



**UNDP/GEF PROJECT ENTITLED “REDUCING ENVIRONMENTAL STRESS IN THE
YELLOW SEA LARGE MARINE ECOSYSTEM”**

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**Seventh Meeting of the Regional Scientific and Technical Panel
And Project Steering Committee
For the UNDP/GEF Yellow Sea Project
*Beijing, China, 23-25 February 2011***

Project Document (ProDoc) for SAP Implementation



United Nations Development Programme
Countries: People's Republic of China, Democratic People's Republic of Korea,
Republic of Korea



PROJECT DOCUMENT¹

Project Title: Implementing the Strategic Action Programme for the Yellow Sea Large Marine Ecosystem: Restoring Ecosystem Goods and Services and Consolidation of a Long-term Regional Environmental Governance Framework

UNDAF Outcome 1: China: Social and economic policies are developed and improved to be more scientifically based, human centred and sustainable

UNDP Strategic Plan Environment and Sustainable Development Primary Outcome:

UNDP Strategic Plan Secondary Outcome:

Expected CP Outcome(s): China: Outcome 7. Conservation and sustainable use of biodiversity is more effective: DPRK: At present there is no country programme but it is expected to become operational in the immediate future.

(Those linked to the project and extracted from the country programme document)

Expected CPAP Output (s)

Those that will result from the project and extracted from the CPAP)

Executing Entity/Implementing Partner: UNOPS

Implementing Entity/Responsible Partners:

Brief Description

This project builds upon a solid foundation of four years of regional cooperation for the sustainable use of the Yellow Sea Large Marine Ecosystem (YSLME) put in place by China and the Republic of Korea and supported by the Democratic People's Republic of Korea and the Yellow Sea Partnership, with catalytic support from the Global Environment Facility (GEF). A regional Transboundary Diagnostic Analysis and a regional Strategic Action Programme together with national SAPs that operationalise the implementation of the regional SAP have been approved and form the basis for achieving the project objective of establishing long-term sustainable institutional, policy, and financial arrangements for effective ecosystem-based management of the Yellow Sea (YS), namely the YSLME Commission.

The project supports the states' efforts to halt the decline in biological resources and to restore depleted fish stocks in the Yellow Sea, through the implementation of agreed actions defined in the SAP. In line with the GEF International Waters (IW) strategic priorities the major focus of GEF involvement will be to assist the countries in reaching agreement on ecosystem-based joint action to sustain marine living resources and sustainably manage the Yellow Sea Large Marine Ecosystem and to introduce institutional reforms to catalyze implementation of policies reducing over-fishing and benefiting communities. There are four components of the project: 1) Sustainable national and regional co-operation for ecosystem based management; 2) Improved Ecosystem Carrying Capacity with respect to provisioning services; 3) Improved Ecosystem Carrying Capacity with respect to regulating and cultural services; 4) Improved Ecosystem Carrying Capacity with respect to supporting services.

The first project component focuses on strengthening regional and national cooperation for ecosystem based management by establishing a sustainably financed Yellow Sea Commission; improving the knowledge base; and strengthening capacity for scientifically and environmentally sound decision making. The remaining 3 components focus on particular ecosystem services. Activities designed to strengthen provisioning services include reductions in the fishing fleet and making mariculture more sustainable. Regulating and cultural services will be improved through reduction in pollutant loading and marine litter; and supporting services will be enhanced through actions designed to maintain habitat areas and biodiversity.

¹ For UNDP supported GEF funded projects as this includes GEF-specific requirements

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Programme Period:	_____12	Total resources required	_____
Atlas Award ID:	_____14	Total allocated resources:	_____
Project ID:	_____16	• Regular	_____
PIMS #	_____18	• Other:	_____
	20	o GEF	_____
Start date:	_____22	o Government	_____
End Date	_____24	o In-kind	_____
	26	o Other	_____
Management Arrangements	_____26	In-kind contributions	_____
PAC Meeting Date	_____28		

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Agreed by (Government): _____

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Date/Month/Year

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Agreed by (Executing Entity/Implementing Partner): _____

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Date/Month/Year

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Agreed by (UNDP): _____

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Date/Month/Year

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83	I. ACRONYMS	
84	APR	Annual Project Review (UNDP)
85	CPAP	Country Programme Action Plan
86	DPRK	Democratic People’s Republic of Korea
87	ESCO	
88	GEF	Global Environment Facility
89	HAB	Harmful Algal Bloom
90	IMCC	Inter-Ministry Co-ordinating Committee
91	IW	International Waters (GEF)
92	LME	Large Marine Ecosystem
93	MPA	Marine Protected Area
94	MSTP	Management Science and Technical Panel
95	NSAP	National Strategic Action Plan
96	NC	National Co-ordinator
97	NFP	National Focal Point
98	NGO	Non-Governmental Organisation
99	NPC	National Project Coordinator
100	NWG	National Working Group [NWG-F = Fisheries; NWG-M = Mariculture; NWG-H =
101		Habitats; NWG-P = Pollution; NWG-A = Assessment; NWG-G = Sustainability
102		(Finance and Governance)]
103	PAH	Polycyclic Aromatic Hydrocarbon
104	PIF	Project Identification Form (GEF)
105	PIR	Project Implementation Review (GEF)
106	PRC	People’s Republic of China
107	POP	Persistent Organic Pollutant
108	RCU	Regional Coordinating Unit
109	ROK	Republic of Korea
110	RWG	Regional Working Group [RWG-F = Fisheries; RWG-M = Mariculture; RWG-H =
111		Habitats; RWG-P = Pollution; RWG-A = Assessment; RWG-G = Sustainability
112		(Finance and Governance)]
113	SAP	Strategic Action Programme
114	SBAA	Standard Basic Assistance Agreement
115	SP	Strategic Priority (of the GEF)
116	TDA	Transboundary Diagnostic Analysis
117	TOR	Terms of Reference
118	UNDAF	United Nations Development Assistance Framework
119	UNDP	United Nations Development Programme
120	WWF	World Wide Fund for Nature
121	YSLME	Yellow Sea Large Marine Ecosystem
122		

123 **1. SITUATION ANALYSIS**

124 **1.1 Context and global significance**

125 **1.1.1 Environmental context**

126

127 1. In the context of the preparation of the TDA and SAP the geographic area of the Yellow Sea Large
 128 Marine Ecosystem (YSLME) was defined as the body of water bounded: to the west by the Chinese
 129 coastline south of Penglai; to the north by a line from Penglai to Dalian; to the east by the Korean
 130 Peninsula and Jeju Island and a line drawn from Jindo Island off the south coast of the Korean mainland
 131 to the Chaguido, west coast of Jeju Island; and to the south by a line running from the north bank of the
 132 mouth of the Yangtze River (Chang Jiang) to the south-western coast of Jeju Island. It covers an area of
 133 400,000 km² and measures approximately 1,000 km by 700 km.

134

135 2. The seafloor is a post glacially inundated portion of the continental shelf with an average depth of
 136 44m and a maximum depth of 140m: the seafloor slopes gently seawards from the Chinese coast, and
 137 more steeply from the Korean peninsular to a trough in the eastern portion of the basin that runs south to
 138 the Okinawa Trench. This trough was carved by the ancient Yellow River (Huang He) when the Yellow
 139 Sea was dry during the last glacial period. Meteorologically the region is located between the Siberian
 140 High and the subtropical Pacific Low, which results in cold-dry winters and warm-wet summers.

141

142 3. The bio-geochemistry of the sea is strongly influenced by fresh water and airborne (aeolian) material.
 143 Rivers discharge approximately 1.6 billion tonnes of sediment and 1,500 billion tonnes of freshwater into
 144 the Yellow Sea annually with a further 460 billion tonnes of water from rainfall. The huge freshwater
 145 inputs result in temperature and salinity differences that limit the water exchange between the Yellow Sea
 146 and the East China Sea, such that the flushing rate is once every seven years, the low flushing rate
 147 combined with weak water circulation makes this sea vulnerable to pollution and coastal areas highly
 148 susceptible to localized pollution discharges. The Yellow Sea is under the influence of the Asian monsoon
 149 system, and circulation is predominantly influenced by winter cooling and summer heating, freshwater
 150 discharge and arguably the inflow of warm saline waters in a branch of the Kuroshio.

151

152 4. The major water masses of the Yellow Sea are: the Yellow Sea Cold Water Mass at the bottom of
 153 the basin; the Yellow Sea Warm Current Water, which is relatively saline and flows north-west between
 154 Sokotra Rock and Jeju island into the Jeju Strait and eastern Yellow Sea; and the Yangtze River mixed
 155 water, which predominantly flows to the South, but in the summer extends north-eastwards towards Jeju
 156 Island and lowers the salinity of the water. Summer circulation consists of the southward flowing Chinese
 157 coastal current, northward flowing Yellow Sea Warm Current, and north-eastward moving water from the
 158 East China Sea resulting in a central cyclonic gyre. In the winter the cyclonic gyre is not as pronounced
 159 and a southward coastal flow is seen adjacent to the Korean Peninsular.

160

161 5. The Yellow Sea is part of the temperate shelf seas of the North temperate Indo Pacific Ocean and
 162 supports five major, highly productive, marine habitats supporting large populations of fish, birds,
 163 mammals, and invertebrates which form a substantial living marine resource base for the large human
 164 coastal population. Warm temperate water species dominate the fauna and flora accounting for more
 165 than 70% of the total biomass. Seventeen species of whales and dolphins and four species of seals are
 166 found in the Yellow and Bohai Seas and a number of the populations of the larger species such as the
 167 grey and fin whales have been severely depleted in the past. Endangered marine mammals include the
 168 black right whale, whitefin dolphin, Kurile harbour seal, spotted or largha seal, Japanese sea lion and the
 169 striped dolphin. It is estimated that at least two million shore birds use the region during their northward
 170 migration representing approximately 40% of all migratory shorebirds using the East-Asian-Australasian
 171 Flyway.

172

173 6. The fish diversity is comparatively high with 339 species being recorded from the Yellow Sea of
 174 which around 45% are warm water species, 46% are warm temperate forms and 9% are cold temperate
 175 forms. As noted below the structure of the fish communities have changed significantly over the last thirty
 176 years. Polychaete species number around 100, molluscs 171, crustaceans 107, and echinoderms 22.

177

178 7. Landings of the ten most important species landed in the Yellow Sea area increased rapidly from
 179 400,000 tonnes in 1986 to 2.3 million tonnes in 2004. However, this level of exploitation is not sustainable.
 180 Over-exploitation of fish stocks mean that fish catches in the Yellow Sea which once consisted of large,
 181 long-lived, valuable demersal fish such as hairtail and small yellow croaker are now dominated by short-
 182 lived, smaller, lower trophic level and less valuable species such as anchovy and sandlance.
 183

184 8. The combination of the loss of wetlands, deterioration in coastal water quality and over-exploitation
 185 of resources has reduced the capacity of the Yellow Sea to sustain its provision of ecosystem services.
 186 The nutrient assimilative capacity of the Sea has been exceeded such that increased nutrient inputs are
 187 driving changes in the food chain that may result in changes to ecosystem productivity.
 188

189 1.1.2 Socio-economic Context:

190
 191 9. Five large coastal cities with tens of millions of inhabitants border the sea: Qingdao, Dalian and
 192 Shanghai in the People's Republic of China (PRC); Seoul/Incheon in the Republic of Korea (ROK), and
 193 Pyongyang/Nampo in the Democratic People's Republic of Korea (DPPK). This population relies on the
 194 Yellow Sea LME for many services such as: provision of capture fisheries resources (in excess of two
 195 million tonnes per year) and mariculture (6.2 million tonnes per year); the support of wildlife; provision of
 196 bathing beaches and tourism; and its capacity to absorb nutrients and other pollutants. The ability of the
 197 Yellow Sea to provide these services is defined here as "ecosystem carrying capacity".
 198

199 10. Commercial use of the living marine resources of the Yellow Sea dates back several centuries but
 200 intensification of capture fisheries followed the introduction of the bottom trawl in the early twentieth
 201 century, resulted in rapid loss of economically important species such as the red seabream by the 1930's.
 202 The coastal communities are heavily depended on both the capture of wild fish and mariculture for their
 203 subsistence and livelihoods and the reduction of fishing capacity will need to be accompanied by changes
 204 in patterns of livelihoods and a decrease in dependence of wild caught fish. Fishing effort steadily
 205 increased post-war and increased threefold between the early 1960s and early 1980s during which time
 206 the proportion of demersal species such small and large yellow croakers, hairtail, flatfish and cod declined
 207 by more than 40% in terms of biomass.
 208

209 11. "The employment rate in the region has shown a decrease of 30- 50% over the past decade due to
 210 overfishing and environmental degradation that affect the abundance of fish resources (CAFB 2003). This
 211 has affected the overall economic situation of coastal communities resulting in increased migration of the
 212 coastal and rural population to urban centres in a search for employment. Although some measures have
 213 been taken by the governments to protect resources, improvement is unlikely to be significant in the
 214 immediate future. Decreasing catch per unit effort (CPUE) has been widely experienced by fishing fleets
 215 in the region and the lowered catches have reduced business activities in the seafood processing
 216 industries by around 10% over the past decade (Tong cited in the GIWA regional assessment). Fish and
 217 other marine living resources form important food items for the local population and cases of infectious
 218 diseases resulting from consumption of contaminated seafood have been frequently reported. A massive
 219 infection of Hepatitis A caused by the consumption of contaminated cockles in Shanghai and the
 220 neighbouring populations in Jiangsu Province during the 1990s is a good example of the impacts of poor
 221 water quality on human health (Xin 2003, SEPA 2004)."
 222

223 12. About 100 species including cephalopods and crustaceans are commercially harvested but most
 224 species are not abundant and only 23 species exceed 10,000 mt per annum; these species form between
 225 40 and 60 percent of the total landings. During the 1950's and early 1960s the dominant species were the
 226 small yellow croaker, and hairtail and the mean body length of the catch exceeded 20cm. Pacific herring
 227 Chub and Spanish mackerel became dominant in the 1970s and the mean body length of the catch had
 228 declined to 12 cm. In the 1980s smaller bodied, fast growing and short lived species such as the anchovy
 229 and scaled sardine came to dominate the catch with a consequent decline in the quality of the fisheries
 230 resources. Recently even catches of anchovy have declined and been replaced by a new target species,
 231 sandlance.
 232

233 13. In 1978 an area of 148,000 ha was used in China for mariculture and by 1997 this had expanded to
 234 540,000 ha. The yield of flesh from bivalves in 1978 was 200,000 mt or 44% of the mariculture yield, in
 235 1997 this had risen to 300,000 mt. Scallops, sea cucumbers and mussels dominate production in China
 236 whilst the dominant species in ROK are oysters 20% of production and mussels 6% of production but a
 237 variety of other species including abalone, short-necked clam, hard clam, ark and pen shells and hen
 238 calms are cultivated in various areas of both countries.
 239

240 14. Seaweeds are an important crop in the Yellow Sea but some of the species such as *Pelvetia*
 241 *siliquosa* (deer horn seaweed) which was historically exported in large quantities from ROK to China have
 242 declined in abundance and been replaced by other species. The most important cultivated seaweed in
 243 China is the brown alga *Laminaria japonica*, introduced from Japan. This is now grown over more than
 244 3,000 hectares with a production of 10,000 dry tonnes per year. Half of this is consumed directly and half
 245 is used in the production of alginates.
 246

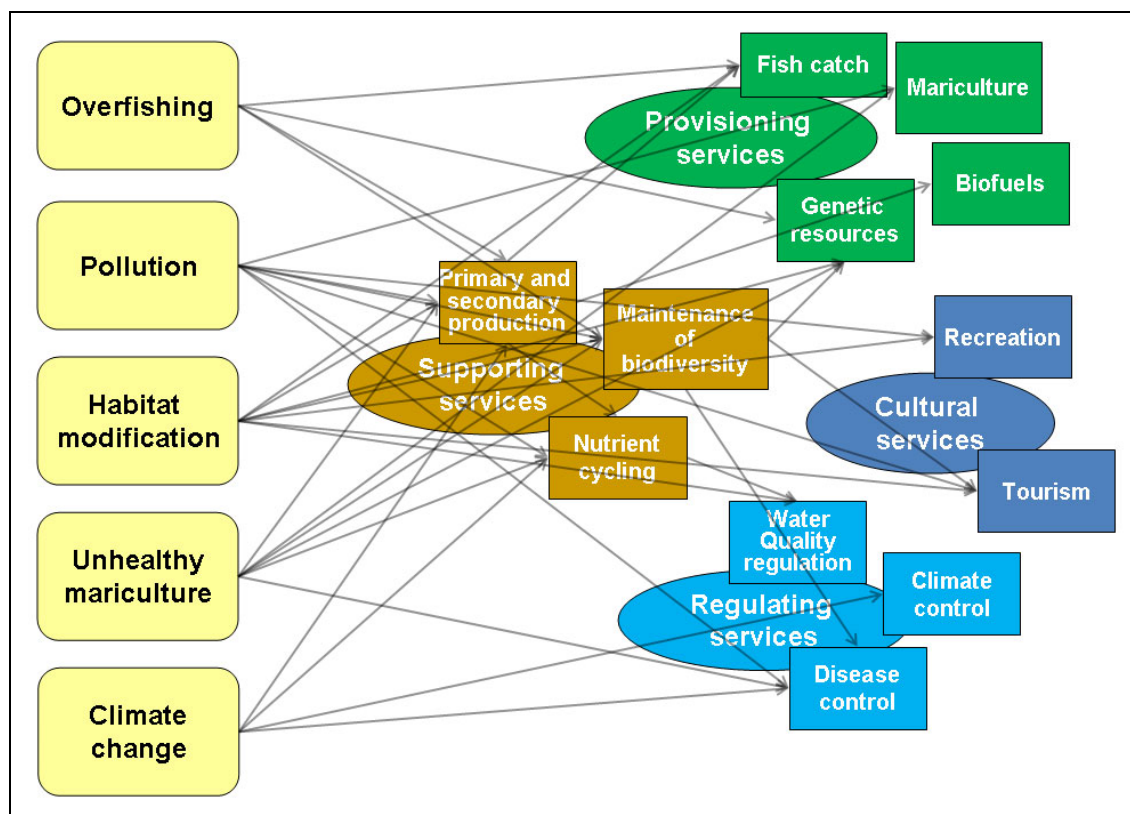
247 15. The semi-enclosed nature of the Yellow Sea (YS) and the rapid economic development of the
 248 surrounding area have resulted in an increasingly polluted and over-exploited sea. This large marine
 249 ecosystem (LME) faces major transboundary problems, including: a dramatic increase in fisheries
 250 landings that has grown from 400,000 tonnes to 2.3 million tonnes for the top ten species over the past 20
 251 years; continued increases in the discharge of pollutants; changes to ecosystem structure and function
 252 leading to an increase in jellyfish and harmful algal blooms; and a 40% loss of coastal wetlands from
 253 reclamation and conversion projects representing a major loss of habitat for many species resulting in a
 254 significant degradation of biological diversity. On top of these immediate threats lie the potential impacts
 255 of climate change and sea level rise, in particular, changes in basin circulation and the extent of the
 256 Yellow Sea “warm pool”.
 257

