islands. The CMEP, as the world leading authority on the plants of Socotra, will also contribute to this component, and is developing a range of user friendly and electronic guides for plant identification across Arabia and SW Asia. These can be further developed for specific plants (eg. invasives, other monitoring programs) for community science to input data into invasive and other management planning.

**Component 3 – Development and implementation of SLM Strategy:** this component will be implemented in closest synergy with the ongoing EPA/GIZ program on the conservation and sustainable use of biodiversity and livelihoods. The GEF project will support the participatory development of an integrated and community-based Sustainable Land Management Strategy (SLMS) for the Socotra WHS, to combat desertification and land degradation and sustain traditional livelihoods in the face of climate change. The SLMS will be initially designed largely on the basis of existing baseline information, and will incorporate the wealth of traditional knowledge already documented in major recent studies such as the “Ethnoflora of the Socotra Archipelago” (Miller & Morris, 2004). It will aim at mitigating or preventing further land degradation and desertification in the Socotra WHS which is very acute (Pietsch & Morris, 2010), and at maintaining the delicate balance between the subsistence pastoral livelihoods of the local population, and the conservation of biodiversity. This can be achieved through the preservation and restoration of traditional land use practices that have maintained a delicate balance between people and the archipelago’s unique biodiversity for millennia, but that are currently being lost (Miller & Morris, 2004). The SLMS will be developed in a participatory fashion and in synergy with Component 1. This will take stock of the wealth of existing information, including all prior studies on the ecology of the island, the existing Conservation Zoning Plan and EU-funded development master-plan, and EPA Decision Support and Information Management System. Some new additional studies may be required to fill any information gaps, i.e. to produce a more complete and detailed map of soil erosion and land degradation patterns, and describe and evaluate the flows of critical Ecosystem Services, for inclusion in the SLMS design. These studies will be identified at PPG stage and implemented at project outset. It is therefore expected that a simple and operational SLMS can be developed quite early at the outset of the project, for adoption by the central management authority of the Socotra WHS, and by all other GoY entities involved. The scope and complexity of the SLMS will be tailored to the needs and existing capacity in the context of Socotra, and therefore it will be kept simple, clear and straightforward to implement, so that implementation can be initiated soon in the project life (i.e. in year 2), providing immediate and measurable impact over the project lifespan, and generating a test case for subsequent up-scaling at national and regional level. Depending on the site-specific priorities emerging from the Socotra SLM Strategy, these may include i.e.: promotion and improvement of traditional rainwater harvesting methods; promotion/conservation of sustainable rangeland management and livestock herding practices, and proactive and community-based soil conservation measures and management of invasive species, in synergy with component 2.

**Component 4 – Capacity Development:** this is a critical cross component that will contribute to the sustainability of all project outcomes. The project will focus on developing the professional and institutional capacity of local project partners (mainly EPA and MOWE, MOA, MOFW, local government, local tribal councils and local community groups and also, for the IAS component: port authorities, customs, army, tourism officers, and tourism police). The project envisaged the continued involvement of local personnel in all stages and aspects of the project, including management, research, and monitoring. The project will enhance the capacity of *national government officers* to work directly with the community groups on project activities. Through the project, national professionals will also interact and work jointly with

international experts, benefiting from cross-fertilization of ideas and knowledge sharing. As some of the project partners are *universities*, the project will provide the opportunity for hands-on experience and training for *undergraduate, graduate and especially post-graduate students*. This will help building the national technical capacity that is essential to sustain project outcomes in the longer term.

The project will provide capacity building for local *EPA Protected Areas management staff* as well as *communities involved in locally managed conservation areas* – as they will be actively undertaking ecological research, monitoring and surveillance activities. The project will build the capacity of *local community groups such as fishers, women, handicraft artisans and local ecotourism operators* to participate actively in conservation. This will enhance the local feelings of ownership of the Socotra WHS and its direct tangible benefits to the local communities. The project will build upon prior successful efforts and provide the opportunity for *village associations, fishers, and women from remote areas* to participate and lead in biodiversity and marine PAs management. In some regions, the engagement of elders and local council representatives who have already been involved in the design of the Conservation Zoning Plan will help ensure that the education of the younger generations and preservation of traditional sustainable practices is also facilitated through respected community members working with the EPA. The CMEP has been delivering capacity development in schools, universities, professional development and online learning across Arabia and SW Asia, including Socotra, and this capacity will contribute to this project component.

