

BIOSPHERE RESERVE MANAGEMENT IN ISLAMIC REPUBLIC OF IRAN: LEGAL AND REGULATED MECHANISMS

SHIRIN ABOLGHASEMI

Environment Research Station, Tehran, Iran

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Summary: With its unique and invaluable biodiversity and abundant natural resources, Iran has a remarkable potential for sustainable development and growth. The Islamic Republic of Iran has established a comprehensive legislative foundation for environmental policy. Protection of the environment, enduring management of natural resources, and realization of sustainable use is provided by this body of law. These laws have been enacted on the basis of national, social and economic circumstances, and in accordance with the mandate of each sector, and its relationship to the environment. The Department of Environment as the highest national authority on environmental matters, is dedicated to monitoring of the state of the environment in the Islamic Republic of Iran.

Geographical and Land Characteristics

The Islamic Republic of Iran comprises of a land area of 1.64 million km². It lies in the northern part of the temperate zone, between latitudes 25° 03' and 39° 47' north, and longitudes 44° 14' and 63° 20' east. The average altitude is over 1,200m. Iran is bordered by Turkmenistan, the Caspian (over 677km of coastline), Azarbaijan, and Armenia in the north, Afghanistan and Pakistan in the east, the Persian Gulf and the Sea of Oman (over 2,300km of coastline) in the south, and Iraq and Turkey in the west.

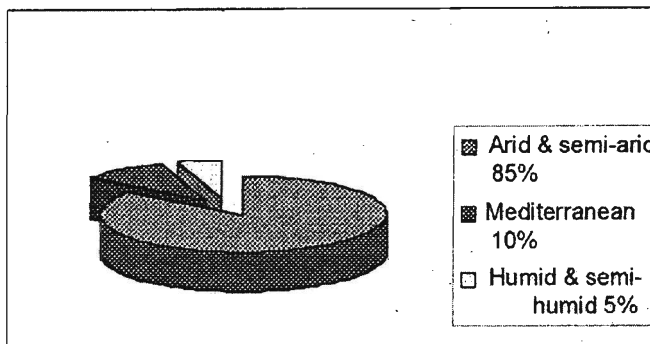


Figure 1: Main Climatic Zones of the Country (as a percentage)

- Arid and semi-arid regions of the interior and far south, are characterized by long, warm and dry periods, sometimes lasting over seven months. These regions cover nearly 85% of the country (Figure 1). The annual precipitation rate in such regions varies between 30 and 250mm.
- The Mediterranean climate (mainly in the western Zagros mountains, the high plateau of Azerbaijan, and the Alborz mountains), is characterized by warm, dry summers, and cool damp winters, with the annual rainfall between 250mm and 600mm. This covers about 10% of the land surface.
- Humid and semi-humid regions (mainly in the Caspian, but also in west Azarbaijan and southwest Zagros), have an annual precipitation rate between 600mm and 2,000mm. This covers about 5% of the land surface.

The six main watersheds are: Caspian (177,000km²) in the north, the Persian Gulf and the Sea of Oman (430,000km²) in the south, Urumia (53,000km²) in the northwest, Markazi (831,000km²) in the central region, Hamoun (106,000km²) in the east, and Sarakhs (44,000km²) in the northeast. The total annual volume of precipitation (1970-2000) is estimated at 58,133 million m³.

Institutional Arrangements for Management of Biosphere Reserves

Article 50 of the constitution of the Islamic Republic of Iran states that:

It shall be considered a public duty in the Islamic Republic to protect the natural environment in which the present as well as future generation shall have a developing social life. Therefore, economic activities or otherwise which cause pollution or an irreparable damage to the environment shall be prohibited.

The Islamic Republic of Iran is a member of the following environmental related conventions:

- Convention on Biological Diversity (CBD).
- Convention on Wetlands (Ramsar).
- Convention on Control of Trans-boundary Movement of Hazardous Waste.
- Convention to Combat Desertification.
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
- United Nations Framework on Climate Change (UNFCCC).
- World Heritage Convention (WHC).
- Montreal Protocol on Ozone-layer Depletion Substances.
- Bio-Safety Protocol.

Iran became a state member of IUCN, the World Conservation Union, in 1973, but has since suspended its membership. Moves are at hand to renew membership, now that Iran is an affiliate member of the IUCN.

