

Introduction

Environment is a set of physical and biological factors along with their interactions that affect the behaviors and growth of organisms. Thus, environment is beyond the set of natural, biological, and non-biological factors and also includes the interaction between human and nature. By considering the fact that in the 21st century, environmental protection is one of the Millennium Development Goals (MDGs) and one of the three principles of sustainable development (environmental sustainability, economic sustainability, and social sustainability) and due to its increasing importance and impacts on other socio-economic activities, a separate chapter on "Environment Statistics" was dedicated to this issue in the Iran Statistical Yearbook since the year 1392.

Natural environment is affected by the human activities in different forms. These impacts on the three constituting factors of environment are as follows:

Water

The most important impacts of human activities on the water are summarized in three ways: water overuse, depletion of water resources, and pollution of surface and underground waters.

The quality of water is another challenge countries face. The pollution amount of some waters and its progressive trend is worrying. The ground waters, lakes, and springs are main resources of fresh waters which are directly subject to pollution through human activities.

Soil

The most important impacts of human activities on soil are: soil poisoning and erosion which lead to destruction and decrease of arable lands capacity; overall, soil erosion is a natural process which occurs by wind or water flows, and temperature changes. However, human activities such as intense farming, irrigation of farmlands, monocropping, overgrazing, deforestation, and desertification lead to imbalance between soil formation and its degradation processes and finally soil pollution.

Air

Air pollution is the direct or indirect introduction of every material by humans possibly causing undesirable impacts on human health and environment.

The information presented in this chapter include statistics of natural resources; national heritage, forests, ranges, and deserts; amount of distributed fertilizers; sold pesticides; emission of pollutants; activities of urban and industrial sewage; and the environmental specifications of health and medical centres.

The statistics on natural resources protected by the Iran Department of Environment included in the Chapter "Land and Climate" from the year 1386 to the year 1390 and the statistics on forests, ranges, and deserts and the statistics on the amount of distributed fertilizers; and sold pesticides which were presented in the Chapter "Agriculture, Forestry, and Fisheries" of the Iran Statistical Yearbook, are presented in the Environment Chapter due to its closer relation with the environment sector. This Chapter also contains the statistics of emission of pollutant and greenhouse gases resulted from the burning of different types of fuels, which have been published in the Energy Balance Sheet of the Ministry of Energy since the year 1377.

This Chapter also includes the statistics produced by the "National Water and Wastewater Engineering Corporation", "the Ministry of Industry, Mine and Trade" and the "Ministry of Health, Treatment, and Medical Education."

Definitions and Concepts

National parks: an area of the nation's natural resources such as jungles, pastures, natural coppices, woodlands, plains, water and mountainous regions which presents distinguished samples of Iran's natural manifestations and is protected in order to provide sustainable preservation of its natural and diverse conditions and create a suitable environment for reproduction and breeding of wildlife and growth of plants in a completely

natural condition.

Wildlife habitats: an area of the nation's natural resources such as jungles, pastures, natural coppices, woodlands, plains, water and mountainous regions which has typical natural habitats and special ecological conditions for wildlife and is protected in order to preserve or rehabilitate these protected habitats.

Nature reserves: protected areas of the country's nature, including jungles, pastures, plains, or mountainous regions which are important for preserving and reproduction of wild animals or rehabilitation of plantations or natural conditions.

National natural heritages: specific and rare species of plants or animal and unique picturesque settings or views, specific natural forms of the earth as well as very old trees which are protected in an appropriate area.

Greenhouse gases: The vapor of H₂O, CO₂, NO₂, CH₄, O₃, HFCs, and PFCs are called greenhouse gases.

Range: a land, be it a mountain, mountainside, or a plain, which is covered with herbaceous forage crops in grazing season and already grazed, is commonly known as range. Fallows, even though covered with herbaceous forage crops, are not included in this category.

Log: a portion of the trunk of a fallen tree, almost cylindrical, used to produce types of wood or veneer.

Sawn wood: articles of wood in specific sizes (length, width and height).

Pole: wood from the trunk of a tree the chest-high diameter of which is between 8 and 30 centimetres.

Pitprop: rounded piece of wood, almost two metres long, with a median diameter of 6 to 20 centimetres and used in mines.

Timber: round wood 1.5 to 2.0 metres in length and 20-40 centimetres in diameter that cannot be turned into sawn wood.

Pulpwood: wastes of articles of wood in different sizes and lengths.

Mulching: is a practice for covering soil to prevent it from erosion, keep its temperature and

retain its moisture.

