

## **National Report (NIP Coastal Areas of Yemen)**

### **National Background Information:**

Physical and Demographic Context of Republic of Yemen. Yemen lies in the south western part of Asia and in the south of Arabian peninsula. It is bounded on the north by Saudi Arabia and bounded on the south by the Arab sea and Aden Gulf, to the east lies omen and to the west is the red sea.

Yemen has many islands along its coasts on the red sea and Arab sea. The largest island is Soctora which is on the Arab sea. The new administrative division of Yemen consist of (20) governorates in addition to the capital secretariat.

### **Geographic Structure of the Country:**

**According to the natural formation, Yemen is divided into five regions:**

1. Mountainous regions: they are mountain series located in the southern and western regions opposite plateaux from the western and southern part.
2. Plateau regions: they lie to the east and north of the mountainous highlands and opposite from them. Plateau region become wider towards the empty Quarter.
3. The Empty Quarter region: it is part of the desert regions of Yemen. Coastal Strip: a coastal strip on the red sea , Aden Gulf and Arabian Sea stretching along the Omani borders towards the west to take a new form towards the north till it reaches the Saudi borders.

Yemeni Islands: they are in abundance in the regional waters in the Red sea and Arab Sea. Over 115 islands lie in the seawater of Yemen with distinct climatic and natural characteristics. More than 112 of these islands lie in the Red Sea region of the country. Among those located in this region:

Kamaran is the biggest, and Mayoos Is, located at the Bab Mandab and it has strategic importance Socotra is the largest Yemeni Island (3650) Km2 in the Arabian Sea and has a more exuberant flora and fauna, including corals, than any other region in the Arabia.

Length of the coastal strip is more than 2000 km and its width ranges between 30-60 km.

The main coastal cities are Aden (on the northwestern side of the Gulf of Aden) Hodeidah (on the southeastern side of the Red Sea) and Mukalla (on the northeastern side of the Gulf o of Aden) (See the map of Yemen)

**pdfMachine**

**Is a pdf writer that produces quality PDF files with ease!**

Produce quality PDF files in seconds and preserve the integrity of your original documents. Compatible across nearly all Windows platforms, if you can print from a windows application you can use pdfMachine.

Get yours now!

The Red Sea and Gulf of Aden region of Yemen represent a complex and unique tropical marine ecosystem with extraordinary biological diversity and a remarkably high degree of endemism.

It is also an important shipping lane linking the world's major oceans. Western Gulf of Aden and Arabian Sea region is a highly productive fishery region due to the Upwelling phenomenon, supporting a feed web that ultimately sustains the fish community.

The coastline is also an important shipping lane linking the world's major oceans. Recently, about 100 million tons of oil transit the Red Sea annually.

Both the Red Sea and the Gulf of Aden are designated "special areas" under the international MARPOL convention.

There are nine governorates locate along the Yemeni coastline, Haja, Al-Hudaydah, Taiz (Red Sea), Lahj, Aden, Abyan, Shabowa, Hadramout, and Al-Mahra (Gulf of Aden and Arabian regions).

### **Climate:**

hot and humid along the coastal strip mild at the mountainous heights, and desert weather in desirous areas.



## Population:

The resident population of the Republic of Yemen according to the population projection for 2005 are 21,867,800 souls. This population are distribution among 20 governates in addition to Sana'a City (the metropolis).

Table No. 1, Distribution of the population by Governates (2004).

نسبة النوع (عدد الذكور لكل مائة أنثى)	% groth	%	population			Governates	No.
			Total	Femal	Male		
95.5	2.50	10.8	2,137,546	1,093,573	1,043,973	Ibb	1
103.4	2.47	2.2	438,656	215,657	222,999	Abyan	2
121.4	5.55	8.9	1,747,627	789,454	958,173	Sana' City	3
102.1	2.29	2.9	571,778	282,880	288,898	Al baidah	4
92.6	2.51	12.2	2,402,569	1,247,437	1,155,132	Taiz	5
107.3	2.61	2.3	451,426	217,741	233,685	Al jawf	6
108.1	3.05	7.5	1,480,897	711,785	769,112	hajjah	7
104.9	3.27	11.0	2,161,379	1,055,036	1,106,343	Alhoddidah	8
105.6	3.09	5.2	1,029,462	500,759	528,703	Hadramout	9
97.9	3.11	6.8	1,339,229	676,785	662,444	Dhamar	10
107.2	2.46	2.4	466,889	225,311	241,578	Shabwah	11
106.7	3.64	3.5	693,217	335,453	357,764	Sa'adah	12
103.3	2.07	4.7	918,379	451,740	466,639	Sana'a	13
112.3	3.79	3.0	590,413	278,101	312,312	Aden	14
99.4	2.69	3.7	727,203	364,711	362,492	Lahej	15
111.3	2.85	1.2	241,690	114,367	127,323	mareb	16
100.7	2.88	2.5	495,865	247,046	248,819	Almahweet	17
117.9	4.57	0.5	89,093	40,890	48,203	Al mahra	18
105.1	1.76	4.4	872,789	425,611	447,178	Amran	19
105.0	3.54	2.4	470,460	229,484	240,976	Al dalleh	20
95.9	3.04	2.0	395,076	201,685	193,391	Rema	21
103.2	3.02	100.0	19,721,643	9,705,506	10,016,137	Total	