The National Environmental Protection Act of 1974, following the Stockholm Conference on the Human Environment, established the Department of Environment as a Trans-Ministerial authority in the office of the Prime Minister (presently the office of the President of the Republic). The Department of Environment is thus one of the oldest and strongest environmental authorities in the country.

The Department of Environment is the focal point for environment in the Islamic Republic of Iran and acts as a secretariat to the Environment High Council. The President of the Republic is the Chairman of the Environment High Council, and the ministries of Mine and Industry, Jihad-e-Keshavarzi, Oil, Road Construction, Interior, Foreign Affairs, and Management and Planning Organization, are represented as its members. The Environment High Council is the highest environmental policy decision-making body in the Islamic Republic of Iran.

The Department of Environment has as its responsibilities:

- The establishment of a national system for ecological research, management and protection of wildlife, and the conservation of vegetation of natural resources to guarantee recreation in the area.
- The enhancement of the capacity for environment conservation of not only biological communities, but also the landscape, special habitats, and the world natural heritage, as well as the elimination of the threat to biodiversity.
- Development of criteria for selection and implementation of management plans for Biosphere Reserves.
- Establishment of a national strategy for development of recreational opportunities, especially in Biosphere Reserves.

21 Environmental Protection and Enhancement Acts, 49 Executive by-law on the Environmental Protection and Enhancement Act (approved by the Council of Ministers on 1975.02.20, with subsequent amendments thereof), 36 Air Pollution Abatement Acts (1995), 32 Executive by-law on Air Pollution Abatement Act (approved by the Council of Ministers on 1997.05.04), 36 Executive by-law on Game and Fish Law (1976), 22 Executive by-law on Prevention of Water Pollution (1994), have been enacted.

Among the nine Iranian Biosphere Reserves, Urumieh Lake, Arjan-Parishan Wetlands, Harra Wetlands and Miankaleh Wetland are some of the important internationally recognized wetland (RAMSAR) sites.

Laws, Planning and Management

The Environmental Protection Act (1974) is the major law regarding environmental conservation in Iran. According to this Act, different categories of natural protected areas have been established in Iran, and are being administered by DoE. These sites have been carefully selected to represent all types of environments and habitats in Iran. Upto now about 7.5% of various Iranian ecosystems have been designated for conservation, and about one sixth of this has been designated as Biosphere Reserve. It is suggested that this percentage of selected ecosystems is now adequate for conservation of various ecosystems in I.R. of Iran. Legislation governing the environment declares many species of wildlife as protected, and these species are legally protected wherever they be, but this may not always be with "de facto" protection. Of course, protection is more effective within the protected areas where environmental protection guards are continuously present. The strengthening and enhancement of the management of the Department of Environment as the highest authority in the field of biodiversity conservation, has been instrumental in promoting the objectives of the nation.

The Supreme Council of Environment is a legislative body that enacts relevant regulations and decides on the classification of protected areas. The Chairman is the President of the Republic. The members of the Council comprise representatives of Jihad-e-Keshavarzi, Foreign Affairs, Mine and Industry, Interior, Health and Medical Education, Science-Technology and Research, Heads of the Department of Environment, Department of Administration and Planning (formerly Plan and Budget Organization), and the Institute of Standards and Industrial Research. There is no difference between administration entities of BRs in Islamic Republic of Iran as each Biosphere Reserve enrolled by its Directorate Bureau in places, will be controlled by the Provincial Directory and also by the National Directory. Authority for conservation of all PAs in Iran has been entrusted to the Department of Environment, which is directly under the President of the Republic. Provincial Directors of the Department of Environment have administrative control over each protected area.

The Department of Environment manages 16 national parks, 13 national natural monuments, 33 wildlife refuges and 90 protected areas (Figure 2).

92 of the most important Wetlands have been designated, comprising 3,500,000ha. Some of them are internationally important wetlands (21), and have been nominated as Ramsar sites (Table 1).

Table 1: International Wetlands in I.R. of Iran (Stated as at 31.07.2002) According to DoE, Bureau of Habitats and Protected Areas.