258 **1.1.3 The problem to be addressed.**

259
 260 16. The Transboundary Diagnostic Analysis (TDA) and the associated causal chain analysis provide an
 261 analysis of the root causes of the environmental issues and problems of the Yellow Sea and identify the
 262 priorities for management action. Nine transboundary environmental concerns have been identified that
 263 fall into five major problem groupings as illustrated in Figure 1. The effects of these problems are
 264 synergistic and compounded since for example fish catch is not only impacted by overfishing, but by loss
 265 of important habitats, land-based pollution impacts on water quality, and by the environmental impacts of
 266 improper mariculture activities in the coastal zone. Addressing these issues and problems therefore
 267 requires an ecosystem based approach to their management.
 268

269 **17. Pollution and Contaminants:** The Regional Working Group (RWG) on Pollution identified inorganic
 270 nitrogen and phosphate, faecal contaminants, heavy metals, persistent organic pollutants (POPs),
 271 polycyclic aromatic hydrocarbons (PAHs) and marine litter as the major contaminants in the Yellow Sea.
 272 Inorganic nitrogen and phosphate are important nutrients that sustain phytoplankton (single celled algae)
 273 communities that form the basis of the marine food chain. However, high concentrations stimulate rapid
 274 phytoplankton growth that cannot be consumed by zooplankton at the rate at which it is produced, leading
 275 to eutrophication and harmful algal blooms (HABs). Contamination of coastal marine waters by bacteria
 276 and viruses derived from direct discharge of untreated domestic waste can result in contamination of
 277 seafood, particularly mussels, oysters and scallops, under mariculture. The resulting illnesses vary from
 278 minor stomach ailments to dysentery and typhoid. Heavy metals, although possibly important locally
 279 around industrial areas, are not considered a transboundary problem. PAHs are also likely to be a more
 280 localised issue associated with certain industrial processes although this class of compound can be
 281 mutagenic or carcinogenic. Incorporation of POPs into the food chain is, however, part of a global
 282 problem and can lead to increased health risks to humans.
 283

284 Figure 1 Relationship between five major environmental problems and ecosystem services
 285



286
 287
 288

289 **18. Eutrophication** The extensive and frequent over-use of chemical fertilizers and the increased
 290 discharges of partially treated industrial and domestic waste have raised the concentration of dissolved
 291 inorganic nitrogen in coastal waters of the Yellow Sea. The Yellow Sea is vulnerable to eutrophication as
 292 it is isolated from the East China Sea by a strong thermohaline front, has weak circulation internally, and
 293 the flushing time is around seven years, consequently nutrients such as nitrogen can accumulate in the
 294 system. Algal production during a eutrophic episode frequently results in depletion of the nutrients and
 295 collapse of the bloom with mass mortality of the algae that sink to the bottom. The resulting bacterial
 296 decomposition causes oxygen depletion in the bottom water causing fish kills and mass mortality of other
 297 less mobile organisms, especially in mariculture establishments. Benthic biomass appears to have
 298 decreased and the proportion of polychaetes seems to have increased, these changes are frequently
 299 associated with increasing eutrophication of the sediments. The reduced diversity of the benthic
 300 community could have significant consequences as it is an important food source for many commercially
 301 important demersal fish species.

302
 303 **19. Plankton Community Changes** Silicate (Si) is the result of the erosion and weathering of rocks and
 304 is carried to the sea by rivers, ground water and by the wind as dust. As a result of changing freshwater
 305 flows due to irrigation and hydroelectric projects, much of the silicate is now trapped before entering the
 306 sea. The decreased silicate inputs in combination with increased nitrogen (N) concentrations have
 307 changed the nutrient ratio in the coastal waters of the Yellow Sea. This Si:N ratio is vital in sustaining the
 308 growth of diatoms that are the most important group of phytoplankton in economically productive
 309 systems, accounting for approximately 60% of primary production by biomass in the world's oceans.
 310 However, when the ratio of Si:N falls beneath a ratio of 1:1 the lack of silica prevents diatoms from
 311 forming their silica body walls and consequently flagellate species are favoured. Since 1980, the Si
 312 concentration in the Yellow Sea has been close to the ecological threshold required for diatom growth.
 313 The ratio of diatoms to dinoflagellates was reported to have decreased in recent years, possibly in

314 response to the increasing eutrophication and decreased ratio of Si:N as mentioned previously. A number
315 of these flagellates produce blooms (red tides and HABs) that are either toxic to higher organisms
316 causing for example, paralytic shellfish poisoning of human consumers, or reducing the palatability of
317 seafood. Intense blooms can also reduce survival of fish and shellfish through gill clogging and reduced
318 levels of dissolved oxygen. Changes in the biomass and composition of phytoplankton and zooplankton
319 communities could have serious consequences for fisheries productivity as these groups form the basis
320 of the marine food chain. The national reports by the YSLME project indicated increases in the biomass
321 of phytoplankton fraction > 77 µm, but decreases in the zooplankton > 500 µm on the Chinese side, while
322 on the Korean side increased biomass of zooplankton > 330 µm was recorded.
323

324 **20. Fishing effort exceeding Ecosystem Capacity to provide Provisioning Services:** Over-
325 exploitation is evidenced by the decrease in mean size at catch of most species over the period since
326 1986. In addition the composition of the catch has dramatically changed, see paragraph 11 above. In
327 general large commercially valuable species have been replaced by smaller, lower trophic level, less
328 valuable pelagic species. Furthermore, the mean trophic level of the main commercial species in the
329 Yellow Sea has decreased due to dietary changes as a result of ontogenetic shifts in diet; potential
330 temperature induced changes in availability of dietary items that may reflect climate change impacts; and
331 over-fishing of the prey items of carnivorous fish including anchovy. Changes in species abundance as a
332 consequence of over-fishing have consequences for the overall structure and productivity not only of the
333 fish community but the entire aquatic food chains in the wider Yellow Sea ecosystem. The decline of the
334 Yellow Sea fisheries directly affects the livelihoods and food security of the local people, as well as having
335 significant broader socioeconomic impacts due to the extremely high value placed on these biological
336 resources.
337

338 **21. Problems of sustainability in Mariculture** The production from mariculture and freshwater
339 aquaculture from China and ROK has grown spectacularly and in 2005 these countries accounted for 44
340 million metric tonnes or 70% of the world's total production, with China accounting for the bulk of the
341 growth. Mariculture accounted for approximately 14 million tonnes in 2004 of which the greatest increases
342 were from mollusc culture. There are signs however that these increases are not sustainable, and
343 recently the productivity per unit area has begun to fall as the area under cultivation grows. This fall in
344 productivity may be due to the fact that only unsuitable cultivation areas now remain, or that increased
345 proximity of farms has resulted in: increased disease transmission between farms; raised concentrations
346 of organic wastes; and increased competition for food resources amongst cultivated organisms. These
347 factors all increase stress and lower the growth and survival rates of the cultured organisms, thus
348 reducing production.
349

350 **22. Habitat Loss and Degradation:** Habitat has been lost at a staggering rate with almost 40% of
351 coastal wetlands being converted to other uses and all three countries have further development plans.
352 Coastal construction has altered coastal habitats, and industrial, agricultural and domestic effluent have
353 further degraded coastal habitats. These coastal wetlands are important habitat for shellfish resources
354 and their culture, and many of the commercially important fish species use these areas as nursery or
355 feeding grounds at some stage in their life cycle. Additionally many endangered bird species depend on
356 these wetlands as feeding and breeding grounds on their migration routes. Moreover these wetlands
357 perform important biogeochemical functions such as sediment retention, carbon sequestration, nutrient
358 cycling, prevention of saltwater intrusion and coastline stabilization.
359

360 **23. Jellyfish Blooms:** The joint cruises conducted under the UNDP/GEF first phase project and other
361 studies reported that, the abundance of jellyfish has increased in recent years leading to clogging of
362 fishing nets and increased likelihood of bathers being stung, and the recent regional fishery stock
363 assessment cruises provide similar evidence of an increase in jellyfish abundance. Recently it has been
364 suggested that the increase in marine litter and construction of concrete structures such as jetties and
365 wharfs has increased the habitat available to the asexual reproductive stage of these jellyfish. In addition,
366 the reduction of plankton-eating fish stocks brought about by over-fishing, combined with the change from
367 predominantly diatoms to dinoflagellates, has increased the food available to support the growth of
368 jellyfish blooms. There appears to be a growing consensus that pollution, acidification of the sea and
369 changing phytoplankton communities is leading to increased jellyfish densities in many regions. Not only

370 do these higher jellyfish densities impact the tourists and fishermen in the Yellow Sea, they also directly
 371 impact fish stocks through feeding on the fish larvae and reducing the availability of zooplankton which is
 372 an important food source for larval fish. The increases in jellyfish have wider transboundary implications
 373 as a consequence of movements of jellyfish out of the Yellow Sea to neighbouring seas.
 374

375 **24. Potential Climate Change-related Impacts:** Air temperatures over the Korean Peninsular have
 376 increased at a rate of 0.23°C/decade since the 1960's. Although annual variation in sea surface
 377 temperatures appear to be connected with other major climate/ocean systems (e.g. El Nino/Southern
 378 Oscillation and the Aleutian Low), mean sea surface temperatures have increased 0.38 – 0.94°C/decade
 379 in the Yellow Sea. This warming trend appears to have been accelerating in recent decades and there
 380 has been a northward movement of isothermals during the period. Most of the major commercial fish
 381 species over-winter in the bottom cold water mass located in the central southern portion of the Yellow
 382 Sea. Shrinkage of this cold water mass due to climate change could have serious consequences for
 383 these stocks and already some cold-water species, such as Pacific cod and herring, are no longer found
 384 in commercial numbers due to either over-fishing or warming of the cold water mass or a combination of
 385 both. The increase in carbon dioxide emissions due to anthropogenic activities could cause acidification
 386 of seawater and a decrease of 0.1 pH units, representing a 30% increase the H⁺ ion concentration has
 387 already been observed. Links between jellyfish density and acidification have been reported. Potentially
 388 the impacts of climate change could result in the mistiming of the arrival and breeding season of
 389 migratory birds with respect to food availability as evidenced in other seas. In addition, climate driven
 390 changes in sea level could have significant impacts on the food available to wading birds by reducing the
 391 area of tidally exposed mudflats.
 392

393 1.2 Threats, and root causes

394
 395 **25.** Land reclamation and changes to alternative use pose the strongest threats to coastal habitats as
 396 most coasts bordering the Yellow Sea consist of depositional shorelines except for some rocky coasts in
 397 Liaoning and Shandong Provinces in China and Jeju Do, and Chollanam Do in ROK. Between 1950 and
 398 1985 one third (2.94 million ha) of tidal flats in the People's Republic of China were reclaimed for other
 399 uses while between 1988 and 1998 810 km² or 25% of the total area of tidal flats in ROK were reclaimed.
 400 Plans already exist to reclaim around 800,000 hectares of mud-flats over the next 10 years in China
 401 whilst comparable data are not available for ROK or the DPRK. Reclamation is driven by demand for
 402 additional land for urban expansion, port and oil refinery development, and agriculture.
 403

404 **26.** Habitat degradation is also caused by severe pollution with more than 100 million tones of domestic
 405 sewage and around 530 million tones of industrial wastewater being discharged into the near shore areas
 406 of the Yellow Sea annually. The eastern Yellow Sea is seriously polluted and subject to persistent red
 407 tides, whilst the zooplankton community has been affected showing declines in copepods and arrow
 408 worms. Mass mortalities of the hard clam have occurred in the western regions of ROK coincident with
 409 high densities of pathogenic bacteria, parasitic cercaria and high concentrations of pesticides. Such
 410 events have caused serious losses in the aquaculture industry.
 411

412 **27.** Habitat conversion and intensification of uses is occurring along much of the landward fringe of the
 413 Yellow Sea and includes intensification of drainage with consequent loss of wetlands, intensification of
 414 grazing and increased removal of timber products, and increased construction of shrimp and mariculture
 415 ponds. The underlying causes for these changes are the increased demands for seafood which reflect
 416 both the growth in coastal populations and the increased *per capita* demand for seafood resulting from
 417 lifestyle changes and increased coastal tourism.
 418

419 **28.** A total of around 122 species of plants and animals were found to be vulnerable due to changes in
 420 habitat and suitability of migratory habitats, marine pollution, over-exploitation of the living marine
 421 resources, and changes in water circulation and surface temperatures. Underlying the causes are the
 422 increase in human population numbers and activities in the coastal zone, limitations to waste treatment
 423 facilities, excessive numbers of fishing boats, and construction and port enlargement. In part, these
 424 causes reflect an inadequate valuation of the ecosystem services during development planning, a lack of

425 public awareness of the values of natural systems, weak legal instruments and inadequate enforcement
 426 of laws and regulations. Supporting and regulating services are most frequently undervalued whilst
 427 ecosystem provisioning services are frequently exploited for short-term economic gain leading to over-
 428 exploitation and further loss of ecosystem services.

429
 430 29. It has been estimated that more than 223 species of plants and animals had been introduced to
 431 ROK by 1996 of which a number of barnacles have become naturalized. Of 30 seashore areas surveyed
 432 27 had at least one introduced marine organism present and *Balanus amphitrite* and *Ciona intestinalis*
 433 were found in 21 and 19 areas respectively. Whilst a number of species have been introduced
 434 deliberately for mariculture, or for stabilizing coastal dune areas a number appear to have been
 435 introduced accidentally and possibly via ballast water discharge.

436
 437 30. The data on fisheries in the Yellow Sea suggest that the harvest is excessive - far above the level of
 438 sustainable harvest. This has resulted in decreased individual size in target species, reduced population
 439 numbers and hence both harvest and reduced mature breeding fish in the population. It is recognized that
 440 the primary cause of the over-exploitation is an excessive number of fishing vessels and it has been
 441 agreed that there is a need to reduce the size of the fishing fleet by 25-30% by 2020 to address this
 442 particular problem. Also contributing to the decline in fisheries resources is a traditional, narrow
 443 management approach to fisheries that focuses on particular resources without considering the
 444 interconnection between these target fish and the food web and ecosystem on which they depend, i.e. an
 445 ecosystem based management approach is lacking.

446
 447 31. To respond to these problems, a "Transboundary Diagnostic Analysis" (2005), and a regional
 448 "Strategic Action Programme (SAP)" (2008), have been successfully produced through the UNDP/GEF
 449 Yellow Sea Large Marine Ecosystem (YSLME) project and "National Strategic Action Plans" (2009) are
 450 under finalization in the Republic of Korea and China. These countries recognized that scientific
 451 knowledge needs to be translated into policy, legal and management actions for the entire region and not
 452 restricted to each nation, as environmental problems are not limited by geographic boundaries. The SAP
 453 identifies 11 tangible regional targets aimed at maintaining the ecosystem's capacity to provide the four
 454 ecosystem services (provisioning, regulating, cultural and supporting) to the region and beyond. It
 455 provides adaptive ecosystem-based management actions to reach these targets. Governmental Officers
 456 from DPRK have expressed their understanding of the procedure and outcomes of TDA and SAP
 457 development through a workshop specially designed for the country and an official letter has been
 458 received supporting the TDA and SAP outcomes.