Red color = non coastal Governates.

Blue color= Coastal Governates.

### **Brief summary of NIP activities:**

- ✓ We completing the chemical profile and now we start to translate it and also to print Arabic virgin in Aden University.
- ✓ We finish inventories of POPs pesticides.
- ✓ We implement a workshop for discussing the results of the dioxin and furan and POPs pesticides inventories with related ministries and other organizations.
- ✓ We finish the inventories of the transformers in nineteen governates and we collect 52 samples which were sent to Kuwait for analysis them and we receive the results.
- ✓ We complete the inventories of PCBs in the last tow governates (AlHudaida & Al Mahra near Oman border).
- ✓ We are preparing for the workshop for discussing the results of the inventories of the PCBs and every thing is ok only we are waiting for the results of the inventories of the last tow mentioned governates.

### **Proposal for the work plan for the remaining activities:**

1. Completion of the PCBs inventory & preparation of initial PCBs inventory report.
2. Conducting a workshop for discussing and approving the results of the PCBs inventory.
3. Meeting with the national coordinating committee, NCC, for the final approval of the POPs inventory (pesticides, PCBs and PCDD/PCDF)
4. Translation of the POPs inventory results into English
5. Evaluating PCBs, PCDD/PCDF & POPs pesticides inventory results by **contracting:**
  - ✓ Tow or three international consultants (UNEP consultants one for PCBs and the other for PCDD/PCDF & POPs pesticides).
  - ✓ One national consultant for helping the international consultants.
6. Drafting the action plans of PCBs, PCDD/PCDF & POPs pesticides by **contracting:**
  - ✓ One international consultant (consultant from UNITAR).
  - ✓ One national consultant for helping the international consultants.
7. Conducting a workshop for discussing the drafted action plans for PCBs , PCDD/PCDF & POPs pesticides (for 3 days).
8. Meeting with NCC for final approving of the action plans.
9. Drafting the NIP by contracting.
  - ✓ One international consultant (UNEP consultant).
  - ✓ One national consultant.

10. Conducting a workshop for discussing and approving the NIP (three days)
11. Meeting with NCC for approving the NIP

### **Development Plans:**

#### **Physical Alteration and Destruction of Habitats:**

Habitat refers to coastal zones, such as beaches and mud flats, as well as to spawning areas and fishing grounds in shallow waters. Intertidal and subtidal alteration of fish habitat in coast of Yemen are mainly linked to shoreline construction activities, the use of certain fish harvesting gears. Harvesting of marine plants from the intertidal zone can result in alteration or loss of habitat for other species, decreased biodiversity, or unsustainable use of the resources.

#### **Shoreline alteration:**

The increase in populations and economic activities in coastal areas is leading to an expansion of construction and alterations to coastal area and waters. The impacts are therefore related more to ecosystem integrity than to human health or the economy, although the fishing industry can experience losses.

The major land-based activities affecting coastal waters and coastal areas in Yemen are industrial development and rarely the agriculture-localised impacts can result from entrapment and entrapment of fish and other marine organisms in salt water intakes at power plants, and or intakes for industrial and harbour dredging use. Seawater warming, associated with power station cooling system, has been responsible for the death of coral reef in many places these forms of habitat alteration do not generally result in impacts on human health, the economy or traditional foods, but they many cause some environmental impact.

#### **Coastal Wetlands of intertribal alteration:**

Human activities in terrestrial or wetlands habitats have severe implication due to land use changes overuse and misuses. These impacts are evident for habitat losses, wetland characterization changes and natural resources degradation. It is well known that wetlands are highly productive habitats, which play an essential role in critical life stages of fish, amphibians, reptiles, birds and mammals.

Yemen has a variety of wetlands, including mangroves and sabkhas. They represent a majority stop over for thousands of sea birds migrating to and from Eurasia and Africa. They, including mangroves, have been subjected to

several land-based activities, partially anthropogenic. The characteristics and status of wetlands of the Eastern Gulf of Aden and Arabian Sea are still entirely unknown.