No	Names of Wetlands	Province	Established	Area (ha)	Notes
1	Urmia Lake	West & East Azerbaijan	1971	483000	National park
2	Bakhtegan-Nairiz Lakes & Kamjan Marshes	Fars	1971	108000	National park
3	Shadegan marshes & Tidal-Mud- Flats of Khor Musa	Khuzestan	1971	400000	Wildlife refuge
4	Hamoun-e-Saberi	Sistan-o-Baluchestan	1971	50000	Protected area
5	Parishan Lake & Dasht-e-Arjan	Fars	1971	6600	Biosphere reserve and protected area
6	Miankaleh Peninsula, Gorgan Bay & Lappoozaghmarz	Mazandaran	1971	100000	Biosphere reserve and wildlife refuge
7	South End of Hamoun-e-Puzak	Sistan-o-baluchestan	1971	10000	Protected area and wildlife
8	Amirkelayeh Lake	Gilan	1971	1330	Wildlife refuge
9	Khuran Straits	Hormozgan	1971	100000	Protected area
10	Deltas of Rud-e-Gaz & Rud-e-Hara	Hormozgan	1971	1500	—
11	Anzali	Gilan	1971	15000	Protected area Wildlife refuge
12	Kobi Lake	West Azerbaijan	1971	1200	—

Table 1 (Contd.)

No	Names of Wetlands	Province	Established	Area (ha)	Notes
13	Shorgo, Yadegarlu Dorgeh Sangi Lakes	West Azerbaijan	1971	2500	—
14	Bandar Kiashahr Lagoon & Mouth Of Sefid Rud	Gilan	1971	500	Hunting prohibited area
15	Hoor-e-Baho	Sistan-o-Baluchestan	1971	34400	Protected area
16	Ghour-i-Gol Lake	West Azerbaijan	1971	120	Hunting prohibited area
17	Alagol, Ulmagol & Ajigol Lakes	Golestan	1971	1400	—
18	Deltas of Rud-e- Shur, Rud-e-Shirin & Rud-e-Minab	Hormozgan	1971	45000	Protected area
19	Gavkhouni Lake & Marshes of the Lower Zaiandeh Rud	Esfahan	1971	43000	—
20	Shidvar	Hormozgan	1998	870	Wildlife refuge
21	Gomishan	Golestan	2001	20000	Hunting prohibited area

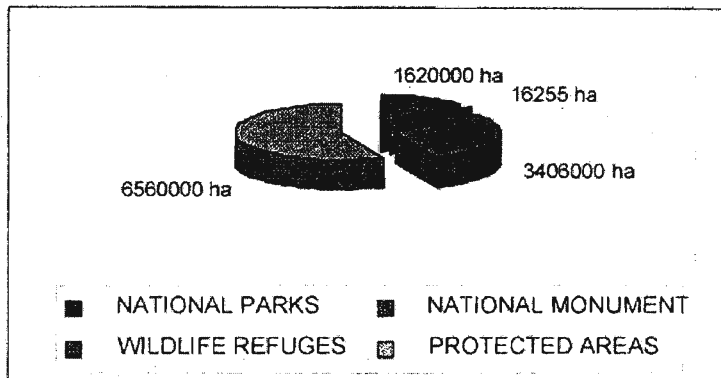


Figure 2: Different Areas Managed by the Department of Environment

Biosphere Reserves have been selected from Protected Areas. Some such as Kavir, Urumieh and Golestan have been designated National Parks (Table 2), while others (Arjan - Parishan, Geno, Harra, Touran, Miankaleh and Arasbaran) have been selected from Protected Areas (Table 3). Biosphere Reserves comprise 2,375,381ha of Protected Areas and cover about 1.4% of land area.

The main goal of Biosphere Reserves is to conserve biodiversity. Conservation of biodiversity supports the socioeconomic development of local communities. Although some Biosphere Reserves have been selected from among National Parks (Kavir, Urumieh, Golestan), the improvement of the quality of life of local people around the Biosphere Reserves has been well demonstrated (Table 4).

At the species level, Iran has already lost two of its most spectacular carnivores, the Persian Lion and the Caspian Tiger as a result of uncontrolled hunting and habitat destruction. In order to preserve other threatened species there is an urgent need for implementation of conservation measures (Table 5).

Biosphere Reserves of Iran have been selected from among 3 types of biome and three biogeographical provinces, so that Touran, Kavir and Geno are located in Iranian Deserts; Urumieh National Park, Golestan, Miankalehand and Arasbaran are located in Mixed Mountain. Geno, Harra Touran and Kavir belong to Iran Anatolian and deserts of Iran, while the lost have been in Iran Caucasus mountain bio-geographical region.