459
 460 32. A significant barrier to addressing these problems in a concerted regional approach is the present
 461 absence of a regional governance mechanism. A YSLME Commission will be established during the
 462 implementation of the project to play a key role in oversight of joint actions to address the transboundary
 463 issues. It will ensure the regional targets are met through the implementation of the "on-the-ground"
 464 management actions that are documented in the SAP. The Commission will, by the end of the project,
 465 become self-sufficient and sustainable through establishment of appropriate financial mechanisms,
 466 capacity building and capacity building workshops, stakeholder participation, and public awareness
 467 activities. It is expected that the global environmental benefits of the proposed project would include:
 468 restoration of globally important fish stocks by reducing up to 30 % of the current fishing effort; increased
 469 uptake of sustainable mariculture techniques in an industry responsible for 1/3 of global production;
 470 improved management of globally significant habitats for migratory birds and mammals; decreased
 471 eutrophication through reduction in nutrient discharges by 10% every 5 years; and thus, an overall
 472 restoration of ecosystem carrying capacity. Moreover, the project's unique approach to formulating a SAP
 473 based on ecosystem services serves as an inception point for introducing ecosystem based management
 474 approaches at the national level.

475 476 **1.3 Long-term solution and barriers to achieving the solution**

477
 478 33. The root causes, or indirect drivers of the environmental problems of the Yellow Sea stem from the
 479 increasing demand for environmental goods and services which has already exceeded the natural

480 capacity of the system to supply. That is, the Ecosystem Carrying Capacity has been exceeded not
481 merely in terms of direct exploitation but also in terms of services such as the capacity of the system to
482 absorb contaminants which has been exceeded resulting in algal and jellyfish blooms and other problems
483 outlined above. The Strategic Action Programme notes that Ecosystem Carrying Capacity may be defined
484 in terms of: provisioning services (e.g. wild and cultured seafood), regulating services (e.g. regulation of
485 climate change and water quality), cultural services (e.g. tourism), and supporting services (e.g. nutrient
486 cycling & primary production).

487
488 34. The long-term goal of the YSLME SAP is to preserve the Ecosystem carrying capacity (ECC) of the
489 Yellow Sea in order to continue to provide ecosystem services. Consequently the effective long-term
490 solution to the environmental problems of the Yellow Sea is to implement effectively the regional SAP in
491 such a manner that all targets are met and environmental quality and productivity are restored.

492
493 35. Traditionally, management actions target problems however, this traditional approach is of limited
494 effectiveness as environmental problems are not normally the result of a single cause. Declining fish
495 landings are not simply the result of over-fishing, but are also the result of pollution, over supply of
496 nutrients into coastal waters and loss of habitat used by fish for spawning and feeding. The sectorial
497 approach to management cannot adequately address all the underlying causes. Based on this past
498 experience, the ecosystem-based approach, advocated by the YSLME SAP, targets multiple ecosystem
499 services holistically to sustain the ECC of the Yellow Sea.

500
501 36. The immediate causes of problems such as over-fishing may be found in over-capitalization of the
502 industry such that too many boats are seeking to catch an ever declining stock of fish. The increased
503 demand for seafood stems from the coastal population itself, and increasing numbers of tourist visitors
504 together with external demand both within China and in neighbouring East Asian Countries. This growing
505 demand has not only resulted in overharvesting of wild stock but also in increased mariculture production
506 from areas of inter-tidal and sub-tidal habitats being converted to mariculture facilities.

507
508 37. Long-term solutions to these problems involve a substantial reduction in the size of the current
509 fishing fleet, with the concurrent provision of alternative livelihoods for displaced fishermen; improved
510 aquaculture production in terms of both quantity and quality, whilst at the same time a reduction in the
511 environmental impacts of mariculture operations; better production systems that reduce contaminant
512 output, more efficient and effective means of controlling pollutants at source and preventing their entering
513 the marine environment.

514
515 38. The solutions for each individual set of problems cannot be addressed in isolation one from the other
516 but must be tackled in a coherent and co-ordinated manner that reflects the realities of the Yellow Sea
517 Large Marine Ecosystem in terms of the ecosystem services provided by the system and the demands
518 placed upon it by human populations and activities.

519
520 39. The situation is further complicated by the involvement of three separate countries in the use of the
521 Yellow Sea and its resources. The current development actions of each country independently impact
522 upon the health of the Yellow Sea Ecosystem and just as there is a need to co-ordinate actions between
523 sectors at the national level, there is a need to co-ordinate the actions of all three countries in terms of
524 their use of the Yellow Sea Ecosystem and its associated resources. The long-term solution to the
525 problems of regional co-ordination requires the establishment of an appropriate regional entity having the
526 political and financial support of all three countries that can serve as a forum for the development of
527 appropriate sustainable management plans and having the power and authority to oversee the
528 implementation and execution of such plans.

529

530 1.4 Stakeholder and baseline analysis

531

532 1.4.1 Stakeholder analysis

533

534 40. The central governments of the three participating countries are the most important stakeholders
 535 since both the project and the actions to date seek to establish and strengthen the regional governance
 536 regime with respect to the Yellow Sea. The role of each of the central governments of the participating
 537 countries has been important in the past in promoting regional approaches, although the Democratic
 538 People's Republic of Korea (DPRK) has not fully participated in the regional efforts to date.

539

540 41. Below the central government in each country are the Provincial and Municipal Governments that
 541 have jurisdiction over various aspects of coastal land and water use and planning and for licensing and
 542 enforcing local regulations and standards. These government entities are significant stakeholders with the
 543 power and authority to control and regulate the actions of both public and private sector enterprises
 544 operating in the coastal zone.

545

546 42. The coastal communities are stakeholders that derive benefit both directly and indirectly from the
 547 various uses of the coastal ecosystems including for agriculture, mariculture, the operation of tourism
 548 businesses, and subsistence. At the same time these communities are impacted by ecosystem changes
 549 occurring as a result of both their own actions and those of others. For example small scale tourist
 550 businesses, or mariculture operations that depend on the quality of the marine environment can be
 551 adversely impacted by red tides and harmful algal blooms that causes mass mortality of marine
 552 organisms and human health problems. During the initial UNDP/GEF Project the Rongcheng Fisheries
 553 Association and a number of commercial mariculture companies in Sanggou Bay, in China and the
 554 Fisheries Co-operative of ROK have been involved in workshops, publicity campaigns, protection of
 555 seagrass beds and the conduct of SAP demonstration activities.

556

557 43. Several international organisations have participated in the past in aspects of regional governance.
 558 UNDP has actively participated in the regional governance mechanisms while UNEP has been involved
 559 through the Regional Seas Programme and NOWPAP and the IMO through the operation of the various
 560 phases of PEMSEA.

561

562 44. The scientific and academic communities have participated at both the regional and national levels
 563 in conducting aspects of the regional analyses that have been undertaken during the first phase of the
 564 project and in providing scientific and technical advice to the political decision makers represented on the
 565 Project Steering Committee. It is anticipated that these institutions and individuals will continue to provide
 566 such functions in the implementation of the next phase of the Yellow Sea project and in providing advice
 567 to the Yellow Sea Large Marine Ecosystem Commission when it is established.

568

569 45. Other stakeholders including parliamentary organisations, international NGOs such as WWF and
 570 local ones together with private sector groups such as mariculture associations have participated in the
 571 regional governance less actively than other stakeholder groups to date. In the ROK, NGOs such as Birds
 572 Korea; Citizens Institute for Environmental Studies, the Eco-horizon Institute, Korea Marine Rescue
 573 Center, Shihwa Lake Saver, and the PGA Wetlands Ecology Institute, and In China the Global Village of
 574 Beijing, have all undertaken activities during the first phase under the small grants programme.
 575 Incorporation of stakeholders into the various decision-making systems related to marine resource
 576 management, coastal zone management, pollution management and other aspects of SAP
 577 implementation is encouraged. At the national level co-ordination is also desirable between scientists,
 578 managers, fishermen, farmers, and government officers.

579

580 46. Securing the participation of all the coastal countries and relevant stakeholders in the regional
 581 governance whilst necessary will be an enormous task and capacity building of some stakeholder groups
 582 particularly local NGOs and governments will be required before they are in a position to fully participate
 583 in the regional governance and management decision making. It is anticipated that involvement of both
 584 the NGO community and Private sector enterprises will build on the successes of the first phase and the

585 range of organisations will be expanded to include industries, small and medium sized enterprises and
586 tourism operators.

587
588 47. In order to enhance overall effectiveness of SAP implementation, strengthening partnership with
589 existing regional co-operative institutions, is necessary including, but not limited to, bilateral co-operation
590 mechanisms such as the Joint Committee on Environmental Co-operation, the Joint Fisheries
591 Commission, China-Korea Joint Ocean Research Center; and further strengthening the current Yellow
592 Sea Partnership.

593
594 48. This project marks the second stage of GEF financial support to the Yellow Sea. It also marks a
595 change in focus and a change in the stakeholder mix of the project itself. By focusing on the problem of
596 depleted fisheries and conservation of biodiversity, this project places more emphasis on sustainable
597 development and as such the fisheries sector itself is important. Add to this the fact that regional
598 governance is critical to this project and the most important stakeholder groups are the Ministries
599 responsible for: Foreign Affairs, Maritime Affairs, the Environment/Natural Resources, and fisheries in
600 each country.

601
602 List of major government stakeholder institutions.
603

People's Republic of China
Ministry of Foreign Affairs
Ministry of Finance
State Oceanic Administration
Ministry of Environment Protection
Ministry of Communication
Ministry of Agriculture
Provincial and Municipal Governments
Democratic People's Republic of Korea
National Co-ordinating Committee for the Environment
State Hydrometeorological Administration
Republic of Korea
Ministry of Foreign Affairs and Trade
Ministry of Land, Transport and Maritime Affairs
Ministry of Food, Agriculture, Forestry and Fisheries
Ministry of Environment
Ministry of Unification

604
605 **1.4.2 Baseline analysis**
606

607 49. There is a marked declining trend in extent, and status, of the coastal ecosystems of the Yellow Sea.
608 This trend line is disturbingly downward as described in earlier sections, including both significant losses
609 of area and degradation of coastal habitats and ecosystem functions. In a baseline scenario this trend
610 would likely continue either declining, or bottoming out, with little to no improvement in the near to
611 medium term.

612
613 50. The lack of experience and knowledge, and other capacity constraints with respect to ecosystem-
614 based management will prevent the Yellow Sea coastal states from developing a basic understanding of
615 key ecological relationships such as the link between changes in nutrient ratios and harmful algal blooms,
616 and applying this understanding to practical resource management decision making. Capacity constraints
617 will hamper the region's ability to develop effective management decision support tools that would enable
618 regional and national institutions to better link resource management with conservation objectives in the
619 context of an ecosystem-based management framework. Capacity constraints may also inhibit improved
620 regional collaboration and hence the effectiveness of management actions across the Yellow Sea Large
621 Marine Ecosystem.

622
623 51. Under a business as usual (or baseline) scenario, individual countries will continue with their regular
624 monitoring programs of various environmental and ecological parameters but this will be done in the
625 absence of an agreement on regional standards and protocols for monitoring of Yellow Sea ecosystem
626 health. This means that the data from each country, because it is collected in different ways and at
627 different times, will be difficult to compare and contrast, hampering use of the data in regional
628 management and policy making and preventing the development of a basin wide picture of ecosystem
629 health.

630
631 52. The decline in habitat status and biodiversity are closely linked through food chains and feeding
632 patterns and a disturbance in the phytoplankton and zooplankton communities caused by changes in
633 nutrient ratios may impact species at higher trophic levels, through changes in the frequency of red tides
634 and harmful algal blooms, eutrophication and mass mortalities of benthic organisms under a baseline
635 scenario.

636
637 53. Declining trends in individual size of catch, in catch per unit effort and in total landings are well
638 recognized by all parties as an indication that the current harvest is beyond sustainable levels and without
639 action to reduce the catch effort it is likely that these resources will continue to decline both in quantity
640 and quality over the foreseeable future. Whilst the levels of harvest are viewed as the primary cause of
641 the decline observed over the last three decades it is clear that loss of coastal habitats that are significant
642 nursery and spawning grounds has contributed to declines in fish recruitment whilst increased pollution
643 has resulted in declining water quality and changed availability of larval fish food sources.

644
645 54. Decline in individual size of catch reflects both declines in size of individuals within each target
646 species and declines consequent upon changes in the target species themselves such that the economic
647 values of the catch have declined significantly over the last two decades. Without concrete and co-
648 ordinated action these trends will continue unchecked

649
650 55. Under the baseline scenario, the Yellow Sea states would continue to apply past management
651 practices rooted in assumptions that people can control natural systems and consistently achieve
652 maximum sustainable yields through practices such as release of significant numbers of hatchlings and
653 fingerlings without attempt to ascertain the ecological effectiveness of such actions. In a baseline
654 situation, too little attention will be paid by managers to questions such as how to increase the
655 reproductive success of target fish species through ecologically-based approaches that improve the
656 quality of the environment in terms of conserving nursery and spawning habitats and reducing pollution.
657

658 **2. STRATEGY**

659 **2.1 Project Rationale and Policy Conformity**

660
661 56. This project fits and complements the GEF portfolio of International Waters projects since the
662 project builds upon an impressive country-driven regional Strategic Action Programme developed and
663 agreed with GEF support. This will enable the project to generate many useful lessons and to serve as a
664 mature model in this respect to other transboundary initiatives in GEF's worldwide portfolio. Secondly, the
665 project is designed to learn from other IW initiatives such as the Benguela Current, the Rio de la Plata,
666 and the Black Sea, of benefit to this project and contribute to the strengthening of the overall GEF-
667 IW:LEARN portfolio, through participation in IW:LEARN activities.
668

669 57. The YSLME SAP proposes the use of an innovative “ecosystem-based management approach” as
670 advocated in the Millennium Development Goals in order to manage the complicated relationships
671 between the environmental stresses and the resulting problems. This ecosystem-based approach uses
672 scientific knowledge to guide appropriate management actions that preserve the ecosystem functions of
673 the YSLME and its Ecosystem Carrying Capacity (ECC) i.e. its capacity to provide ecosystem services
674 that are vital to the welfare of communities surrounding the Yellow Sea.
675

676 58. This project is consistent with GEF's International Waters strategy, in that it represents a project to
677 implement the Strategic Action Programme developed and agreed with GEF assistance and based on a
678 detailed Transboundary Diagnostic Analysis. The GEF funding will: enable regionally co-ordinated
679 implementation of the SAP; facilitate the establishment of the YSLME Commission; facilitate participation
680 of the DPRK; and foster the removal of sectorial barriers to integrated management of ecosystem carrying
681 capacity.

682
683 59. Within the GEF-5 International Waters Strategy Objective 2: Catalyse multi-state cooperation to
684 rebuild marine fisheries and reduce pollution of coasts and LMEs while considering climatic variability and
685 change,, the project will address the need for: bilateral and multi-lateral programmes of action to enhance
686 fish stocks; institutions for joint ecosystem based and adaptive management; encourage the
687 implementation of the FAO Code of Conduct for Responsible Fisheries; and, engage the fishing and
688 mariculture industries in sustainable management solutions that provide profit to these stakeholders,
689 while not negatively impacting the Yellow Sea Ecosystem.

690
691 60. This project also addresses the GEF International Waters Strategic Priority (IW-SP2) through
692 measures to reduce nutrient loads, in fulfilment of the articles in pollution-related conventions; through
693 translating monitoring results into policies; and providing mechanisms to exchange data among agencies
694 and across borders. IW-SP2 is closely linked to protection of critical habitats through improving and/or
695 establishing management plans and marine protected areas. Regular monitoring of the impacts of
696 pollutants on habitats, surrounding areas, and assessment of affected stakeholders will be covered and
697 the project will utilize ecosystem-based approaches and adaptive management schemes to manage
698 these transboundary water problems. The potential impacts of and adaptation to, climate change will be
699 embedded in the management actions directed towards ecosystem carrying capacity as the central
700 theme of the project.

701
702 61. The project will also deliver additional outcomes such as: enhanced public awareness;
703 strengthened stakeholder capacity to carry out actions; and institutional sustainability that ensures the
704 SAP and the YSLME Commission will be self-sufficient in the long-term. Involvement of all coastal
705 countries in the YS, will contribute to regional environment management, as well as regional peace and
706 stability.

707
708 62. The Yellow Sea represents a marine environmental resource shared among three countries hence
709 GEF involvement is critical in overcoming the geopolitical complexities and potential conflict among
710 resource users in the Yellow Sea. The full participation of DPRK in this project will ensure the
711 engagement of all the Yellow Sea coastal states in the management of their shared transboundary
712 resources and in helping to resolve the environmental issues and problems. The costs of introducing
713 effective skill levels with regard to ecosystem based management in the DPRK in order to ensure full
714 participation of DPRK in regional conservation efforts is therefore considered to be almost entirely
715 incremental. Benefits resulting from the inclusion of a new partner will accrue in terms of expanded
716 regional and international marine conservation and management efforts in the East Asian Seas region.

717
718 63. The current sectorial management of the marine environment in the countries bordering the Yellow
719 Sea prevents implementation of co-ordinated, integrated and ecosystem-based management as defined
720 in the SAP. GEF assistance in the institutional, policy and management reforms will move the process
721 from the business-as-usual approach to integrated management across sectors. Managing to improve
722 ecosystem carrying capacity will be a novel process for the region to engage in, and there is an urgent
723 need to move the region's perception of marine environmental management in this direction. As a result
724 of the SAP implementation, the capacity of individual agencies to play a pivotal role in facilitating more
725 holistic management will be improved. Use of GEF resources together with national financial
726 commitments will also facilitate the sharing of experiences and lessons-learned on national and regional
727 scales, ultimately aimed at increasing the replication potential for the project's impacts. Implementation of
728 YSLME SAP will assist implementation of the "Sustainable Development Strategies for the Seas of the
729 East Asia (SDS-SEA)" at the sub-regional level. This will provide valuable benefits to strengthen regional
730 infrastructure established under GEF's efforts.