#### **Annex 4. Stakeholder Profile: additional information on IAS management work CABI**

CABI continues to contribute to the development/strengthening of IAS policy, building capacity with regard to the management of IAS, creating awareness as to the threats posed by IAS and development and implementation of best management practices for selected target species including mechanical, chemical, and biological control. CABI is currently involved in research projects on the biological control of more than 15 invasive plant species such as *Cirsium arvense*, *Phragmites australis*, *Tanacetum vulgare*, *Fallopia japonica*, and *Convolvulus arvensis*. In Africa CABI has just initiated some trial releases of a biocontrol agent for *Opuntia stricta*, an invasive cactus species which is contributing to the loss of biodiversity and natural pasture, especially in Kenya. CABI is also initiating biocontrol programmes against *Chromolaena odorata* and *Parthenium hysterophorus* in Tanzania and *Mimosa pigra* in Zambia. CABI is also currently implementing a project entitled “East Africa Datasets and Identification Toolkit for Invasive Plant Species”, with funding from the JRS Biodiversity Foundation. The project seeks to fill some of these knowledge gaps with regard to Invasive Alien Plants and use a variety of communications technologies to provide authorities with the information they need to effectively safeguard biodiversity in the region. This includes the development of open-access IAS datasets and an identification toolkit, as well as capacity building activities. Information garnered from this project will contribute to CABI’s Invasive Species Compendium ([www.cabi.org/ISC](http://www.cabi.org/ISC)), an open access database containing factsheets on more than 1,500 IAS. It should also be noted that CABI was a founding partner of the Global Invasive Species Programme, working to conserve biodiversity and sustain human livelihoods by minimising the spread and impact of IAS. GISP was responsible for the production of a number of publications which contributed to the enhanced management of IAS including the widely used toolkit *Invasive Alien Species: A Toolkit of Best Prevention and Management Practices*. Other recent IAS work includes an estimation of the economic cost of invasive species to the British economy; and efforts to eradicate *Parthenium hysterophorus* to benefit pastoralists and biodiversity conservation in the Masai-Mara National Reserve, Kenya.

#### **Annex 5. Contribution to the CBD Aichi Targets**

<b>CBD Aichi 2020 Targets which the project will contribute to</b>	<b>How the project will support the achievement of each target – initial SMART indicators (to be further selected and refined at CEO submission)</b>
Target 1 (awareness of biodiversity values)	Awareness of BD conservation values and sustainable use is increased at local, national and regional levels as well as globally through the GIsP and SIDS network – Socotra WHS having high national and international visibility – level and number of citations and uptake of project communication products
Target 2 (BD integrated in local and national poverty reduction strategies...)	Demonstrating of how BD conservation and poverty reduction are integrated in SLM in local level planning processes in the Socotra WHS – and providing lesson for up-scaling a national level. Levels of BD-considerations included in SLM and Socotra WHS strategies.
Target 4 (sustainable production)	Community-based sustainable uses of terrestrial and marine BD resources applied and demonstrated in the Socotra WHS [links with GiZ program] – revenue levels linked to sustainable nature-based activities for local communities
Target 5 (loss of natural habitats)	Loss of major tracts of natural habitats in the Socotra WHS is avoided through improved land management practices and WHS governance – trends in measurable changes in land use

Target 6 (sustainable use of marine BD)	Community-based management of marine PAs and sustainable fishing practices sustained and enhanced in the Socotra WHS (17,720 km <sup>2</sup> ) - revenue levels linked to sustainable fishing activities by local communities
Target 9 (IAS Management)	IAS community-based management plan developed for Socotra WHS and implementation started – providing a leading example for rest of mainland Yemen and the Arab region – trend in the status of IAS in the WHS
Target 11 (inland water and coastal and marine areas)	Community-based management of marine PAs including promotion of sustainable fishing practices in existing marine “resources-use zones” is sustained and enhanced in the Socotra WHS (17,720 km <sup>2</sup> ) – changes in PAMETT score for the marine PAs in the Socotra WHS
Target 12 (species extinctions)	Extinctions of over 300 endemic plants and 30 endemic vertebrates, as well as >300 invertebrates as rare globally important species is prevented in the Socotra WHS – indicators species / populations conservation status and trends in the WHS
Target 13 (agro-biodiversity)	Yemen agro-biodiversity is preserved - the several wild relatives of domestic crop species (e.g. pomegranate, aloe, frankincense, etc.) found in the Socotra WHS are effectively conserved in-situ and in their natural habitats – indicators species / populations conservation status and trends in the WHS
Target 14 (ecosystem services - ES)	The range of Ecosystem Services provided by a healthy ecosystem in the Socotra WHS are assessed, quantified and included in local SLM planning processes – level of inclusion of ES consideration in WHS management strategies
Target 18 (traditional knowledge)	Traditional knowledge and BD conservation are already full integrated in the Socotra WHS Conservation Zoning Plan and Indigenous People are driving the conservation process with the EPA [ref. also prior GEF Socotra Biodiversity project (1997-2001) Ethno-botanical Flora of Socotra, baseline study published by the RBGE as a leading example of this approach, globally] – level of inclusion of TK considerations in WHS management strategies
Target 19 (BD science improved)	Latest BD conservation science based on genetic studies and climate change considerations will be applied to the revision of the PA network design in the Socotra WHS – providing an example for other island PAs – changes in PA design resulting from new scientific approaches adopted
Target 20 (resource mobilization)	A long term sustainable financing strategy for the Socotra WHS is developed, focusing on the establishment and seed-funding of a Trust Fund, taking stock of previous experience of the GEF Socotra Biodiversity project (1997-2001) – changes in the level of secure and predictable long-term funding for the preservation of the Socotra WHS

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