Iranian habitats support some 8,500 species of plants of which almost 2,500 are endemic. There are about 10 million hectares of forest, and some 100,000 hectares of mangroves along the south border of Iran. Field studies in Iran confirm the presence of over 500 species of birds and 160 species of mammals. The wetlands of Iran are globally significant: large populations of migratory birds spend winter at these wetlands.

Table 2: National Parks in I.R. of Iran (Stated as at 31.07.2002). According to the DoE, Bureau of Habitats and Protected Areas.

No.	Names of National Parks	IUCN category	Province	Established	Area (ha)
1	BAKHTEGAN	II	FARS	1995	160000
2	BOJAGH	II	GILAN	2002	3250
3	BAMOU	II	FARS	1970	48678
4	GOLESTAN	II	GOLESTAN	1982	88576
5	KAVIR	II	SEM NAN	1982	441486
6	KHABR	II	KERMAN	1999	148754
7	KHOJIR	II	TEHRAN	1982	10013
8	KOLAHGHAZI	II	ESFAHAN	1995	47040
9	LAR	II	TEHRAN	2001	29000
10	SORKH-E-HESAR	II	THERAN	1982	9168
11	SALOOK	II	KHORASAN	2002	6317
12	SARIGOL	II	KHORASAN	2002	5500
13	TANDOOREH	II	KHORASAN	1982	35540
14	TANG-E-SAYAD	II	CHAHARMAHAL& BAKHTIARY	1995	4372
15	TOURAN	II	SEM NAN	2002	118000
16	URUMIEH LAKE	II	W.AZARBAYJAN	1975	464056
	TOTAL				1619750

Table 3: Protected Areas in I.R of Iran (Stated as at 31.07.2002). According to the DoE, Bureau of Habitats and Protected Areas.

No.	Names of Protected Areas	IUCN category	Province	Established	Area (ha)
1	AGH DAGH	V	ARDEBIL	2000	4767
2	ABSHAR-E-MARGON	V	FARS	2000	3490
3	ABSHAR-E-SHIRGAH	V	MAZANDARAN	2000	3593
4	ASAS	V	MAZANDARAN	2002	3001
5	ALBORZ-E-MARKAZY	V	TEHRAN & MAZANDARAN	1957	410790
6	ANGORAN	V	ZANJAN	1975	92318
7	ARJAN & PARISHAN	V	FARS	1982	59784
8	ARASBARAN	V	E.AZARBAYJAN	1973	73460
9	BAGH-E-KESHMIR	V	KHORASAN	2000	18880
10	BIRK	V	SISTAN & BALOCHESTAN	2000	73217
11	BOZIN & MARAKHIL	V	KERMANSHAH	2000	23554
12	BELES KUH	V	MAZANDARAN	2002	11304
13	BOOLA	V	MAZANDARAN	2000	4767
14	BAHRAM-E-GOOR	V	FARS	1975	408000
15	BAHUKALAT(GANDO)	V	SISTAN & BALOCHESTAN	1982	461472
16	BASHGOL	V	GHAZVIN	1996	26004
17	BIDOYEH	V	KERMAN	1996	168033
18	BIJAR	V	KORDESTAN	1982	31612
19	BISOTUN	V	KERMANSHAH	1976	53700
20	CHAHAR BAGH	V	MAZANDARAN	2002	6294
21	DENA	V	KOHILOYEH & BOYERAHMAD	1990	89244
22	DINAR KUH	V	ILAM	2002	40579

Table 3 (Contd.)