Intertidal and subtidal alterations of fish habitat in coast of Yemen are mainly linked to shoreline construction activities, the use of certain fish harvesting gears, the harvesting of marine plants from the inter-tidal and sub-tidal zone can result in alteration or loss of habitat for other species, decreased biodiversity, or unsustainable use of the resources.

### **Persistent Organic Pollutants (POPs):**

The Yemeni government have banned use of POPs Pesticides since 1990 according to the official notice from ministry of agriculture and irrigation and ministry of health and population and to the last inventory which was done for preparing NIP.

However, it is believed that smuggling of such pesticides have taken place. and because of this we need to implement inventories from time to time.

Some POPs existed in the marine environment of Yemen. The available study conducted by DouAul and Al-Shwafi, 2000), reveals that the fish and the molluscs collected from the Red Sea and Gulf of Aden regions were contaminated with certain and PCPs residues. Compounds of DDT were found in these organisms in both regions.

PCBs were also found in some samples of the fish collected from in both regions. PCBs are not manufactured in Yemen, so their presence can thus only be from electricity usage and the possible dumping of products containing PCBs.

Dioxins and Furans, might reach the sea, through smokes and ashes resulted from burning processes at the public garbage landfill site of coastal governates and of the burning process of wastes at the open incineration sites.

pdfMachine

**Is a pdf writer that produces quality PDF files with ease!**

Produce quality PDF files in seconds and preserve the integrity of your original documents. Compatible across nearly all Windows platforms, if you can print from a windows application you can use pdfMachine.

Get yours now!

### Industry and Economy:

U-POPs release for the country (Attached file No. 1, excel file).

U- POPs industrial sources inside the costal zone, and PCDD/Fs release estimates Table 2. Comparing to the total country release table 2.

Table No. 2.

Cat.	Source Categories	Annual Releases (g TEQ/a)				
		Air	Water	Land	Products	Residue
1	Waste Incineration	593.107	0.000	0.000	0.000	33.4
2	Ferrous and Non-Ferrous Metal Production	44.153	0.000	0.000	0.000	0.0
3	Power Generation and Heating	249.499	0.000	0.000	0.000	0.0
4	Production of Mineral Products	17.390	0.000	0.000	0.000	0.3
5	Transportation	2.020	0.000	0.000	0.000	0.0
6	Uncontrolled Combustion Processes	465.646	0.000	5.807	0.000	270.5
7	Production of Chemicals and Consumer Goods	0.000	0.000	0.000	2.999	0.0
8	Miscellaneous	0.000	0.000	0.000	0.000	0.2
9	Disposal/Landfilling	0.000	1225.210	0.000	2.446	997.7
10	Identification of Potential Hot-Spots					
1-9	Total	1371.8	1225.2	5.8	5.4	1302.2

Table NO.3.

Cat.	Source Categories	Annual Releases (g TEQ/a)				
		Air	Water	Land	Products	Residue
1	Waste Incineration	124.182	0.000	0.000	0.000	7.6
2	Ferrous and Non-Ferrous Metal Production	120.028	0.000	0.000	0.000	43.1
3	Power Generation and Heating	0.055	0.000	0.000	0.000	0.0
4	Production of Mineral Products	1.434	0.000	0.000	0.000	0.3
5	Transportation	0.000	0.000	0.000	0.000	0.0
6	Uncontrolled Combustion Processes	0.000	0.000	0.000	0.000	0.0
7	Production of Chemicals and Consumer Goods	0.000	0.000	0.000	3.011	0.0
8	Miscellaneous	0.000	0.000	0.000	0.000	0.0
9	Disposal/Landfilling	0.000	0.000	0.000	0.000	0.0
10	Identification of Potential Hot-Spots					
1-9	Total	245.7	0.0	0.0	3.0	51.0

PCDD/Fs release estimates for immediate actions in the coastal zone ( see the Attached file No. 2).

### Environmental and Health:

U- POPs are serious environmental and public health problem. But there is no official data about the environmental and public health problems

U- POPs are easy reached the marine environment & marine organisms by air, water fluds, their concentrations may be low or high No research has been conducted on the extent of their effects on people living at the coastal watershed areas where receive U-POPs. in the coastal environment, during heavy rainfalls.

**Importance of tourism in the coastal region:**

The coastal of Yemen is more than 2000 km and has many islands along its coasts on the red sea and Arab sea and its vergio coastal which has impotence for tourism and because of the some sourses of the dioxin and furan may negative impact for tourism

**Public information and awareness:**

There is no activities on public information and awareness were being undertaken in the coastal zone concerning POPs (U- POPs).

Most of the population and decision makers are not aware about the U- POPs.

There no action plans on public awareness.