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2.2 Country ownership: country eligibility and country drivenness

64. China and ROK have endorsed the SAP for the Yellow Sea developed during the implementation of the UNDP/GEF first phase project as follows: China (19 Nov. 2009), ROK (28 Nov. 08), and China and ROK have developed and approved National Strategic Action Plans to implement the SAP at the national level. These NSAPs are consistent and congruent with the National Biodiversity Strategic Action Programs of China and ROK. An official letter was received from the State Hydrometeorological Administration of DPRK (8 Dec. 08) in support of the TDA and SAP prepared for the Yellow Sea following a detailed introduction of these topics at a training workshop organised during the first phase of the project.,

65. This project is fully consistent with the UNDP Country Programme Document (CPD) for China contributing to UNDAF Outcome 1, namely that: social and economic policies are developed and improved to be more scientifically based, human centred and sustainable and UNDP Programme Outcome 7. Conservation and sustainable use of biodiversity is more effective.

66. UNDP has recently resumed operation of the country office in DPRK and a country programme will be prepared in the immediate future. It is also anticipated that the CPD will be available by the time of submission of the PIF to the GEF.

67. The Republic of Korea is no longer eligible for UNDP Country assistance, nevertheless the actions and activities programmed in the regional Strategic Action Programme will be financed through the governments recurrent budget within the national institutional framework.

2.3 Design principles and strategic considerations

68. As noted above a critical element of any long-term solution to the environmental problems of the Yellow Sea lies in the creation of a sustainable management mechanism at the regional level supported by cross-sectorial management actions at the national level. This project aims to establish an intergovernmental YSLME Commission that is sustainably funded in the long term and possesses sufficient authority and credibility to direct the management of the Yellow Sea Large Marine Ecosystem and its resources with a view to restoring the Ecosystem Carrying Capacity of the system.

69. Critical to the achievement of the long term development and environmental goals is the development of a strong capacity for ecosystem based management of the Yellow Sea and its associated resources and a substantial proportion of the project's activities are directed towards achieving this capacity.

2.4 Project Objective, Outcomes and Outputs/activities

Objective: To foster long-term sustainable institutional, policy, and financial arrangements for effective ecosystem-based management of the Yellow Sea (YS) in accordance with the YSLME Strategic Action Programme.

COMPONENT 1. SUSTAINABLE REGIONAL AND NATIONAL CO-OPERATION FOR ECOSYSTEM BASED MANAGEMENT, BASED ON: STRENGTHENED INSTITUTIONAL STRUCTURES; IMPROVED KNOWLEDGE BASE; AND STRENGTHENED CAPACITY FOR DECISION MAKING

OUTCOME 1.1 REGIONAL GOVERNANCE STRUCTURE, THE YSLME COMMISSION ESTABLISHED AND FUNCTIONAL BASED ON: STRENGTHENED PARTNERSHIPS & REGIONAL CO-ORDINATION; WIDER STAKEHOLDER PARTICIPATION AND ENHANCED PUBLIC AWARENESS

Output 1.1 Activities will include the drafting and acceptance by all participating countries of: an agreement to establish the YSLME Commission and associated bodies, including the Management Science and Technical Panel (MSTP) and Regional Working Groups (RWGs) at the regional level, and Inter-Ministry Co-ordination Committees (IMCC) and National Working Groups (NWGs) at the National

787 Level and adopt their Terms of Reference (TOR), membership and rules of procedure for the conduct of
 788 meetings. It is anticipated that once established the Commission Council will meet annually and will serve
 789 as the supreme body responsible for joint policy development, and future implementation of the SAP.
 790 During the drafting of the future commission structure and terms of reference SAP implementation,
 791 including the operation of this project will be managed through a YSLME SAP Implementation Facility
 792 (see section 4 below). During the implementation of the project the MSTP will meet annually and the
 793 RWGs will meet as required to execute their responsibilities as defined by the Project Board. The reports
 794 of all meetings will be made publicly available through the Yellow Sea Large Marine Ecosystem website,
 795 which will also serve as a repository for regional environmental data and information and will be
 796 interactive allowing partners to up-load data and information as appropriate. The Project Board will be
 797 serviced by a professional Project Management Office with responsibility for: preparing annual summaries
 798 of costs and draft budgets for the subsequent year; advising on the cost effectiveness of the operation of
 799 the project, the subsidiary bodies and its Project Management Office; providing technical assistance and
 800 advice to the National Project Coordinators as required. It is anticipated that at least 15 regional and
 801 bilateral agreements will be finalised with agencies and organisations having interest in the environment
 802 of the Yellow Sea and active engagement in SAP implementation.

803
 804 **OUTCOME 1.2 SUSTAINABLE FINANCING AGREED; AT LEAST 150% INCREASE IN GOVERNMENT FINANCING FOR**
 805 **REGIONAL COLLABORATION ON ECOSYSTEM-BASED MANAGEMENT.**

806
 807 **Output 1.2** Activities designed to secure this outcome and associated outputs include annual reviews of
 808 project costs and expenditures; biennial reviews of SAP implementation costs; biennial reviews of the
 809 ecological effectiveness of management actions; incorporation of economic valuation into future planning
 810 of resource use. It is anticipated that during the implementation of the project the YSLME SAP
 811 Implementation Facility will agree upon future financing that will ensure sustainability of the governance
 812 structures and actions beyond the life of the project.

813
 814 **OUTCOME 1.3 IMPROVED INTER-SECTORAL CO-ORDINATION AND COLLABORATION AT THE NATIONAL LEVEL**

815
 816 **Output 1.3** Activities will involve supporting and strengthening the functioning of the IMCCs in each
 817 country; improving national co-ordination through establishment of a national co-ordination office;
 818 finalisation and implementation of the National SAPs; assembly of data and information; monitoring and
 819 reporting; wider stakeholder participation at all levels fostered through annual workshops and active
 820 engagement of NGOs and private sector in execution of activities. Considerable inputs will be required in
 821 the case of DPRK in order to assist that country in building capacity to implement ecosystem-based
 822 management in line with China and ROK which have already commenced this task during the first phase
 823 project.

824
 825 **OUTCOME 1.4 ENHANCED LEGAL INSTRUMENTS**

826
 827 **Output 1.4** Develop Regional Guidelines for: incorporating the FAO Code of Conduct for Responsible
 828 Fisheries into management strategies in the region; matters not covered by UNCLOS, CBD and
 829 RAMSAR; assist in harmonising national legislation with regionally agreed standards; develop a YSLME
 830 Legal clearing house as part of the project website.

831
 832 **COMPONENT 2. IMPROVED ECOSYSTEM CARRYING CAPACITY WITH RESPECT TO PROVISIONING SERVICES**

833
 834 **OUTCOME 2.1 DEPLETED MARINE LIVING RESOURCES RECOVERING**

835
 836 **Output 2.1** Activities will include reduction in the number of fishing vessels through buy-back of around
 837 10% of the current fleet over four years and tighter control of fishing boat construction and licensing;
 838 assessment of possible alternative livelihoods and technical training for displaced fishermen; introduction
 839 of small loan scheme and tax free incentives for alternative livelihoods; improved management based on
 840 sound science; seasonal and area closure as appropriate; improvement in gear selectivity and fish
 841 behaviour studies; improved monitoring and assessment of stock fluctuations including joint regional
 842 stock assessments;.

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OUTCOME 2.2 ENHANCEMENT OF FISH STOCKS THROUGH RE-STOCKING AND HABITAT IMPROVEMENT

Output 2.2 Increased numbers of healthy and genetically diverse fry of selected commercial stocks will be produced and released to boost natural reproduction; the effectiveness of this programme will be carefully monitored; artificial reefs will be constructed and deployed to provide refuges for important demersal fish species and to discourage trawling in certain areas; degraded seagrass and macroalgal habitats will be restored through replanting and improved water quality to provide nursery and spawning areas for commercially threatened species.

OUTCOME 2.3 ENHANCED MARICULTURE PRODUCTION, SUSTAINABILITY, AND QUALITY

Output 2.3 Based on experiences and outcomes of the demonstration activities conducted in the first phase project, environmentally friendly mariculture methods and technology will be further developed and their use promoted as widely as possible. These involve a change to polyculture from monoculture and arrangement of the production system such that wastes from one unit serve as inputs to production in adjacent units.

OUTCOME 2.4 REDUCTION AND CONTROL OF POLLUTANT DISCHARGE FROM MARICULTURE OPERATIONS

Output 2.4 Regional guidelines for the reduction of pollution from mariculture operations will be developed and agreed following which each country will prepare a national management plan for the implementation of more sustainable mariculture operations and “best mariculture practices” will be documented and widely distributed amongst mariculture operators.

COMPONENT 3. IMPROVED ECOSYSTEM CARRYING CAPACITY WITH RESPECT TO REGULATING AND CULTURAL SERVICES

OUTCOME 3.1 ECOSYSTEM HEALTH WILL BE IMPROVED THROUGH A REDUCTION IN POLLUTANT DISCHARGES E.G. 10% REDUCTION IN NUTRIENT DISCHARGES FROM POINT SOURCES EVERY FIVE YEARS.

Output 3.1 Activities will be implemented that involve intensive monitoring at a regional level based on agreed protocols that build on existing activities at the national level and are in conformity with an agreed strategy to control contaminants and share data and information regionally. This will involve the development of economic instruments to reduce pollution; improve the regional contingency plans for oil spills; improved development of storm water treatment systems; adoption of waste reduction technologies; A basin wide strategy to identify and quantify the importance of individual sources and sinks of contaminants will be developed that will include consideration of loadings in hot spots and critical habitats.

OUTCOME 3.2 NEW AND INNOVATIVE TECHNIQUES FOR POLLUTION REDUCTION APPLIED.

Output 3.2.Activities will include the development of demonstration sites involving artificial wetland construction for control of nutrients, evaluation of their effectiveness and promotion of the use elsewhere if appropriate. Reviews of new technologies for treating nutrients in wastewater will be evaluated and the information made available to appropriate government agencies and institutions through the project website.

OUTCOME 3.3 STRENGTHENED LEGAL AND REGULATORY PROCESSES TO CONTROL POLLUTION

Output 3.3 Ultimately it is anticipated that the legislation governing sub-standard waters will be strengthened and improved. This will involve review of the standards and levels recommended in current international agreements and evaluation of their suitability for adoption in the participating countries. Stakeholder workshops will be convened in each country to publicise the outcomes and recommendations of this review.

899 **OUTCOME 3.4 MARINE LITTER CONTROLLED AT SELECTED LOCATIONS**

900
901 **Output 3.4** A regional review of the current policies and regulations regarding solid waste disposal will be
902 undertaken together with a review of current technologies for reducing production of such wastes
903 including recycling opportunities. A regional baseline survey of marine litter will be undertaken and a
904 simple monitoring scheme developed for regional application. At selected locations the project will work
905 with local authorities to improve public awareness of the problems of marine litter, and develop
906 campaigns for beach clean-up utilising NGOs and community groups.

907
908 **COMPONENT 4 IMPROVED ECOSYSTEM CARRYING CAPACITY WITH RESPECT TO SUPPORTING SERVICES.**

909
910 **Outcome 4.1 Maintenance of current areas of habitats; monitoring and mitigation of the impacts of**
911 **reclamation.**

912
913 **Output 4.1** To secure this outcome it will be necessary to: establish and implement a regional
914 conservation plan for biodiversity including explicit targets for habitat and species conservation; develop
915 regional guidelines for coastal habitat management; control and minimize new coastal reclamation;
916 improve the mitigation of reclamation impacts on adjacent habitats; promote public awareness of the
917 benefits of biodiversity conservation; and institute mechanisms for early stakeholder consultations
918 regarding development and management plans.

919
920 **OUTCOME 4.2 MPA NETWORK STRENGTHENED IN THE YELLOW SEA**

921
922 **Output 4.2** The current MPAs in the Yellow Sea are insufficient to conserve the rich biodiversity of this
923 LME and it will be necessary to analyse the linkages, biological, environmental and human, between the
924 existing sites in order to identify gaps in the system. New MPAs will be developed to ensure the
925 establishment of a regionally representative network. Effectiveness of the MPA networks will be evaluated
926 by assessing the maintenance and change of biodiversity in MPAs. MPA managers, NGOs and
927 community groups will be networked through the project and via exchanges and visits between sites.
928 Stakeholder capacity will be strengthened through the convening of regional and national workshops on
929 sustainable use of MPAs.

930
931 **Outcome 4.3 Wider participation in SAP implementation fostered through capacity building and**
932 **public awareness**

933
934 **Output 4.3** The project will sponsor a network of NGOs to work together in building public awareness of
935 environmental issues and problems in the Yellow Sea. Other activities will include: establishment of a
936 biodiversity small grant fund; sponsoring of public awareness programmes at national demonstration
937 sites; regional training on ecotourism at MPAs and other locations; assessment of the trend in introduced
938 species; exchange of information and experiences.

939
940
941 **OUTCOME 4.4 ADAPTIVE MANAGEMENT MAINSTREAMED TO ENHANCE THE RESILIENCE OF THE YSLME AND**
942 **REDUCE THE VULNERABILITY OF COASTAL COMMUNITIES TO CLIMATE CHANGE IMPACTS ON ECOSYSTEM**
943 **PROCESSES AND OTHER THREATS IDENTIFIED IN THE TDA AND SAP**

944
945
946 **Output 4.4** A key activity will be the establishment of a comprehensive regional monitoring system that
947 will provide data and information regarding trends and changes in environmental conditions over both the
948 short and long-term. Assessment of the scale and magnitude of observed and future changes and
949 associated risks, will involve modelling and the development of scenarios that can be used in
950 management decision making. The initial foci will centre on nutrients and changes in nutrient ratios,
951 frequency and magnitude of algal and jellyfish blooms; changes in sea surface temperature and basin
952 circulation, extent and condition of coastal habitats and the RWGs will play an important role in
953 establishing the monitoring system, developing and applying models and scenario development.

954

955 **2.5 Key indicators, risks and assumptions**

956

Risk	Risk Type	Risk Mitigation Measures
A critical external risk lies in the position of DPRK vis-à-vis resolutions of the UN that may make it difficult for DPRK to actively participate in this project	Political	This risk is beyond the project capability to address. UNDP will re-establish a country office and programme in DPRK in 2010.
Potential conflicts between the participating countries could occur over project resources and the use and management of the shared resources of the Yellow Sea LME.	Political	This risk is considered medium-low, as ROK and China have had experience in conflict resolution through negotiations such as the successful implementation of co-operative cruises of the YSLME project. With the countries' signatures agreeing to co-operate in the SAP and a Commission overseeing SAP implementation, any conflicts should be resolved at a high policy level with regional co-operation.
Lack of governance reforms might prevent implementation of management actions and impede the objective of sustaining ecosystem carrying capacity.	Operational	This is considered a low risk. Governance analyses have been carried out in Project Phase I and governance-related management actions are recommended in the SAP to ensure effective implementation of governance reforms. Governance reforms will support long-term sustainability of the Commission and the entire ecosystem-based management process.
Environmental variability and climate change could alter ecosystem functions and reduce ecosystem services.	Environment	This is considered low risk. An SAP demonstration activity has already been carried out to evaluate the impacts of climate variability and change on the YS, and its full implementation is scheduled under the proposed project. The Commission will guide adaptive management to meet such global changes.
Lack of long-term institutional sustainability may inhibit the long-term benefits of the SAP to the region.	Strategic	This is a common risk in GEF projects which the establishment of a sustainably financed Commission seeks to solve by the end of the project. Due to the varying levels of capacity and economic development among the participating countries this risk is considered medium-low. The Commission will guide aspects such as financing mechanisms, stakeholder participation, and capacity building programs to ensure that the technical and institutional benefits from the SAP continue beyond the project's life span.

957

958

959 **2.6 Financial modality**

960

961 70. This is a GEF grant financed project for which UNDP is the Implementing Agency and UNOPS the
 962 GEF Executing Agency. Financial management of the GEF grant is the responsibility of UNOPS that will
 963 disburse funds to the national partner agencies, monitor expenditures and maintain fiscal oversight of all
 964 expenditures. Activities in ROK will be financed through the national budget and funds will be managed in
 965 accordance with the ROK financial rules and regulations.

966

967 **2.7 Cost-effectiveness**

968

969 71. It is difficult to see how this project could be made more cost-effective since many of the proposed
 970 activities have been piloted during the first phase project and the validity of the approaches verified. The
 971 proposed actions and the management framework have been proposed on the basis of previous
 972 experience in the Yellow Sea region and on the basis of documented experiences and lessons learned
 973 from previous GEF projects, in particular the Benguela Current LME, and the South China Sea projects.
 974 Management costs are in line with the GEF cap of 10% and a considerable in-kind contribution from the
 975 countries augments this management overhead at the national level. Costs associated with the
 976 management and dispersal of country co-financing are assumed by the countries and institutions
 977 concerned.

978

979 2.8 Sustainability

980
981 72. Strategic sustainability has already been greatly enhanced with the approval of the Yellow Sea SAP,
982 which effectively demonstrates that the countries are committed to long range environmental objectives
983 and are willing to begin the process of SAP implementation. Linkages between the SAP and each
984 country's NSAP will form a crucial element of the Project's sustainability strategy. Furthermore the
985 implementation of the NSAPs can be seen as an indicator of real commitment by the participating
986 countries.