Living windbreak: a line of trees, shrubs or other vegetation planted across the usual wind direction to break the force of the wind and lower its speed, causing the sand and other materials carried by the wind to be deposited behind it in an order of size.

Artificial windbreak: rows of artificial obstacles (like fence, wall, dead branches, etc.) constructed across the usual wind direction to break the force of the wind and lower its speed, causing the sand and other materials carried by the wind to be deposited behind it in an order of size.

Preservation: selection and declaration of the areas of regions with high erosion or sensitive to erosion.

Forest: land which is covered with natural green coverage or planted trees and shrubs and its main economic product is wood. The tree nurseries are not considered as forest. Plastic bag seedlings and nurseries created for the purpose of forest protection and development of forests are considered as forest.

Sewage extension: refers to the part of minorsewage pipelines, including pipes and related accessories, with a profile appropriate to siphon or contractual capacity, which carries joint sewages away from the siphon to the private line or to the public network for collecting sewages.

Customer of sewage and water: A customer who has a contract with a sewage and water supplier for a determined time period and his/her needed extension(s) is/are installed.

Water and sewage extension for household use: This kind of extension is installed in the residential units for conventional consumption of drinking water or disposal of household sewage.

(a place recognized by the Water and Sewage Company, a residential unit is defined as a place for living which has at least one room, a kitchen, a toilet, and has independent entrance or has an entrance leading to a common hallway).

Public network for collection and transmission of sewage: refers to all installations and equipment, such as main collectors, used for collection and transmission of sewage to water

treatment house and pump houses of urban sewage and public side networks, all belonging to the Water and Sewage Company. The network is not responsible for collection, transmission and disposal of rainfall water flowing on passages, flood channels and channels inside and outside cities and located in the customers' estates.

Sewage services: providing the services such as sewage removal and disposal to the public network for collection and transmission of sewage based on water consumption, and capacity and specifications determined and agreed in the contract related to the network installation whether the customer makes use of this capacity or not.

Treatment and removal of sewage: refers to all the operations related to the use of installation and the equipment related to the wastewater removal and treatment such as wastewater treatment plants, pumping stations, and different types of chlorination installations, channels and wastewater transmission lines.

Selected information

In the year 1395, the area of zones protected by the Iran Department of Environment was about 17298265 hectares of which the Ostans of Kerman with 2405944 hectares and Qazvin with 25454 hectares had the highest and lowest areas respectively. In this year a number of 2298 conflagrations happened in the forests and ranges which shows an increase of 10.1 percent in comparison with the previous year.

In the year 1395, the average volume of collected wastewater was 4401032 cu m which shows a 3.7 percent rise compared to the year 1394. The Ostans of Tehran and Khuzestan with 18.2 percent and 13.2 percent had the most collected wastewater volume and the Ostans of Semnan and South Khorasan with 0.2 percent and 0.3 percent of total nation's wastewater had the lowest volumes, respectively.

In the year 1394, among the pollutant and greenhouse gases resulted from burning of fuels in transportation sector, CO₂ with 148460232 tons had the greatest portion; namely 93% of the total pollutant and greenhouse gases emitted in this sector. It should be cited that the greatest

portion of CO₂ production is related to the burning of gasoilne and the lowest one goes to the liquefied gas.

In the year 1395 about 47 percent of the population of the country were under the coverage of the network for collection and transmission services of urban sewage which shows a 3 percent rise compared to the previous year. The highest share of the population under the coverage of this network belong to the Ostan of Kordestan with 92 percent and the lowest shares of the population under the coverage of this network belong to the Ostans Kerman and Mazandaran with 11 percent, respectively.

In the year 1395, 90.3 percent of hospitals enjoyed appropriate solid waste management system; moreover, 77.6 percent of hospitals had appropriate sewage management system which shows a 6.3 and 3.3 percent increase in comparison with the previous year, respectively.