No.	Names of Protected Areas	IUCN category	Province	Established	Area (ha)
23	DENAY-E-SHARGHY	V	KOHGILOYEH&BOYERAHMAAD	2002	28202
24	KUH-E-DIL	V	KOHGILOYEH&BOYERAHMAAD	2002	10381
25	DEZ	V	KHOZESTAN	1975	17533
26	FAROR	V	HORMOZGAN	1977	3080
27	GHALAJEH	V	KERMANS SHAH	2000	42609
28	GASHT-E-RODKHAN	V	GILAN	2000	39512
29	GENO	V	HORMOZGAN	1982	44598
30	GHORKHOD	V	KHORASAN	1982	43778
31	HAFTAD GHOLLEH	V	MARKAZY	1987	97407
32	HARA-E-NAYBAND	V	BOSHEHR	2002	354
33	HELEN	V	CHAHARMAH & BAKHTIARY	2000	40231
34	HAFT SHAHIDAN	V	KHOZESTAN	2002	9402
35	HEZAR JERIB	V	MAZANDARAN	2002	6294
36	HARA-E- HORMOZGAN	V	HORMOZAN	2002	94079
37	HAMOUN	V	SISTAN & BALOCHESTAN	1968	293030
38	HARA	V	HORMOZGAN	1987	86738
39	HELEH	V	BOSHEHR	1976	41642
40	HORMOD	V	FARS & HORMOZGAN	1974	196191
41	JAJRUD	V	TEHRAN	1982	54493
42	JAHANNAAMA	V	GOLESTAN	1974	38403
43	KALMAND	V	YAZD	1990	232326
44	KARKHEH	V	KHOZESTAN	1975	13995

Table 3 (Contd.)

No.	Names of Protected Areas	IUCN category	Province	Established	Area (ha)
45	KHAN-GHORMAZ	V	HAMADAN	2001	15805
46	KABIR KUH	V	ILAM	2002	18464
47	KHAMIN	V	KOHKILOYEH&BOYERAHMA	2002	25671
48	KHIBOS & ANJILSY	V	MAZANDARAN	2000	3434
49	KUH-E-BAFGH	V	KERMAN	1996	88527
50	KUH-E-SORKH,KHAEZ	V	KOHKILOYEH&BOYERAHMA	1996	33385
51	KAVIR	V	TEHRAN	1982	245112
52	LOVEH	V	GOLESTAN	2000	3591
53	LISAR	V	GILAN	1977	31044
54	LAVIG & SHAH NAZAR	V	MAZANDARAN	2002	9718
55	LASHKARDAR	V	HAMADAN	1990	16071
56	MIR ABAD	V	WEST-AZARBAIJAN	2002	11268
57	MALEH GALEH	V	FARS	2000	52263
58	MANESHT & GHELARANG	V	ILAM	1996	29325
59	MIAN-JANGAL-E-FASA	V	FARS	1996	56528
60	MARAKAN	V	W.AZARBAYJAN	1967	102190
61	MOND	V	BOSHEHR	1976	49951
62	NAYBAND	V	BOSHEHR	1978	16920
63	ORS-E-SISTAN	V	KHORASAN	2000	146146
64	OSHTORANKUH	V	LORESTAN	1970	98250
65	POZAK	V	SISTAN & BALOCHESTAN	2000	22835
66	PARVAR	V	SEM NAN	1976	66626
67	SABZKOH	V	CHAHARMAHAL & BAKHTIARY	1990	54291
68	SALOUK	V	KHORASAN	1973	6634

Table 3 (Contd.)

No.	Names of Protected Areas	IUCN category	Province	Established	Area (ha)
69	SHALO & MONGASHT	V	KHOZESTAN	2000	12553
70	SHIMBAR	V	KHOZESTAN	2000	54145
71	SHILA	V	SISTAN & BALOCHESTAN	2000	6365
72	SOLAK	V	KOHGILOYEH & BOYERAHMAD	2002	19268
73	SIAH ROOD	V	GILAN	2000	28136
74	SARVE LAT	V	GILAN	2000	21254
75	SHESH-E-ROODBAR	V	MAZANDARAN	2002	7997
76	SIAH BISHEH	V	MAZANDARAN	2002	15564
77	SERAJ	V	HORMOZGAN	2000	58618
78	SIAH KUH	V	YAZD	2002	199510
79	SARIGOL	V	KHORASAN	1982	17081
80	SEFIDKUH-E-KHORRAMABAD	V	LORESTAN	1990	71477
81	SARANY	V	KHORASAN	1982	15895
82	SIAHKESHIM	V	GILAN	1982	4115
83	SORKHABAD	V	ZANJAN	1996	120079
84	TANDOUREH	V	KHORASAN	1982	9250
85	TANG-E-BOSTANAK	V	FARS	2000	15343
86	TANG-E-SAYD	V	CHAHARMAHAL& BAKHTIARY	1973	22852
87	TOURAN	V	SEM NAN	1976	1102080
88	VARJIN	V	TEHRAN	1982	27000
89	ZAV	V	GOLESTAN	2002	14324
90	ALVAND	V	MARKAZI	2002	7200
	TOTAL				6556296

Table 4 : Biosphere Reserves in I.R. of Iran (Stated as at 31.07.2002). According to DoE, Bureau of Habitats and Protected Areas.