987
988 73. A more lasting indicator of sustainability will be Yellow Sea countries commitment to financing a long-
989 term YSLME Commission signs that this will be achieved can already be seen in the expressed
990 willingness of China and ROK to provide bridging finance for the operation of the PMO following
991 completion of the first phase project and commencement of the SAP Implementation Project.

992
993 74. Institutional Sustainability. The preliminary investments in developing the SAP and TDA, were not
994 designed as planning processes that would be sustained beyond the life of the project, nevertheless the
995 Inter-Ministry Co-ordination Committee established under the first phase project in China and ROK will be
996 maintained and strengthened during the second phase project in order that these might play a seminal
997 role in the functioning of the YSLME Commission once established. The proposed regional and national
998 bodies that will form part of the YSLME SAP Implementation Facility represent a continuation of bodies
999 and functions tried and tested during the phase 1 project. It is anticipated that once the YSLME
1000 Commission is legally established these bodies will continue to exist.

1001
1002 75. Financial Sustainability. The main indicator of financial sustainability will be the extent to which the
1003 countries themselves undertake the financing of the YSLME Commission as the body responsible for
1004 future implementation of SAP activities. The present project seeks to engage the countries in a dialogue
1005 that will result in agreement on future financing of SAP implementation once the project is completed.
1006 Ample evidence exists to demonstrate the willingness of China and ROK to make substantial financial
1007 inputs to addressing the environmental problems of the Yellow Sea as evidence by the extent of co-
1008 financing approved by each of these countries to this project.

1009
1010 76. Social Sustainability: Broader involvement of stakeholders in as many aspects of the Project as
1011 possible is an important factor of overall project success. The Project will especially promote broad
1012 stakeholder involvement in the preparation of legislative changes as this sector will have the most
1013 widespread and long lasting impact on residents of the Yellow Sea.

1014 2.9 Replicability

1015
1016
1017 77. The proposed project has the potential to provide lessons that can be adapted to other regions of the
1018 world, particularly those aiming to adopt ecosystem-based management approaches to bioresources
1019 conservation and management of Large Marine Ecosystems. The project will document the lessons in a
1020 form that facilitates their replication, and will actively participate in GEF and other activities that seek to
1021 promote replication and sharing of experiences, such as IW:LEARN and the Biennial GEF IW
1022 Conferences. In addition it is anticipated that the lessons and experiences from successful interventions
1023 undertaken in this project will be promoted through the PEMSEA and SDS-SEA frameworks.

1024
1025

3. PROJECT RESULTS FRAMEWORK:

The draft activities list completed in March 2009 will need to be adjusted to fit the requirements of this table. The revised activities listing is attached as Annex # to this draft

<p>This project will contribute to achieving the following Country Programme Outcome as defined in CPAP or CPD: China: Outcome 7. Conservation and sustainable use of biodiversity is more effective. DPRK: To be completed after re-opening of UNDP Office in the country.</p>
<p>Country Programme Outcome Indicators: Strengthened co-ordination mechanism set up among national and international partners for effective management of biodiversity for mainstreaming biodiversity into planning and investment processes; biodiversity conservation in protected areas; biodiversity conservation in production landscapes.</p>
<p>Primary applicable Key Environment and Sustainable Development Key Result Area (same as that on the cover page, circle one): 1. Mainstreaming environment and energy OR 2. Catalyzing environmental finance OR 3. Promote climate change adaptation OR 4. Expanding access to environmental and energy services for the poor.</p>
<p>Applicable GEF Strategic Objective and Program: International Waters Strategic Priority 1; and Strategic Priority 2</p>
<p>Applicable GEF Expected Outcomes:</p> <p>1 Sustainable regional and national co-operation for ecosystem based management, based on strengthened institutional structures and improved knowledge for decision making</p> <p>1.1 Regional Governance structure, the YSLME Commission established and functional based on: strengthened partnerships & regional co-ordination; wider stakeholder participation and enhanced public awareness.</p> <p>1.2 Sustainable financing for regional collaboration on ecosystem-based management secured, based on cost efficient and ecologically effective actions</p> <p>1.3 Improved inter-sectoral co-ordination and collaboration at the national level, based on: more effective IMCCs; wider stakeholder participation; improved environmental awareness; enhanced capacity to implement ecosystem-based management.</p> <p>1.4 . Enhanced legal instruments to comply with regional & global treaties/guidelines</p> <p>2. Improved Ecosystem Carrying Capacity with respect to provisioning services</p> <p>2.1 Depleted Fish stocks recovering</p> <p>2.2 Enhanced stocks through restocking and habitat improvement</p> <p>2.3 Enhanced mariculture production, sustainability, and quality</p> <p>2.4 Reduction and control of pollutant discharge from mariculture operations</p> <p>3 Improved Ecosystem Carrying Capacity with respect to regulating and cultural services</p> <p>3.1 Ecosystem health improved through reductions in pollutant discharge e.g. 10% reduction in N per 5 years</p> <p>3.2 New and innovative techniques for pollution reduction applied</p> <p>3.3 Strengthened legal and regulatory process to control pollution</p> <p>3.4 Marine litter controlled at selected locations</p> <p>4 Improved Ecosystem Carrying Capacity with respect to supporting services</p> <p>4.1 Biological diversity conserved; current areas of habitats maintained; reclamation impacts monitored and mitigated</p> <p>4.2 MPA networks strengthened in the Yellow Sea</p> <p>4.3 Wider participation in SAP implementation fostered through capacity building and public awareness</p> <p>4.4 Adaptive management mainstreamed to meet the potential challenges of: climate change impacts on ecosystem processes and other threats identified in the TDA and SAP</p>

Applicable GEF Outcome Indicators:					
	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
Project Objective² To foster long-term sustainable institutional, policy, and financial arrangements for effective ecosystem-based management of the Yellow Sea (YS) in accordance with the YSLME Strategic Action Programme.	YSLME Commission established and functioning with sustainable financing to implement the SAP	<i>Ad hoc</i> regional co-ordination and weak cross sectoral management at the national level	Functioning YSLME Commission; Terms of Reference for the YSLME Commission approved by all participating country Governments	Meeting reports; Government approvals issued by the competent national authorities	External risks stem from the geopolitical situation and may result in one or more countries either not participating or participating only partially
Outcome 1³ Sustainable regional and national co-operation for ecosystem based management, based on strengthened institutional structures and improved knowledge for decision making	YSLME Commission and subsidiary bodies functioning at regional level; enhanced cross sectoral co-ordination at the national level	Weak or no regional co-ordination; weak cross sectoral management at the national level; insufficient funding for regional actions and collaboration;	Regional and bilateral partnerships established; wider stakeholder participation; enhanced public awareness: Sustainable financing (150% of present contributions) Cost efficient and ecologically effective actions Improved inter-sectoral co-ordination and collaboration at the national level Improved compliance with regional and International agreements	Signed Partnership agreements; Active stakeholder participation in regional and national implementation of the SAP and NSAPs Letters of commitment Published annual reviews of costs and biennial reviews of the effects of management actions Reports of IMMC and NWG meetings Regional Guidelines for implementing the FAO Code of Conduct Domestic legislation amended to meet international standards	Potential partners unwilling to make formal commitments, this is of low probability Stakeholders unwilling to participate unlikely Governments unwilling to actively engage the NGO community – possible Government Ministries/departments unwilling to share development and management plans, unlikely given the history of collaboration established during the phase 1 project.
Outcome 2 (equivalent to activity in ATLAS) Improved Ecosystem Carrying Capacity with respect to provisioning services	Number of fishing boats removed from the fleet Depleted Fish stocks recovering Stocks enhanced through restocking and	Actions to reduce fishing boat nos remain unco-ordinated Some recovery depending upon national actions	Fishing boat numbers substantially reduced in line with the 2020 target of 30% reduction Measurable improvement in standing stock and catch per unit effort Future management decisions on	Government reports of boats decommissioned Joint and national resource survey cruise data; catch records Published reports of evaluations by the RWG-F	Government policy changes, making buyback a low priority. This is unlikely to arise in China and ROK Difficulties in negotiating the cruises causes delay or cancellation low probability due to past success in the

² Objective (Atlas output) monitored quarterly ERBM and annually in APR/PIR

³ All outcomes monitored annually in the APR/PIR. It is highly recommended not to have more than 4 outcomes.

	<p>habitat improvement</p> <p>Enhanced mariculture production, sustainability and quality</p> <p>Reduction and control of pollutant discharge from mariculture operations</p>	<p>Effectiveness of restocking and habitat protection not evaluated</p> <p>Quality and quantity/unit area decline</p> <p>Little reduction in impacts of mariculture,</p>	<p>restocking based on effectiveness</p> <p>Mariculture production per unit area increased, with less contamination of products</p> <p>Reduced nutrient and other discharges from mariculture installations</p>	<p>Reviews of production data published by the RWG-M</p> <p>Reviews of discharge data published by the RWG-M</p>	<p>organisation</p> <p>Mariculture enterprises unwilling to adopt polyculture in place of monoculture, this is considered of low probability</p>
<p>Outcome 3 (equivalent to activity in ATLAS) Improved Ecosystem Carrying Capacity with respect to regulating and cultural services</p>	<p>Reductions in pollutant discharges e.g. 10% reduction in N per 5 years</p> <p>New and innovative techniques for pollution reduction applied</p> <p>Strengthened legal and regulatory process to control pollution</p> <p>Marine litter controlled at selected locations</p>	<p>Discharge reductions do not meet the regional target</p> <p>Some innovation may be undertaken nationally but without regional co-ordination or dissemination of results</p> <p>Little change likely from the present situation</p> <p>Due to a lack of appreciation of the problem little action will occur</p>	<p>Reductions in key contaminants of 10%</p> <p>Demonstration of use of artificial wetlands in pollution control successful, and adopted by other coastal municipalities and local government units.</p> <p>Improved legislation governing sub-standard waters</p> <p>Regional Guidelines on control of marine litter based on those of NOWPAP produced and adopted for use in the Yellow Sea</p> <p>Quantities of marine litter at selected beach locations significantly reduced</p>	<p>Monitoring reports and data published on the project website</p> <p>Published reports on effectiveness of artificial wetlands in reducing nutrients</p> <p>Approved legislation</p> <p>Published guidelines</p> <p>Data and information contained in RWG-P reports available via the project website</p>	<p>Possible risk of non-compliance by polluting enterprises, considered a moderate risk in China</p> <p>New techniques not widely adopted considered a moderate risk if publicising the outcomes of the demonstration is inadequate</p>
<p>Outcome 4 (equivalent to activity in ATLAS) Improved Ecosystem Carrying Capacity with respect to supporting services</p>	<p>maintenance of current areas of habitats; monitoring and mitigation of reclamation impacts</p> <p>MPA networks strengthened in the Yellow Sea</p> <p>Wider participation in SAP implementation fostered through capacity building and public awareness</p> <p>Adaptive management mainstreamed to meet</p>	<p>Highly likely that coastal habitats will continue to be reclaimed unchecked</p> <p>Unlikely to occur since this requires regional co-ordination</p> <p>Unlikely to occur if the SAP implementation is not co-ordinated regionally</p> <p>National Monitoring will continue without</p>	<p>Where possible new reclamation projects stopped or impacts mitigated</p> <p>Existing MPAs networked and gaps identified leading to identification of priority sites for future MPA establishment.</p> <p>Wider and stronger participation of local government units, NGOs and the private sector in SAP implementation</p> <p>Comprehensive regional monitoring network established and data shared</p>	<p>Reports of the meetings of the RWG-H. Biennial state of the environment reviews</p> <p>Published GAP analysis for MPA network</p> <p>Numbers of stakeholder groups represented in meetings or engaged as sub-contractors/partners in execution of SAP related activities</p> <p>Monitoring data reported to RWGs and lodged on project website,; models developed and published; regional forecasts and scenarios of</p>	<p>Provincial and Local Governments continue to encourage land reclamation. This is considered a moderately high risk</p> <p>Provincial and local governments may not agree to the establishment of new MPAs,</p>

the potential challenges of: climate change impacts on ecosystem processes and other threats identified in the TDA and SAP regional harmonisation making regional analyses difficult or impossible regionally via the project web site. Regular basin wide assessments; enhanced information exchange; periodic scenarios of ecosystem change future conditions published.

TOTAL BUDGET AND WORKPLAN

The Budget prepared in the context of the PIF needs to be re-worked once the co-financing has been agreed in order to fit with the following table.

Award ID:	<i>must be created before submission for GEF CEO approval and entered in the submission documents</i>	Project ID(s):	<i>must be created before submission for GEF CEO approval and entered in the submission documents.</i>
Award Title:	Country Name Project Title		
Business Unit:	<i>must be created before submission for GEF CEO approval and entered in the submission documents</i>		
Project Title:	Country Name Project Title		
PIMS no. [REDACTED]	<i>must be created before submission for GEF CEO approval and entered in the submission documents.</i>		
Implementing Partner (Executing Agency)	UNOPS		

GEF Outcome/Atlas Activity	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Total (USD)	See Budget Note:
OUTCOME 1: (as per the results framework)	Party 1	62000 (62160) (62180)	GEF (LDCF) (SCCF) Or other donor ...	71200	International Consultants	\$	\$	\$	\$	\$	x
				71300	Local Consultants	\$	\$	\$	\$	\$	x
					Contractual services	\$	\$	\$	\$	\$	
					etc	\$	\$	\$	\$	\$	
					sub-total GEF	\$	\$	\$	\$	\$	
	xxxxx	Donor 2⁴	71200	International Consultants	\$	\$	\$	\$	\$	x	

⁴ Only cash co-financing (cost sharing at project level or other trust funds) actually passing through UNDP accounts should be entered here and in Atlas. Other co-financing should NOT be shown here.

				71600	Travel	\$	\$	\$	\$	\$	
				71300	Local Consultants	\$	\$	\$	\$	\$	
					Etc	\$	\$	\$	\$	\$	
					sub-total Donor 2	\$	\$	\$	\$	\$	
		etc	etc	etc	etc						
		62000 (62160) (62180)	Or other donor	71300	Local Consultants	\$	\$	\$	\$	\$	x
					Sub-total GEF	\$	\$	\$	\$	\$	
		xxxxx	Donor 2		Contractual services	\$	\$	\$	\$	\$	
				72500	Office Supplies	\$	\$	\$	\$	\$	
				74500	Miscellaneous	\$	\$	\$	\$	\$	
					sub-total Donor 2	\$	\$	\$	\$	\$	
					Total Outcome 1	\$	\$	\$	\$	\$	
OUTCOME 2: (as per the results framework)	Party 1	62000 (62160) (62180)	GEF (LDCF) (SCCF) Other donor	71200	International Consultants	\$	\$	\$	\$	\$	x
				71300	Local Consultants	\$	\$	\$	\$	\$	x
					Contractual services	\$	\$	\$	\$	\$	
					sub-total GEF	\$	\$	\$	\$	\$	
		xxxxx	Donor 2	72500	Office Supplies	\$	\$	\$	\$	\$	
				74500	Miscellaneous	\$	\$	\$	\$	\$	
					sub-total donor 2	\$	\$	\$	\$	\$	
					Total Outcome 2	\$	\$	\$	\$	\$	
OUTCOME 3: (as per the results framework)	etc	etc	etc								
OUTCOME 4: MONITORING, LEARNING, ADAPTIVE FEEDBACK & EVALUATION (as per the results framework and M&E)	Party 1	62000 (62160) (62180)	GEF (LDCF) (SCCF) Or other donor	71200	International Consultants	\$	\$	\$	\$	\$	x
				71300	Local Consultants	\$	\$	\$	\$	\$	x
					Contractual services	\$	\$	\$	\$	\$	
					sub-total GEF	\$	\$	\$	\$	\$	
		xxxxx	Donor 2	72500	Office Supplies	\$	\$	\$	\$	\$	

Plan and Budget)				74500	Miscellaneous	\$	\$	\$	\$	\$	
					sub-total donor 2	\$	\$	\$	\$	\$	
					Total Outcome 5	\$	\$	\$	\$	\$	
PROJECT MANAGEMENT UNIT (This is not to appear as an Outcome in the Results Framework and should not exceed 10% of project budget)	Party 1	62000 (62160) (62180)	GEF (LDCF) (SCCF) Or other donor	71200	International Consultants	\$	\$	\$	\$	\$	x
				71300	Local Consultants	\$	\$	\$	\$	\$	x
				71600	Travel	\$	\$	\$	\$	\$	
				72500	Office Supplies	\$	\$	\$	\$	\$	
				74500	Miscellaneous	\$	\$	\$	\$	\$	
					sub-total	\$	\$	\$	\$	\$	
			Donor 2	71200	International Consultants	\$	\$	\$	\$	\$	x
		71300		Local Consultants	\$	\$	\$	\$	\$	x	
		71600		Travel	\$	\$	\$	\$	\$		
		72500		Office Supplies	\$	\$	\$	\$	\$		
		74500		Miscellaneous	\$	\$	\$	\$	\$		
				sub-total	\$	\$	\$	\$	\$		
					Total Management	\$	\$	\$	\$	\$	
		PROJECT TOTAL						\$	\$	\$	\$

Summary of Funds: ⁵

	Amount Year 1	Amount Year 2	Amount Year 3	Amount Year 4	Total
GEF	\$	\$	\$	\$	\$
Donor 2 (e.g. UNDP)	\$	\$	\$	\$	\$
Donor 3 (cash and in-kind) e.g. Government	\$	\$	\$	\$	\$
TOTAL	\$	\$	\$	\$	\$

⁵ Summary table should include all financing of all kinds: GEF financing, cofinancing, cash, in-kind, etc...