2.1. NUMBER AND AREA OF ZONES PROTECTED BY IRAN DEPARTMENT OF ENVIRONMENT AT THE END OF THE YEAR 1395 (hectare)

Ostan	Total		National park		Wildlife habitat	
	Number	Area	Number	Area	Number	Area
Total country.....	276	17298265	29	2024005	44	5626229
East Azarbayejan.....	14	594749	2	15914	1	89014
West zarbajejan.....	7	663324	1	541315	2	5757
Ardebil	4	136979	0	0	0	0
Esfahan	10	1001676	2	77148	4	624744
Alborz.....	6	153359	0	0	0	0
Ilam	1	72169	0	0	0	0
Bushehr	7	155307	2	68193	1	2082
Tehran	10	432642	3	55151	0	0
Chaharmahal & bakhtiyari.....	7	161981	1	4372	0	0
South Khorasan	11	194080	3	30542	1	69174
Khorasan-e-Razavi	28	1043961	1	35542	3	98777
North Khorasan	7	1873934	0	0	3	1602334
Khuzestan	15	687031	2	11594	1	328923
Zanjan	3	244164	0	0	1	29812
Semnan	7	2109852	2	543285	2	453458
Sistan & Baluchestan ...	9	886020	0	0	1	293031
Fars	11	1202552	3	255375	1	153721
Qazvin	1	25454	0	0	0	0
Qom	1	34177	0	0	0	0
Kordestan	5	191959	0	0	1	3292
Kerman	16	2405944	1	149982	4	1431743
Kermanshah	6	166371	0	0	1	41713
Kohgiluyeh& Boyerahmad	8	208699	1	25839	0	0
Golestan	4	138797	1	90960	0	0
Gilan	15	132608	1	3477	5	4172
Lorestan	5	177263	0	0	1	24824
Mazandaran	23	528625	2	36982	5	84981
Markazi	5	133625	0	0	2	27916
Hormozgan	16	693247	0	0	2	4378
Hamedan	6	62351	0	0	0	0
Yazd	8	785363	1	78334	2	252383

2.1. NUMBER AND AREA OF ZONES PROTECTED BY IRAN DEPARTMENT OF ENVIRONMENT AT THE END OF THE YEAR 1395 (continued) (hectare)

Ostan	Protected zones ⁽¹⁾		National natural heritages	
	Number	Area	Number	Area
Total country	166	9607092	37	40939
East Azarbayejan.....	10	488352	1	1469
West zarbayejan.....	3	116250	1	2
Ardebil	2	129108	2	7871
Esfahan	4	299784	0	0
Alborz.....	4	151830	2	1529
Ilam	1	72169	0	0
Bushehr	2	77750	2	7282
Tehran	4	372996	3	4495
Chaharmahal & bakhtiyari.....	5	157196	1	413
North Khorasan	4	94280	3	84
Khorasan-e-Razavi	21	899891	3	9751
South Khorasan	4	271600	0	0
Khuzestan	11	346469	1	45
Zanjan	2	214352	0	0
Semnan	3	1113109	0	0
Sistan & Baluchestan	4	592757	4	232
Fars	7	793456	0	0
Qazvin.....	1	25454	0	0
Qom	1	34177	0	0
Kordestan	4	188667	0	0
Kerman	10	824219	1	0
Kermanshah	3	124641	2	17
Kohgiluyeh& Boyerahmad	7	182860	0	0
Golestan	3	47837	0	0
Gilan	5	124698	4	261
Lorestan	3	152438	1	1
Mazandaran	13	401139	3	5523
Markazi	2	105705	1	4
Hormozgan	13	686913	1	1956
Hamedan	6	62351	0	0
Yazd	4	454644	1	2

1. Central Alborz Protected Area is located in three Ostans namely Ostans of Tehran, Alborz, and Mazandaran.

Source: Iran Department of Environment.

2.1. AREA OF ZONES PROTECTED BY IRAN DEPARTMENT OF ENVIRONMENT (1000 HECTARES)



For data see Table 2.1.