No	Names of Biosphere Reserves	Province	Established	Area (ha)	Notes
1	Arasbaran	E.AZARBAIJAN	1977	72460	Protected Area
2	Arjan & Parishan	FARS	1977	52800	Protected Area
3	Geno	HORMOZGAN	1977	27500	Protected Area
4	Golestan	GOLESTAN	1977	91895	National park
5	Hara	HORMOZGAN	1977	85686	Protected Area
6	Kavir	TEHRAN&SEM NAN	1977	420000	National and protected Area
7	Miankaleh	MAZANDARAN	1977	68800	Wildlife refuge
8	Touran	SEM NAN	1977	1470640	Protected Area and wildlife refuge
9	Urumieh - Lake	W. AZARBAIJAN	1977	463600	National park
	TOTAL			2375381	

Table 5 : Wildlife Refuges in I.R. of Iran (Stated as at 31.07.2002). According to the DoE, Bureau of Habitats and Protected Areas.

No	Names of Wildlife Refuges	IUCN category	Province	Established	Area(ha)
1	AMIRKALAYEH	IV	GILAN	1975	1106
2	ANGORAN	IV	ZANJAN	1975	29764
3	LAVANDVIL	IV	GILAN	1973	1026
4	BAKHTEGAN	IV	FARS	1995	200404
5	BISOTUN(VARMANGEH)	IV	KERMANSHAH	1975	39000
6	BOROUEEYEH	IV	YAZD	2002	100000
7	DAREH ANJIR & NEIBAZ	IV	YAZD	2002	150000
8	DASHT-E-NAZ	IV	MAZANDARAN	1975	56
9	DEZ	IV	KHOZESTAN	1975	5301
10	DODANGEH	IV	MAZANDARAN	1974	15673
11	FEREIDONKENAR	IV	MAZANDARAN	1984	48
12	GHAMISHLOO	IV	ESFAHAN	1995	86892
13	HEIDARY	IV	KHORASAN	2002	39300
14	KARKHEH	IV	KHOZESTAN	1975	5026
15	KHARKO	IV	BOSHEHR	1975	312
16	KHOSHYEYLAGH	IV	SEM NAN	1973	143146
17	KIAMAKY	IV	E-AZARBAIJAN	1975	95742
18	KOLAGHAZY	IV	ESFAHAN	1995	4120
19	MEHROYEH	IV	KERMAN	1975	7535
20	MIANDASHT	IV	KHORASAN	1975	88427

Table 5 (Contd.)

No	Names of Wildlife Refuges	IUCN category	Province	Established	Area(ha)
21	MIANKALEH	IV	MAZANDARAN	1975	63317
22	MOOTEH	IV	ESFAHAN	1980	200879
23	NAYBANDAN	IV	AZD	2001	1500000
24	ROCHON	IV	KERMAN	1975	28166
25	SELKEH	IV	GILAN	1975	238
26	SEMESKANDEH	IV	MAZANDARAN	1975	968
27	SHADEGAN	IV	KHOZESTAN	1975	327765
28	SHIDVAR	IV	HORMOZGAN	1975	98
29	SHIRAHMAD	IV	KHORASAN	2002	22629
30	SORKHANGOL	IV	GILAN	2002	4477
31	JASB	IV	MARKAZI	2002	17100
32	RASVAND	IV	MARKAZI	2002	10500
33	TOURAN	IV	SEMNAN	1976	244912
	TOTAL				3433927

The environmental problems of Iran are as follows:

- Inadequate general knowledge of the importance of the ecological process and biodiversity.
- Lack of accessible information about the country's environmental condition.
- Inappropriate exploitation of resources.
- Production and consumption of resources in a manner which is incompatible with environmental conservation.
- Economic activities taking place at inappropriate locations.
- Lack of knowledge regarding sectoral and regional macro policies and programmes.
- Weaknesses in executing environmental acts and regulations as well as monitoring programmes.
- Lack of proper clarification with regard to policies.

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