4. MANAGEMENT ARRANGEMENTS (SEE UNDP POPP FOR FURTHER DETAILS)

5. MANAGEMENT ARRANGEMENTS

78. A YSLME SAP Implementation Facility shall be established as the overall framework within which regional efforts in ecosystem based management shall be undertaken, until the completion of the GEF/UNDP second phase project. The SAP Implementation Facility shall include: a Project Board (*sensu* UNDP); an Intergovernmental Commission Task Force charged with responsibility for defining the structure, roles and responsibilities of a future YSLME Commission; a regional Management Scientific and Technical Panel and various Regional Working Groups. Terms of Reference, membership, roles and responsibilities of these bodies are defined in Annex of the present document.

79 The Intergovernmental Commission Task Force will complete the technical drafting and other preparations for establishment of the YSLME Commission by the time of the Mid-term review. These preparatory outputs shall include an agreed structure, together with terms of reference for the Commission, its Council and subsidiary bodies, together with recommendations regarding sustainable financing of the Commission and activities designed to implement the SAP, During the second half of project implementation the Governments shall individually and severally consider, amend as appropriate and approve: the structure of the Commission; the Terms of Reference for the Council and subsidiary bodies; and the mechanisms to ensure sustainable financing of the Commission beyond the life of the UNDP/GEF project. The Yellow Sea Large Marine Ecosystem Commission shall be formally established as a non-legally binding, co-operative and consensus-based mechanism to co-ordinate, and enhance, regional and national efforts to implement the Yellow Sea SAP prior to completion of the UNDP/GEF project.

80. The Project Board, together with the subsidiary bodies detailed in Annex of this document shall be established to oversee the implementation of the UNDP/GEF Project and shall be responsible for making management decisions and providing guidance as required by the Project Manager. The Terms of Reference for the Project Board and its subsidiary bodies are included in Annex ## of this document. The Project Board plays a critical role in project monitoring and evaluations by quality assuring these processes and products, and using evaluations for performance improvement, accountability and learning. It ensures that required resources are committed and arbitrates on any conflicts within the project or negotiates a solution to any problems with external bodies. In addition, it approves the appointment and responsibilities of the Project Manager and any delegation of its Project Assurance responsibilities. Based on the approved Annual Work Plan, the Project Board, can also consider and approve the quarterly plans (if applicable) and also approve any essential deviations from the original plans.

81. In order to ensure UNDP's ultimate accountability for the project results, Project Board decisions will be made in accordance with standards that shall ensure management for development results, best value for money, fairness, integrity, transparency and effective international competition. In case consensus cannot be reached within the Board, the final decision shall rest with the UNDP Project Manager. The membership of the UNDP Project Board includes :

Executive members, namely the GEF Operational Focal Points from each participating country, or their designated alternatives:
Senior Suppliers: represented by UNDP/GEF and UNOPS
Senior Beneficiaries: namely representatives from the GEF Implementing Agencies in each country

82. The **Project Assurance** role is the responsibility of the UNDP/GEF representative who supports the Project Board Executive by carrying out objective and independent project oversight and monitoring functions.

83. Project Manager: The Project Manager shall have the authority to run the project on a day-to-day basis on behalf of the Implementing Partner within the constraints laid down by the Board. The Project Manager's prime responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost.

84. Project Support: UNOPS shall provide project administration, management and technical support to the Project Manager as required by the needs of the project or Project Manager.

6. MONITORING FRAMEWORK AND EVALUATION

85. The project will be monitored through the following M& E activities. The M& E budget is provided in the table below.

86. Project start: A Project Inception Workshop will be held within the first 2 months of project start with those with assigned roles in the project organisation structure, UNDP country office and where appropriate/feasible regional technical policy and programme advisors as well as other stakeholders. The Inception Workshop is crucial to building ownership for the project results and to plan the first year annual work plan. An Inception Workshop report is a key reference document and must be prepared and shared with participants to formalize various agreements and plans decided during the meeting.

87. The Inception Workshop should address a number of key issues including:

- a) Assist all partners to fully understand and take ownership of the project. Detail the roles, support services and complementary responsibilities of UNDP CO and RCU staff vis à vis the project team. Discuss the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff will be discussed again as needed.
- b) Based on the project results framework and the relevant GEF Tracking Tool if appropriate, finalize the first annual work plan. Review and agree on the indicators, targets and their means of verification, and recheck assumptions and risks.
- c) Provide a detailed overview of reporting, monitoring and evaluation (M&E) requirements. The Monitoring and Evaluation work plan and budget should be agreed and scheduled.
- d) Discuss financial reporting procedures and obligations, and arrangements for annual audit.
- e) Plan and schedule Project Board meetings. Roles and responsibilities of all project organisation structures should be clarified and meetings planned. The first Project Board meeting should be held within the first 12 months following the inception workshop.

88. Quarterly:

- Progress made shall be monitored in the UNDP Enhanced Results Based Management Platform.
- Based on the initial risk analysis submitted, the risk log shall be regularly updated in ATLAS. Risks become critical when the impact and probability are high. Note that for UNDP GEF projects, all financial risks associated with financial instruments such as revolving funds, microfinance schemes, or capitalization of ESCOs are automatically classified as critical on the basis of their innovative nature (high impact and uncertainty due to no previous experience justifies classification as critical).
- Based on the information recorded in Atlas, a Project Progress Reports (PPR) can be generated in the Executive Snapshot.
- Other ATLAS logs can be used to monitor issues, lessons learned etc... The use of these functions is a key indicator in the UNDP Executive Balanced Scorecard.

89. Annually: Annual Project Review/Project Implementation Reports (APR/PIR): This key report is prepared to monitor progress made since project start and in particular for the previous reporting period (30 June to 1 July). The APR/PIR combines both UNDP and GEF reporting requirements. The APR/PIR includes, but is not limited to, reporting on the following:

- Progress made toward project objective and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative)
- Project outputs delivered per project outcome (annual)
- Lesson learned/good practice
- AWP and other expenditure reports
- Risk and adaptive management
- ATLAS Quarterly Project Report (QPR)
- Portfolio level indicators (i.e. GEF focal area tracking tools) are used by most focal areas on an annual basis as well.

90. Periodic Monitoring through site visits: UNDP CO and the UNDP RCU will conduct visits to project sites based on the agreed schedule in the project's Inception Report/Annual Work Plan to assess first hand project progress. Other members of the Project Board may also join these visits. A Field Visit Report/BTOR will be prepared by the CO and UNDP RCU and will be circulated no less than one month after the visit to the project team and Project Board members.

91. Mid-term of project cycle: The project will undergo an independent Mid-Term Evaluation at the mid-point of project implementation (early 2013). The Mid-Term Evaluation will determine progress being made toward the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organisation, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF. The management response and the evaluation will be uploaded to UNDP corporate systems, in particular the UNDP Evaluation Office Evaluation Resource Center (ERC). The relevant GEF Focal Area Tracking Tools will also be completed during the mid-term evaluation cycle.

92. End of Project: An independent Final Evaluation will take place three months prior to the final Project Board meeting and will be undertaken in accordance with UNDP and GEF guidance. The final evaluation will focus on the delivery of the project's results as initially planned (and as corrected after the mid-term evaluation, if any such correction took place). The final evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits/goals. The Terms of Reference for this evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF. The Terminal Evaluation should also provide recommendations for follow-up activities and requires a management response which should be uploaded to PIMS and to the UNDP Evaluation Office Evaluation Resource Center (ERC). The relevant GEF Focal Area Tracking Tools will also be completed during the final evaluation.

93. During the last three months, the project team will prepare the Project Terminal Report. This comprehensive report will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems met and areas where results may not have been achieved. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's results.

94. Learning and knowledge sharing: Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation through lessons learned. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects. Finally, there will be a two-way flow of information between this project and other projects of a similar focus.

M& E work plan and budget

Type of M&E activity	Responsible Parties	Budget US\$ Excluding project team staff time	Time frame
<i>Inception Workshop and Report</i>	<ul style="list-style-type: none"> ▪ Project Manager ▪ UNDP CO, UNDP GEF 	<i>Indicative cost: 10,000</i>	<i>Within first two months of project start up</i>
<i>Measurement of Means of Verification of project results.</i>	<ul style="list-style-type: none"> ▪ UNDP GEF RTA/Project Manager will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members. 	<i>To be finalized in Inception Phase and Workshop.</i>	<i>Start, mid and end of project (during evaluation cycle) and annually when required.</i>
<i>Measurement of Means of Verification for Project Progress on output and implementation</i>	<ul style="list-style-type: none"> ▪ Oversight by Project Manager ▪ Project team 	<i>To be determined as part of the Annual Work Plan's preparation.</i>	<i>Annually prior to ARR/PIR and to the definition of annual work plans</i>
<i>ARR/PIR</i>	<ul style="list-style-type: none"> ▪ Project manager and team ▪ UNDP CO ▪ UNDP RTA ▪ UNDP EEG 	<i>None</i>	<i>Annually</i>
<i>Periodic status/ progress reports</i>	<ul style="list-style-type: none"> ▪ Project manager and team 	<i>None</i>	<i>Quarterly</i>
<i>Mid-term Evaluation</i>	<ul style="list-style-type: none"> ▪ Project manager and team ▪ UNDP CO ▪ UNDP RCU ▪ External Consultants (i.e. evaluation team) 	<i>Indicative cost: 40,000</i>	<i>At the mid-point of project implementation.</i>
<i>Final Evaluation</i>	<ul style="list-style-type: none"> ▪ Project manager and team, ▪ UNDP CO ▪ UNDP RCU ▪ External Consultants (i.e. evaluation team) 	<i>Indicative cost : 40,000</i>	<i>At least three months before the end of project implementation</i>
<i>Project Terminal Report</i>	<ul style="list-style-type: none"> ▪ Project manager and team ▪ UNDP CO ▪ local consultant 	<i>0</i>	<i>At least three months before the end of the project</i>
<i>Audit</i>	<ul style="list-style-type: none"> ▪ UNDP CO ▪ Project manager and team 	<i>Indicative cost per year: 3,000</i>	<i>Yearly</i>
<i>Visits to field sites</i>	<ul style="list-style-type: none"> ▪ UNDP CO ▪ UNDP RCU (as appropriate) ▪ Government representatives 	<i>For GEF supported projects, paid from IA fees and operational budget</i>	<i>Yearly</i>
TOTAL indicative COST <i>Excluding project team staff time and UNDP staff and travel expenses</i>		US\$ 187,000 <i>(+/- 5% of total budget)</i>	

6. LEGAL CONTEXT

95. This project forms part of an overall programmatic framework under which several separate associated country level activities will be implemented. When assistance and support services are provided from this Project to the associated country level activities, this document shall be the "Project Document" instrument referred to in: (i) the respective signed SBAA's for the specific countries; or (ii) in the Supplemental Provisions attached to the Project Document in cases where the recipient country has not signed an SBAA with UNDP, attached hereto and forming an integral part hereof.

96. This project will be implemented by UNOPS in accordance with its financial regulations, rules, practices and procedures only to the extent that they do not contravene the principles of the Financial Regulations and Rules of UNDP. Where the financial governance of an Implementing Partner does not provide the required guidance to ensure best value for money, fairness, integrity, transparency, and effective international competition, the financial governance of UNDP shall apply.

97. The responsibility for the safety and security of the Implementing Partner and its personnel and property, and of UNDP's property in the Implementing Partner's custody, rests with the Implementing Partner. The Implementing Partner shall: (a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried; (b) assume all risks and liabilities related to the Implementing Partner's security, and the full implementation of the security plan. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

98. The Implementing Partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via <http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm>. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

7 ANNEXES

The following are UNDP required annexes

Risk Analysis. Use the standard UNDP Atlas [Risk Log template](#). For UNDP GEF projects in particular, please outline the risk management measures including improving resilience to climate change that the project proposes to undertake.

Agreements. Any additional agreements, such as cost sharing agreements, project cooperation agreements signed with NGOs⁶ (where the NGO is designated as the "executing entity", letters of financial commitments, GEF OFP letter, GEF PIFs and other templates for all project types) should be attached.

Terms of Reference: TOR for key project personnel should be developed and attached.

Capacity Assessment: Results of capacity assessments of Implementing Partner (including HACT Micro Assessment)

⁶ For GEF projects, the agreement with any NGO pre-selected to be the main contractor should include the rationale for having pre-selected that NGO.

ANNEX 1 OFFLINE RISK LOG

(see [Deliverable Description](#) for the Risk Log regarding its purpose and use)

Project Title:	Award ID:	Date:
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#	Description	Date Identified	Type	Impact & Probability	Countermeasures / Mngt response	Owner	Submitted, updated by	Last Update	Status
1	Enter a brief description of the risk <i>(In Atlas, use the Description field. Note: This field cannot be modified after first data entry)</i>	When was the risk first identified <i>(In Atlas, select date. Note: date cannot be modified after initial entry)</i>	Environmental Financial Operational Organisational Political Regulatory Strategic Other <i>Subcategories for each risk type should be consulted to understand each risk type (see Deliverable Description for more information)</i> <i>(In Atlas, select from list)</i>	Describe the potential effect on the project if this risk were to occur Enter probability on a scale from 1 (low) to 5 (high) P = Enter impact on a scale from 1 (low) to 5 (high) I = <i>(in Atlas, use the Management Response box. Check “critical” if the impact and probability are high)</i>	What actions have been taken/will be taken to counter this risk <i>(in Atlas, use the Management Response box. This field can be modified at any time. Create separate boxes as necessary using “+”, for instance to record updates at different times)</i>	Who has been appointed to keep an eye on this risk <i>(in Atlas, use the Management Response box)</i>	Who submitted the risk <i>(In Atlas, automatically recorded)</i>	When was the status of the risk last checked <i>(In Atlas, automatically recorded)</i>	e.g. reduced increased no change <i>(in Atlas, use Management Response box)</i>
2	External risks stem from the geopolitical situation and may result in one or more countries either not participating or participating only partially	During Project preparation	Political	Potential impacts on inter-governmental regional co-operation P = 2 I = 3	Potential countermeasures are beyond the competency of project management	UNDP/GEF			
3	Potential partners unwilling to make formal commitments	During Project preparation	Operational	Potential impacts on SAP implementation P = 2 I = 2	Careful negotiation by PMO	PMO			

#	Description	Date Identified	Type	Impact & Probability	Countermeasures / Mngt response	Owner	Submitted, updated by	Last Update	Statu
4	Stakeholders unwilling to participate	During Project preparation	Operational	Potential impacts on NSAP implementation P = 1 I = 3	PMO to encourage stakeholders to participate	PMO			
	Governments unwilling to actively engage the NGO community	During Project preparation	Operational	Potential limitation of stakeholder engagement P = 3 I = 2	PMO to encourage governments to engage NGOs in SAP implementation	PMO			
	Government Ministries/departments unwilling to share development and management plans	During Project preparation	Operational	Weak national co-ordination: unlikely given the history of prior collaboration P = 1 I = 2	PMO to discuss and encourage sharing of data and information at all levels	PMO			
	Government policy changes, making boat buyback a low priority.	During Project preparation	Political/Financial	This is unlikely to arise in China and ROK P = 1 I = 4	Potential countermeasures are beyond the competency of project management	PMO			
	Difficulties in negotiating the joint fisheries stock assessment, causes delay or cancellation	During Project preparation	Organisational	low probability due to past success. P = 2 I = 2	PMO to allow sufficient lead time for negotiations	PMO			
	Mariculture enterprises unwilling to adopt integrated multi-trophic aquaculture (IMTA) in place of monoculture	During Project preparation	Operational	this is considered of low probability due to current efforts in introducing IMTA P = 2 I = 4	PMO and NCs to publicise the outcomes of prior demonstrations and assist with technical support where necessary	PMO & NCs			
	Possible risk of non-compliance by polluting enterprises	During Project preparation	Regulatory	considered a moderate risk in China P = 3 I = 3	National Co-ordinators to track situation continuously and seek assistance from PMO if situation beyond their	NCs and PMO			

#	Description	Date Identified	Type	Impact & Probability	Countermeasures / Mngt response	Owner	Submitted, updated by	Last Update	Statu
					competence to address				
	New techniques for pollution reduction not widely adopted	During Project preparation	Operational	Pollution reduction targets not met P = 2 I = 3	PMO and NCs to publicise the outcomes of the demonstration	PMO and NCs			
	National, Provincial and Local Governments continue to encourage land reclamation.	During Project preparation	Organisational	This is considered a moderately high risk without strong project intervention P = 4 I = 3	PMO and NCs to continue publicising the environmentally damaging effects of land reclamation	PMO and NCs			
	Provincial and local governments may not agree to the establishment of new MPAs	During Project preparation	Organisational	Impacts on effectiveness of the MPA network P = 2 I = 3	PMO and NCs to provide evidence of cost effectiveness of MPA network establishment	PMO and NCs			

ANNEX 2 AGREEMENTS

The contents of this annex will be finalised once the substantive portions of the project document have been approved by the countries and will reflect the agreed co-financing.