2.2. AREA OF FORESTS, RANGES AND DESERTS BY OSTAN, THE YEAR 1395 (hectare)

Ostan	Forests	Ranges				Desert phenomena ⁽¹⁾
		Total	Good (dense)	Fair (semi-dense)	Poor (low dense)	
Total country	14319063	84814991	7181251	21419151	56214590	32576492
East Azarbayejan.....	143467	2473441	703729	1359707	410005	112370
West zarbayejan.....	100958	2472508	553792	1063376	855340	181103
Ardebil	51665	903896	427906	457642	18349	1337
Esfahan	411847	6328655	280070	403988	5644597	2985827
Alborz.....	2420	438169	187209	125480	125480	12657
Ilam	634461	1112357	27835	479788	604735	33923
Bushehr	204306	1262995	8777	409208	845010	331682
Tehran	23895	848298	220289	349042	278967	143529
Chaharmahal & bakhtiyari.....	335654	908152	182315	390823	335013	118893
South Khorasan	712033	6288092	6184	632226	5649682	1129364
Khorasan-e-Razavi	667341	6558356	304530	2147046	4106780	593620
North Khorasan	424740	1555206	112615	627244	815348	43279
Khuzestan	938326	2477691	571073	1353096	553522	521341
Zanjan	61113	1137060	240442	425301	471317	79931
Semnan	340168	3731083	210807	585093	2935183	5112294
Sistan & Baluchestan	370786	10648499	217096	908129	9523274	4804956
Fars	2218925	7319987	57706	1735276	5527005	669725
Qazvin	26871	853485	252550	430122	170813	29151
Qom	4149	723019	2498	34830	685691	176383
Kordestan	372307	1294397	437855	494212	362330	3354
Kerman	591823	8186300	81323	2214046	5890931	7860548
Kermanshah	528507	1188438	164352	476166	547920	25916
Kohgiluyeh& Boyerahmad	795786	478812	63966	144418	270428	40427
Golestan	415221	862825	381317	401887	79621	26
Gilan	545576	244986	98843	131684	14459	1779
Lorestan	1226367	883505	146857	672209	64439	11741
Mazandaran	1006518	584711	357671	205068	21973	1086
Markazi	1548	1772951	465804	1140366	166781	73143
Hormozgan	1053745	4093342	712	210907	3881724	1515013
Hamedan	1441	665767	323505	283977	58285	26372
Yazd	107096	6518007	91623	1126795	5299589	5935725

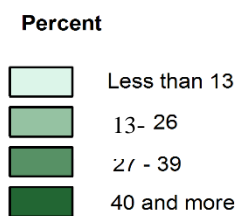
1. Including salt desert, sand dunes, sand sheets, clay plain, salt lands, lands with no vegetation and exposed bedrock outcrops.

Source: Forests, Range and Watershed Management Organization.

2.2. RATIO OF FORESTS AREA TO THE AREA OF THE TOTAL OSTANS, THE YEAR 1395



For data see Table 2.2 and 1.4



2.3. CASES AND AREAS UNDER CONFLAGRATION IN FORESTS AND RANGES

Year	Conflagration (case)			Area under conflagration (ha)		
	Total	Forests	Ranges	Total	Forests	Ranges
1380	801	369	432	7744	3184	4560
1385	1237	611	626	11132	2752	8380
1390.....	1324	447	877	36972	23656	13316
1391.....	1183	506	677	8131	1544	6587
1392.....	1897	657	1240	15134	3649	11485
1393.....	2016	1134	882	18828	6789	12039
1394.....	2088	887	1201	18480	4716	13764
1395.....	2298	905	1393	21512	8712	12800

Source: Forests, Range and Watershed Management Organization.

**2.4. VOLUME OF WOOD PRODUCTS⁽¹⁾ UNDER JURISDICTION OF MANAGEMENT OF
GENERAL DEPARTMENTS OF NATURAL RESOURCES OF NORTHERN FOREST
AREAS**
(1000 cu m)

Year	Log	Sawn wood and sleepers	Poles, pit props and pulpwood	Fuel wood	Charcoal (1000 tons)
1380	328	87	245	504	6
1385	285	50	209	295	1
1390.....	255	31	230	221	//
1391.....	288	35	250	250	1
1392.....	233	31	205	197	//
1393.....	256	31	205	191	//
1394.....	201	26	166	162	//
1395.....	162.5	21.75	138	145.19	0.87

1. Including 5% defect and sawn wood amount for the years 1385 and 10% for the remaining years.

Source: Forests, Range and Watershed Management Organization.

2.5. COMBATING DESERTIFICATION AND DUNE STABILIZATION ACTIVITIES

Year and Ostan ⁽¹⁾	Plant nursery (ha)	Plastic bag seedling (1000)	Plantation (ha)	Seeding (ha)
1380	25	4290	34556	59610
1385.....	32	7349	31056	27724
1390.....	13	2569	8212	4748
1391.....	22	1575	3048	1010
1392.....	2	720	9990	843
1393.....	1	1163	13807	878
1394.....	17	1467	32134	2148
1395.....	7.2	536	11443	764
East Azarbayejan.....	0	0	0	0
West Azarbayejan.	0	0	100	0
Esfahan	0.5	0	454	564
Alborz	0	0	939	0
Ilam	0	0	120	0
Bushehr	0	100	0	0
Tehran	0	0	0	0
South Khorasan	//	36	265	0
Khorasan-e-Razavi.....	6	300	800	0
North Khorasan	0	0	30	0
Khuzestan	0	0	4525	0
Semnan	0.5	50	1530	200
Sistan & Baluchestan	0	0	0	0
Fars	0	0	30	0
Qazvin.....	0	0	1215	0
Qom.....	0	0	0	0
Kerman	0	50	320	0
Golestan	0	0	465	0
Markazi	0	0	300	0
Hormozgan	0	0	90	0
Hamadan	0	0	40	0
Yazd	0	0	220	0