ANNEX 3 TERMS OF REFERENCE YSLME SAP Implementation Facility Structure

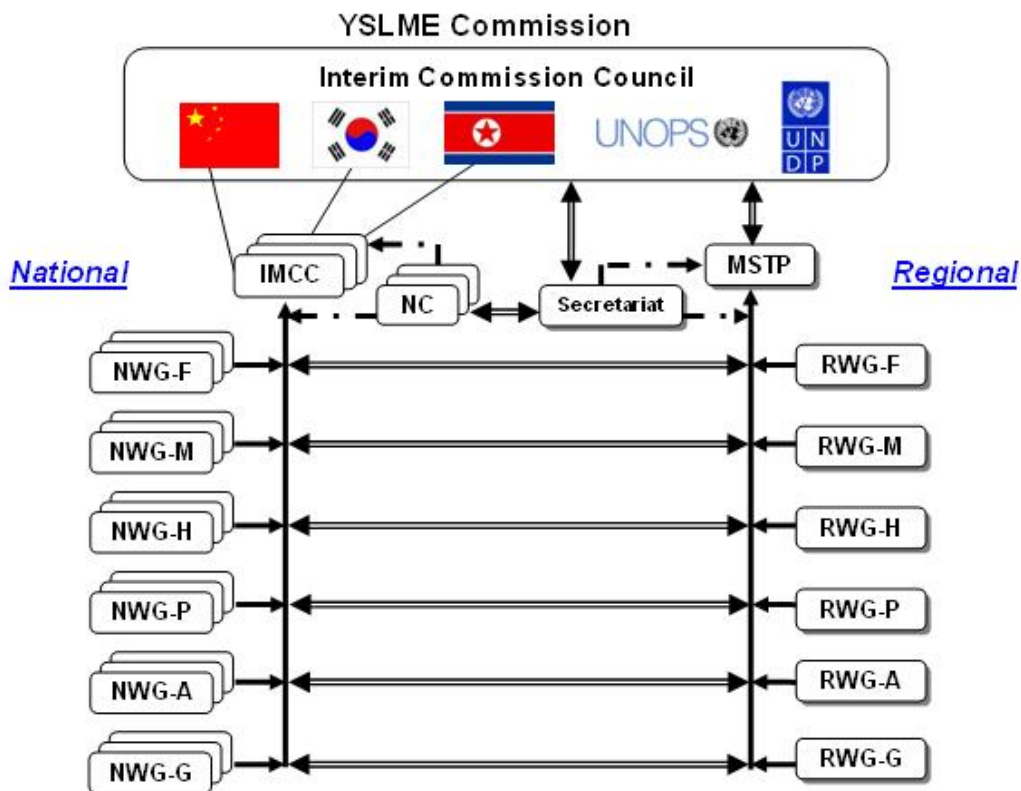
Background

The Yellow Sea SAP aims to facilitate the protection and sustainable use of the marine and coastal resources in the Yellow Sea. To achieve this objective, the SAP contains regional environmental targets and the management actions that are required to meet those targets by 2020.

One of the actions envisaged in both the SAP and the GEF project is the establishment of a YSLME Commission as a permanent institutional framework to continue and expand current efforts made under the first UNDP/GEF YSLME Project. The Commission is envisaged as a soft, non-legally binding, and co-operation based institution that will co-ordinate and enhance regional and national efforts to apply ecosystem based management.

During the implementation of the GEF funded second phase Yellow Sea Project actions to implement the SAP will be operated through transitional arrangements in the form of a YSLME SAP Implementation Facility. The YSLME SAP Implementation Facility shall be established as the overall framework within which regional efforts in ecosystem based management shall be undertaken, until the completion of the GEF/UNDP second phase project. The SAP Implementation Facility shall include: a Project Board (*sensu* UNDP); an Intergovernmental Commission Task Force charged with responsibility for defining the structure, roles and responsibilities of a future YSLME Commission; a regional Management Scientific and Technical Panel and various Regional Working Groups. It is proposed that the SAP Implementation Facility shall consist of the following bodies organised within the framework illustrated in Figure 1.

Figure 1. Framework of the SAP Implementation Facility, that will serve as the management structure for the GEF second Phase yellow Sea Project.



The following is a list of the bodies established at the regional and national levels within this framework:

Regional Level:

- Project Board (PB);
- Management, Science and Technical Panel (MSTP);
- Intergovernmental Commission Task Force (ICTF);
- Regional Working Groups (RWGs).

National Level:

- Inter-Ministry Co-ordinating Committee (IMCC);
- National Working Groups (NWGs); and
- Secretariat including National Co-ordinator (NC).

The UNDP/GEF SAP implementation project is envisaged as the mechanism through which the Commission will be established and its sustainable financing assured. During the period of project implementation an Intergovernmental Commission Task Force will be established to serve as the mechanism for discussing and agreeing the final structure and details of the Permanent Commission.

YSLME SAP Implementation Facility Bodies

Project Board, the Project Board shall serve as the supreme decision-making authority with respect to the implementation of SAP related activities during the execution of the SAP Implementation project. The Project Board membership shall consist of: participating countries represented by GEF National Operational Focal Points (NFPs) or their designated alternates with assistance from the government officials of GEF National Implementing Agencies and the IMCC chairpersons; representatives of UNDP/GEF, UNOPS, and other donor organisations; MSTP chairpersons; and representatives from the private sector and NGOs that are actively contributing to the implementation of the SAP. Regular meetings of the Project Board shall take place once a year. Special meetings may be convened as required. The Project Board provides overall strategic policy and management direction, and considers and approves regional activities and budgets suggested by the MSTP, and secures technical and financial resources necessary for implementing SAP management actions.

Management, Science and Technical Panel (MSTP), this body, provides the RWGs with managerial, scientific, and technical guidance and the Project Board with managerial, scientific, and technical advice. The Panel shall consist of NCs, RWG chairpersons, selected regional experts, and representatives of the private sector and NGOs actively engaged in SAP implementation, together with the Project Manager. Regular meetings are organised once a year, preferably back-to-back with the Project Board meetings. The Panel co-ordinates regional activities across the RWGs; provides them with suggestions to improve the activities; considers budget allocations for each activity; and makes recommendations to the Project Board for their approval of budgets, work plans and the execution of activities.

Intergovernmental Commission Task Force, this body is established to: prepare a detailed framework for the permanent Yellow Sea Large Marine Ecosystem Commission and its subsidiary bodies; terms of reference for each of these bodies; plans for future management arrangements for SAP implementation including the need for, size and staffing of the future Secretariat; future sustainable financing arrangements and requirements. This Task Force is concerned with technical matters and will be constituted by appropriate Senior Officials from the Ministries responsible for Ocean Affairs in each of the participating countries. The Task Force will meet twice a year for the first two and a half years until such time as the technical drafts are presented to the participating governments for political level consideration and approval. The Task Force shall report to the Project Board through the Project Manager, who shall serve as Secretary to the Task Force, and shall receive inputs and advice concerning the various drafts from both the Project Board and the MSTP.

Regional Working Groups (RWGs), The MSTP shall establish such regional working groups as are deemed necessary to effectively plan, co-ordinate and manage the various activities approved by the Project Board. Six such working groups will be established with responsibility for co-ordinating actions at the regional level focusing on: fish stocks (RWG-F); sustainable mariculture (RWG-M); habitat conservation (RWG-H); pollution reduction (RWG-P); monitoring/assessment (RWG-A), and sustainability (socioeconomics and governance (RWG-G). Each Working Group shall consist of experts nominated by the IMCC from each participating country and representatives from the private sector and NGOs. Each RWG shall organise regular annual meetings to prepare work plans for

consideration of the MSTP and approval by the Project Board. Following Project Board approval, the RWGs shall monitor and supervise activities, in accordance with the guidance provided by the MSTP. In addition, the RWGs shall provide technical guidance to relevant NWGs and shall provide advice within its sphere of competence to the MSTP through the RWG chairperson.

Inter-Ministry Co-ordinating committee (IMCC) Each participating country shall establish an IMCC that co-ordinates national activities among relevant national ministries and institutions to ensure smooth implementation of national efforts in line with regional directions and objectives. The IMCC membership shall include the NFP and representatives from relevant ministries in the country. The National Co-ordinator (NC) shall serve as the secretary to the IMCC, and regular meetings shall be convened at least once a year. If more than one meeting is convened in any one year then one of these shall be organised before the annual meeting of the Project Board. The IMCC reviews the work plans that the NWGs prepare and provides them with guidance for improvement when necessary. The IMCC chairperson serves as a member of the Project Board and the IMCC reports to the MSTP through the NC.

National Co-ordinator (NC), a full-time position appointed by the IMCC, the NC serves as the primary national contact for the RWGs and the Project Management Office. The NC co-ordinates national activities among the NWGs under the direction of the IMCC and serves as secretary to the IMCC. The NC assists the NFP in organising IMCC meetings and serves as a member of, and reports on national activities to the MSTP on behalf of the IMCC.

National Working Groups (NWGs), are established at the discretion of the IMCC, and are responsible for the design and implementation of management actions at the national level. Membership shall include environmental managers, scientists, and technical experts in the appropriate field of expertise. In close co-ordination with the respective RWG and the NWGs in other participating countries, each NWG shall prepare national work plans for the IMCC to consider and approve. The chairperson of each NWG reports on its activities to the IMCC.

Project Management Office (PMO), the Project Management Office (PMO) headed by the Project Manager shall serve as the Secretariat to the YSLME SAP Implementation Facility and shall provide administrative support and regional co-ordination among the Project Board, the MSTP, the RWGs, and the NCs. The Project Management Office assists in organising all the regional meetings of the regional bodies defined in this document as well as other activities relevant to the implementation of the SAP management actions. The Project Management Office reports to the Project Board and the MSTP through the Project Manager.

The PMO shall create a “**Management Advisory Roster**” being an open ended database of regional environmental managers, scientists, and technical experts, nominated by the IMCCs in the respective countries. Individuals from this pool may be called upon from time to time to assist the YSLME SAP Implementation Facility in the execution of activities to implement the SAP, including for example, serving as expert members on the various bodies of the Facility, or as consultants and advisors to the Project Management Office for specific short term tasks. Considering the requirements of each regional working group, the Project Management Office in close consultation with the NCs shall appoint appropriate persons from the roster, as expert members of each RWG. Considering the requirements of each national working group, NCs shall appoint appropriate persons as expert members of each NWG, and report such appointments to the appropriate regional bodies of the Commission.

Terms of Reference for: The UNDP/GEF YSLME Project Board

The Project Board serves as the supreme decision-making authority with respect to the implementation of SAP related activities funded through the UNDP/GEF Yellow Sea second phase project. The following sections describe the membership, meetings, and functions of this body.

Membership

The Project Board shall consist of:

- Participating countries represented by GEF National Operational Focal Points with assistance from GEF National Implementing Agencies and IMCC chairpersons of each participating country;
- Chairperson of the Management, Science and Technical Panel (MSTP);
- A representative of the UNDP/GEF;
- A representative of UNOPS;
- Representatives from private sector bodies actively engaged in SAP implementation
- Representatives from accredited NGOs actively engaged in SAP implementation.

Additional members including representatives from other relevant government agencies in the participating countries may be added at the discretion of the Project Board. During the bridging period and second phase of the YSLME Project, the Project Manager shall serve as the Secretary of the Project Board.

Meetings

Regular meetings of the Project Board shall be convened once a year. A chairperson and a vice-chairperson who shall be responsible for chairing the meetings shall be selected by the members from amongst the members, and shall serve until the commencement of the next regular meeting.

Special meetings may be convened by the chairperson: (i) when a majority of the Project Board members make a request for such a meeting to the Project Management Office; and (ii) at the request of the Project Management Office when circumstances demand.

The Project Board can invite other organisations and projects to attend the meetings as observers.

Tasks

- (1) Provide overall strategic policy and management direction to the YSLME SAP Implementation Facility in implementing the SAP and executing the UNDP/GEF SAP implementation Project;
- (2) Review, amend, and approve regional activities, work plans, and budgets for SAP implementation, that are suggested by the MSTP;
- (3) Co-ordinate the work of the participating countries to ensure that the activities meet regional and national environmental concerns and priorities;
- (4) Secure technical and financial resources necessary to implement the activities;
- (5) Review the progress of the activities and provide guidance to the MSTP and the Project Management Office for better management and co-ordination;
- (6) Facilitate necessary actions for policy reform to harmonise national legislation;
- (7) Promote co-operation with relevant international, regional, and national organisations and projects;
- (8) Facilitate the participation of the private sector and NGOs in SAP implementation;
- (9) Disseminate the findings and results of SAP implementation to broad audiences, within and outside the region;
- (10) The Project Board established at the commencement of the UNDP/GEF SAP Implementation Project shall finalise and arrange for national approval of the membership and Terms of Reference for each of the YSLME Commission Bodies; and,
- (11) Finalise and arrange for national approval of the membership and Terms of Reference for the permanent YSLME Commission Council to be established prior to completion of the UNDP/GEF SAP Implementation Project

Other matters

Notwithstanding the membership and terms of reference specified in this document, the Project Board shall have the power to amend, from time to time, the membership and terms of reference of the Project Board.

**Terms of Reference for:
The *Intergovernmental Commission Task Force (ICTF)*,**

This body is established to prepare a detailed framework for the future establishment of a permanent Yellow Sea Large Marine Ecosystem Commission and its subsidiary bodies. The Task Force is concerned with technical preparations in order to facilitate efficient review and approval of the proposed arrangements at the national level. The following sections describe the membership and terms of reference of this body.

Membership

The ICTF shall consist of:

- A senior official from the Ministries responsible for Ocean Affairs in each of the participating countries
- The National Co-ordinators (NCs) from each participating country; and,
- The Project Manager.

Meetings

The Task Force shall meet twice a year for the first two and a half years until such time as the technical drafts are agreed by the Project Board for presentation to the participating governments for internal political level consideration and approval. Subsequent meetings during the second half of the project will be convened as required but at least annually to consider any proposals for amendment or change to the proposed arrangements.

Tasks

- (1) Prepare a comprehensive and detailed proposal for the structure and responsibilities of a Yellow Sea Large Marine Ecosystem Commission;
- (2) Prepare detailed terms of reference including proposed membership, responsibilities and reporting arrangements for each of the subsidiary bodies of the commission;
- (3) Prepare on the basis of experience in implementing the first phase and second phase Yellow Sea Projects, a financial plan for funding the commission and any subsidiary bodies and implementation of the SAP
- (4) Submit drafts of the proposed structure, responsibilities, and terms of reference, and the financial plan to the Project Board and MSTP for detailed analysis and review;
- (5) Revise the drafts in light of the advice received and finalise these for submission to the competent national authorities prior to the mid-term review of the UNDP/GEF second phase project;
- (6) Meet during the second half of the SAP Implementation Project to consider any proposals for amendment or change to the proposed arrangements submitted by the national authorities.
- (7) Finalise the arrangements for signing and approval of the various documents establishing the YSLME Commission

Other matters

During the preparation of the technical drafts the senior officials from each country shall have responsibility for ensuring that all drafts are submitted to and commented upon by the national IMCCs. The National Coordinators shall be responsible for ensuring that the views of the IMCC are transmitted in writing to the Task Force in advance of each meeting.

Notwithstanding the membership and terms of reference specified in this document, the Task Force may make recommendations to the Project Board, to amend, from time to time, the membership and terms of reference of the Panel.

Draft Terms of Reference for the YSLME SAP Implementation Facility Management, Science and Technical Panel

The Management, Science and Technical Panel (MSTP), provides the Regional Working Groups (RWGs) with managerial, scientific, and technical guidance and the Project Board with managerial, scientific, and technical advice. The following sections describe the membership, meetings, and functions of this body.

Membership

The Panel shall consist of:

- The National Co-ordinators (NCs) from each participating country;
- The Chairperson of the Intergovernmental Commission Task Force;
- The Chairpersons of each Regional Working Group;
- Leading regional experts (six), taken from the Management Advisory Roster, identified by the Project Management Office;
- Representatives from private sector organisations actively engaged in SAP implementation;
- Representatives of NGOs actively engaged in SAP implementation; and
- The Project Manager.

During the bridging period and second phase of the YSLME Project, the Project Management Office shall serve as the Secretariat of the Panel.

Meetings

Regular meetings shall be convened once a year preferably before the Project Board meetings. A chairperson and a vice-chairperson who are responsible for chairing the MSTP meetings shall be elected from amongst the members. The chairperson attends the Project Board meetings to present the recommendations and reports prepared by the Panel.

Tasks

- (1) Review and co-ordinate regional activities for SAP implementation, proposed by each RWG;
- (2) Provide the RWGs with technical guidance and suggestions to improve the activities where necessary;
- (3) Consider the recommendations of each RWG concerning proposed budget allocations for each activity;
- (4) Provide the Project Board with recommendations on proposed regional activities, work plans, and budgets;
- (5) Facilitate co-operation with relevant international, regional, and national organisations and projects to enhance the effectiveness and efficiency of SAP implementation;
- (6) Monitor the progress of the regional activities and ensure the quality of outputs; and,
- (7) Report to the Project Board through the MSTP chairperson on the progress of activities and SAP implementation.

Other matters

Notwithstanding the membership and terms of reference specified in this document, the MSTP may make recommendations to the Project Board, to amend, from time to time, the membership and terms of reference of the Panel.

Draft Terms of Reference for YSLME SAP Implementation Facility Regional Working Groups

The Management, Science and Technical Panel (MSTP) shall establish such Regional Working Groups (RWGs) as are deemed necessary to effectively manage and execute the various activities approved by the Project Board. Initially six working groups will be established with responsibility for co-ordinating actions at the regional level focusing on: fish stocks (RWG-F); sustainable mariculture (RWG-M); habitat conservation (RWG-H); pollution reduction (RWG-P); monitoring/assessment (RWG-A), and sustainability (socioeconomics and governance (RWG-G)). The following sections describe the membership, meetings, and functions of each regional group.

Membership

Each RWG shall consist of:

- Representatives from each participating country, nominated by the IMCCs, normally such individuals shall be the chairpersons of the equivalent National Working Groups.
- Leading regional experts in an appropriate discipline of natural and/or social science selected from the Management Advisory Roster and appointed by the Project Management Office; and
- Representatives from the private sector; and,
- NGO representative.

During the bridging period and second phase of the YSLME Project, the Project Management Office shall serve as the Secretariat of the RWGs. Each Working Group shall elect its own Chairperson and other officers from amongst the members.

Meetings

Each RWG shall organise its regular meetings once a year. The chairperson attends the MSTP meetings to present recommendations and activity reports prepared by the RWG.

Tasks

- (1) Prepare regional activities with work plans to implement the SAP for consideration by the MSTP and approval by the Project Board;
- (2) Monitor, supervise, and amend approved regional activities for better implementation, as necessary, following the guidance and suggestions provided by the Project Board and the Panel;
- (3) Co-ordinate the work of the RWGs and provide them with guidance for national activities to meet national and regional environmental concerns and priorities as described in the SAP;
- (4) Report to the Panel through the RWG chairperson on the progress of the regional activities.

Major responsibilities of individual RWGs

RWG-F Fish stocks: Provide guidance and co-ordination for regional activities to improve Ecosystem Carrying Capacity (ECC) with respect to provisioning services by recovering and enhancing depleted fisheries stocks.

RWG-M Sustainable mariculture: Provide guidance and co-ordination for regional activities to improve the ECC with respect to provisioning services by enhancing mariculture production and quality and by reducing and controlling pollutant discharge from mariculture.

RWG-H Habitat conservation: Provide guidance and co-ordination for regional activities to improve the ECC with respect to supporting services by conserving biological diversity and maintaining current areas of habitats.

RWG-P Pollution reduction: Provide guidance and co-ordination for regional activities to improve the ECC with respect to regulating and cultural services by reducing pollutant levels and strengthening legal and regulatory processes.

RWG-A Monitoring and assessment: Provide guidance and co-ordination for regional activities to improve the ECC with respect to supporting services by mainstreaming adaptive management to meet potential challenges, including the climate change impacts on ecosystem processes.

RWG-G Sustainability (socioeconomics and governance): Provide guidance and co-ordination for regional activities to improve regional environmental governance by strengthening institutional, legislative, and financial capacities of the region and the countries.

Other matters

Notwithstanding the membership and terms of reference contained in this document, the RWG may recommend to the MSTP for decision, amendments to the membership and terms of reference of the RWG.

Draft Terms of Reference for YSLME SAP Implementation Facility Inter-Ministry Co-ordinating Committee

The Inter-Ministry Co-ordinating Committee (IMCC) co-ordinates national activities among relevant national ministries and institutions to ensure smooth implementation of national efforts in line with regional directions and objectives. The following sections describe the membership, meetings, and functions of this body.

Membership

The IMCC shall consist of:

- Government executive officials at the GEF National Focal Agency (i.e., GEF National Operational Focal Point [NFP]), the GEF National Implementing Agency, and all the other relevant ministries that have responsibilities in marine and coastal issues in the Yellow Sea;
- National Working Group (NWG) chairpersons; and
- Representatives from private sector organisations actively engaged in NSAP implementation; and,
- Representatives of NGOs actively engaged in NSAP implementation.

The National Co-ordinator (NC) serves as secretary to the IMCC.

Meetings

Regular meetings shall be convened at least once a year. If more than one meeting is convened in any one year then one of these shall be organised before the annual meeting of the Project Board. A chairperson and a vice-chairperson responsible for chairing the IMCC meetings are elected from amongst the members. The IMCC chairperson serves as a member of the Project Board. The IMCC reports to the Management, Science and Technical Panel (MSTP) through the NC.

Tasks

- (1) Prepare, on behalf of the government, the national positions on policy issues for the Project Board to consider and present the positions to the Project Board through the IMCC chairperson;
- (2) Nominate regional environmental managers and science and technical experts for inclusion in the Management Advisory Roster;
- (3) Establish the NWGs with leading experts in the country in line with the requirements, focal areas, and activities of the RWGs;
- (4) Appoint the NC and the NWG chairpersons based on nominations by the GEF National Focal Agency (i.e., NFP) and the GEF National Implementing Agency;
- (5) Review and co-ordinate national activities under the NSAP implementation, that the NWGs propose;
- (6) Provide the NWGs with guidance and suggestions to improve the national activities to meet national and regional environmental concerns and priorities;
- (7) Secure technical and financial resources necessary to implement the national and regional activities;
- (8) Monitor the progress of the national activities and ensure the quality of outputs;
- (9) Facilitate co-operation with relevant national organisations and projects to enhance the effectiveness and efficiency of the national activities;
- (10) Report to the MSTP through the NC on the progress of the national activities;
- (11) Facilitate the participation of the private sector and NGOs in SAP/NSAP implementation; and
- (12) Disseminate the findings and results of NSAP implementation to broad audiences, nationally, regionally, and internationally.

Other matters

Notwithstanding the membership and terms of reference contained in this document, the IMCC shall have the power to amend, from time to time, the membership and terms of reference. Such amendments shall be reported to the next meeting of the YSLME Project Board.

**Draft Terms of Reference for YSLME SAP Implementation Facility
National Co-ordinator**

The National Co-ordinator (NC), a full-time position appointed by the Inter-Ministry Co-ordinating Committee (IMCC), shall serve as the primary national contact for the RWGs and the Project Management Office. The following section describes the functions of this individual.

Tasks

- (1) Serve as a secretary to the IMCC, assisting the National Operational Focal Point in organising IMCC meetings;
- (2) Assist the IMCC to review and co-ordinate national activities under the NSAP implementation, secure technical and financial resources necessary to implement the national activities, and monitor the progress of the activities to ensure the quality of outputs;
- (3) Compile a register of national management, scientific and technical experts in maritime affairs for consideration by the IMCC as nominated members of the Management Advisory Roster;
- (4) Recommend appropriate national experts from the Management Advisory Roster as NWG members to the IMCC;
- (5) Co-ordinate the national activities among the NWGs under the direction of the IMCC;
- (6) Report to the Management, Science and Technical Panel (MSTP) on behalf of the IMCC on the progress of national activities;
- (7) Serve as a member of the MSTP, contributing to the regional co-ordination, the provision of guidance to the RWGs, and the preparation of regional work plans and budgets;
- (8) Liaise closely with the Project Management Office, supporting it on matters regarding SAP/NSAP implementation;
- (9) Assist the IMCC to facilitate the participation of the private sector and NGOs in SAP/NSAP implementation and to disseminate the findings and results of the implementation to broad audiences; and
- (10) Such other tasks as the IMCC shall from time to time decide.

Draft Terms of Reference for YSLME SAP Implementation Facility National Working Groups

National Working Groups (NWGs) shall be established at the discretion of the Inter-Ministry Co-ordinating Committee (IMCC), and are responsible for the design and implementation of management actions at the national level. The NWGs are organised in line with the requirements, focal areas, and activities of the RWGs. The following sections describe the membership, meetings, and functions of such bodies.

Membership

Each NWG shall consist of:

- A chairperson nominated by the GEF National Focal Agency (i.e., National Operational Focal Point [NFP]) and the GEF National Implementing Agency and appointed by the IMCC;
- Leading experts in the relevant fields of natural and social science nominated by the IMCC and appointed by the National Co-ordinator (NC); and
- Representatives from the private sector and NGOs.

The NC shall serve as the Secretary of the NWG.

Meetings

Each NWG shall organise its regular meetings as necessary, but at least once a year. The meeting shall preferably be held in advance of the RWG meetings. The chairperson of the NWG attends the IMCC meetings and the RWG meetings, to present recommendations and activity reports prepared by the NWG.

Tasks

- (1) Prepare, in close co-ordination with the respective NWGs in other participating countries, national activities with work plans to implement the NSAP for the respective RWG to consider and agree upon;
- (2) Monitor and evaluate the progress of national activities and amend them, as necessary, in consultation with the RWG;
- (3) Report to the IMCC through the NWG chairperson on the progress of the national activities;
- (4) Report to the RWG through the NWG chairperson on the execution of national activities; and,
- (5) Facilitate the execution at national level of activities identified by the RWG as appropriate to implement the regional SAP, in addition to those activities relevant to the implementation of the NSAP.

Other matters

Notwithstanding the membership and terms of reference contained in this document, the IMCC, has the power to amend, from time to time, the membership and terms of reference of the NWG, and shall report such amendments to the MSTP.

Draft Terms of Reference for YSLME SAP Implementation Facility Project Management Office

The Project Management Office shall provide administrative support and regional co-ordination among: the Project Board; the Management, Science and Technical Panel (MSTP); the Regional Working Groups (RWGs); and the National Co-ordinators (NCs). During the bridging period and second phase of the YSLME Project, the Project Management Office (PMO) headed by the Project Manager shall serve as the Secretariat for SAP implementation, facilitating regional and national efforts relevant to SAP/NSAP implementation. The following section describes the functions of this body.

Tasks

- (1) The Project Management Office assists in organising all the regional meetings of the Commission bodies as well as other activities relevant to the implementation of the SAP management actions.
- (2) The Project Management Office reports to the Project Board and the MSTP through the Project Manager.
- (3) Serve as a secretary to the meetings of the Project Board, the MSTP, and RWGs, liaise with, and provide administrative support to these bodies in the execution of their responsibilities;
- (4) Draft policy, managerial, and technical papers on SAP implementation in co-operation with the RWGs and NCs as part of the preparation for the Project Board and MSTP meetings;
- (5) Prepare and present activity implementation reports to the Project Board and the MSTP through the Project Manager;
- (6) Appoint regional experts as RWG members from the Management Advisory Roster;
- (7) Assist in organising all the regional meetings, including the ones mentioned above in Terms of References for Project Board, MSTP, and RWGs, as well as other regional co-ordination activities relevant to the implementation of the SAP;
- (8) Administer contracts for consulting services under SAP implementation, following U.N. rules;
- (9) Monitor the progress of all regional activities of the YSLME Commission to ensure that activities are implemented in line with the strategic policy and management direction provided by the Project Board, and that high quality outputs are secured on time and within budget;
- (10) Liaise closely with the NCs to ensure smooth implementation of national efforts in line with regional efforts and objectives;
- (11) Assist the Project Board and the MSTP in promoting the co-operation with relevant organisations, including the private sector and NGOs; and
- (12) Assist in disseminating the findings and results of SAP/NSAP implementation to broad audiences nationally, regionally and internationally.

Other matters

Notwithstanding the tasks listed in this document, the Project Board shall have the power to amend, from time to time, the tasks of the Project Management Office.

YSLME SAP Implementation Facility

Draft Rules of Procedure for the Project Board

Rule 1: Membership

1. The Project Board shall consist of: representatives from the countries participating in the UNDP/GEF Yellow Sea Project (hereinafter called the “Yellow Sea countries”), the chairperson of the Management, Science and Technical Panel (MSTP), one representative each from UNDP/GEF and UNOPS, and representatives of the private sector and NGOs actively engaged in SAP implementation.
2. Each Yellow Sea country shall be represented by: the GEF National Operational Focal Point (NFP) assisted by the Chairperson of the Inter-ministry Co-ordinating Committee (IMCC) and a Government Official(s) from National Implementing Agency designated by the NFP.
3. The Project Board may decide by consensus that other organisations become Project Board Members.
4. Notwithstanding the Rules contained in this document, the Project Board has the power to amend, from time to time, the membership of the Project Board.

Rule 2: Meetings

1. The Project Board shall hold regular meetings once a year, upon convocation by the Project Board Chairperson. At each regular meeting, the Project Board shall decide on the dates and venue of the next meeting. For the role of the Chairperson, see Rule 4 in this document.
2. Special meetings may be convened by the Chairperson: (i) when a majority of the Project Board members make a request for such a meeting to the Project Management Office; and (ii) at the request of the Project Management Office when circumstances demand. The Project Management Office shall circulate the request for holding a special meeting to all Members and each country’s National Co-ordinator (NC) with a deadline for response. The Project Management Office shall inform the Members of the consensus response.
3. The Chairperson shall decide on the dates and venue of a special meeting in consultation with the NCs and the Project Management Office.

Rule 3: Agenda

1. The Project Management Office shall prepare the agenda for each meeting in consultation with the Chairperson.
2. The agenda for a regular meeting shall include *inter alia*, the following items:
 - a. Adoption of the agenda;
 - b. Activity report of current year (progress report);
 - c. Proposed work plan and budget for the subsequent year and onwards;
 - d. Any other items the inclusion of which has been decided at a previous meeting;
 - e. Items proposed by any Member;
 - f. Outstanding and arising issues and
 - g. Adoption of the report of the meeting.
3. The agenda for a special meeting shall consist only of those items that are proposed for consideration in the request to convene the meeting.
4. The Project Management Office shall circulate a provisional agenda with supporting documents to the Members at least two weeks before the opening of the meeting.

Rule 4: Chairperson

1. The Chairperson of the Project Board shall be selected from each Yellow Sea country in rotation, in alphabetical order.
2. A Chairperson and a Vice-chairperson who shall be responsible for chairing the meetings shall be selected by the members from amongst the members, and shall serve until the commencement of the next regular meeting. If the Chairperson cannot preside at a meeting or any part thereof, the Vice-Chairperson shall act as the Chairperson with the same powers and duties.
3. The Chairperson shall serve for a period of one year.

4. In addition to exercising the powers and duties conferred upon him/her elsewhere in the Rules, the powers and duties of the Chairperson shall be to:
 - a. Ensure that all the tasks of the Project Board, as described in the Terms of Reference, are fully carried out;
 - b. Convene regular and any special meetings;
 - c. Declare the opening and closing of each meeting;
 - d. Preside at all meetings: direct discussion, accord the right to speak, and announce decisions;
 - e. Call a speaker to order if their remarks are not relevant to the subject under discussion;
 - f. Ensure observance of the Rules described in this document; and
 - g. Make such decisions and give such directions to the Project Management Office, that ensure the business of the Project Board is carried out efficiently and in accordance with its wishes.

Rule 5: Project Management Office

1. The Project Management Office serves as the Secretariat during the bridging period and second phase of the YSLME Project.
2. In addition to exercising the powers and duties conferred upon it elsewhere by the Rules, the Project Management Office shall:
 - a. Issue the invitations to the meetings;
 - b. Prepare the provisional agenda for the meetings in accordance with Rule 3;
 - c. Make all necessary arrangements, including secretarial assistance, for the meetings of the Project Board and its regional subsidiary bodies;
 - d. Prepare the progress report, work plan, and budget;
 - e. Prepare meeting reports; and
 - f. Perform other functions and tasks, as described in the Terms of Reference, or entrusted to the Project Management Office by the Project Board.

Rule 6: Conduct of business

1. A majority of the Members shall constitute a quorum.
2. Proposals from any members shall be introduced in writing and submitted prior to the meeting for the Project Management Office to circulate to the Members.
3. The decisions of the meetings shall be made by consensus.
4. Where consensus cannot be achieved during a meeting, the Project Management Office in consultation with the Chairperson shall facilitate negotiations to seek resolution during the subsequent inter-sessional period. The Project Management Office shall report the results of the negotiations to the Members.
5. The Project Board may adjourn the discussion of any issue on which a consensus cannot be reached and refer it to a working group of the Project Board. The working group shall be charged with resolving the issue and be required to report the outcome of their work to the Project Board when the discussion resumes.
6. The record of the meeting, including all the decisions made, shall be kept by the Project Management Office which shall circulate the record to the Members in the form of a draft report before the closure of the meeting. Any Member who disagrees with any part of the report may propose an amendment for consideration by all members during the adoption of the report.
7. The Project Management Office shall distribute the final version of the report to the Members within two weeks following the closure of the meeting.
8. Between meetings, any proposal for a decision falling within the competence of the Project Board shall be circulated in writing by the Project Management Office to the Members with a specified deadline for reply. On the basis of the responses the Project Management Office will inform members in writing of the views expressed and the consensus position.

Rule 7: Subsidiary bodies

1. The subsidiary bodies of the Project Board shall consist of the regional bodies (MSTP and Regional Working Groups), the national bodies (IMCC and National Working Groups), and the Project Management Office.

2. The membership, meetings, and tasks of each subsidiary body shall be defined in their Terms of Reference.
3. The Rules of Procedure of each subsidiary body shall follow those of the Project Board.

Rule 8: Language

The working language of the Project Board shall be English.

Rule 9: Participation of observers

1. The Project Board may invite observers to participate in its meetings.
2. Upon the invitation of the Chairperson, observers may participate in the discussion of issues within their competence or scope of activities, without the right to participate in decision-making.
3. Observers may, upon invitation of the Chairperson, submit written statements that shall be circulated by the Project Management Office to the members of the Project Board or to the concerned subsidiary bodies.

Rule 10: Amendments and suspension

Any Rules contained in this document may be amended or suspended by the Project Board.