2.5. COMBATING DESERTIFICATION AND DUNE STABILIZATION ACTIVITIES**(continued)**

Year and Ostan ⁽¹⁾	Seed gathering (ton)	Mulching (ha)	Windbreak (not living) (km)	Windbreak (km)	Preservation (ha)	Preparation of projects for combating desertification (1000ha)
1380	489	1650	468	0	703937	289
1385.....	230	4452	42	1087	816831	254
1390.....	72	0	23	518	408404	8000
1391.....	95	0	0	55	221851	0
1392.....	60	0	0	779	192233	9
1393.....	92	0	1	1493	247073	23
1394.....	77	605	17	336	210602	0
1395.....	29	7	318	808	693816	25
East Azarbayejan.....	0	0	37	0	0	0
West Azarbayejan.....	0	0	130	0	1500	0
Esfahan	0	7	150	0	30500	0
Alborz	0	0	0	0	6337	0
Ilam	0	0	0	0	0	0
Bushehr	0	0	0	0	0	0
Tehran	0	0	0	0	12250	10
South Khorasan.....	15	0	1	0	0	0
Khorasan-e-Razavi.....	6	0	0	0	410000	0
North Khorasan.....	0	0	0	0	7000	0
Khuzestan	0	0	0	0	29000	0
Semnan	8	0	0	60	100000	15
Sistan & Baluchestan	0	0	0	0	0	0
Fars	0	0	0	0	0	0
Qazvin.....	0	0	0	0	0	0
Qom.....	0	0	0	0	2872	0
Kerman	0	0	0	693	0	0
Golestan	0	0	0	0	600	0
Markazi	0	0	0	38	93200	0
Hormozgan	0	0	0	17	0	0
Hamadan	0	0	0	0	0	0
Yazd	0	0	0	0	557	0

1. Ostans not mentioned have no activities in this field.

Source: Forests, Range and Watershed Management Organization.

2.6. ACTIVITIES CARRIED OUT ON RANGE MANAGEMENT, BALANCE OF LIVESTOCK AND RANGE MANAGEMENT, AND IMPROVEMENT AND REHABILITATION OF RANGELANDS

Activity	Units	The year 1380	The year 1385	The year 1390	The year 1391	The year 1392	The year 1393	The year 1394	The year 1395
<i>Range management and balance of livestock and range management⁽¹⁾</i>									
Cadastral survey, delineation and control of grazing permits.....	1000 ha	2666	3993	2439	857	601	1877	283	1112.5
Preparation of range management plans.....	1000 ha	1009	1531	462	194	2	36	38	16
Range and livestock grazing management in range allotments	1000 ha	11059	59728	25732	16437	10768	4641	4018	4562
<i>Improvement and rehabilitation of rangelands⁽²⁾</i>									
Improvement and rehabilitation of rangelands project	1000 ha	0	136	0	-	0	0	0	0
<i>Rehabilitation and restoration of rangelands⁽²⁾</i>									
Transplanting seedlings.....	1000 ha	17	4	1	1	1	1	2	1
Direct seeding and hoeing..	1000 ha	61	49	19	5	5	6	5	0
Fertilizer spreading on rangelands	1000 ha	17	29	9	4	3	1	2	//
Water harvesting	1000 ha	59	42	43	3	4	4	3	5.98
Providing water troughs	Set	1581	2105	1181	292	278	632	620	269
Drilling shallow wells	case	173	90	57	24	35	43	15	6
Installation of wind pumps..	Set	11	18	29	0	3	1	3	4
Seed production.....	Ton	468	390	1840	303	188	17	124	34.9
Restoration of pastures on degraded marginal lands	1000ha	11	12	4	2	1	1	1	2

1. National plan of "Range management and Balance of Livestock and Range", since 1384 was renamed "Sustainable Management of National Rangelands" and the name of some projects of which changed accordingly, too.

2. Since the year 1384, the plan of "Improvement and Reformation of Range lands" has been provincialized and since 1386 its projects have been conducted in the form of "Improvement and Rehabilitation of Rangelands".

Source: Forests, Range and Watershed Management Organization.

2.7.AMOUNT OF FERTILIZERS DISTRIBUTED BY TYPE (ton)

Year and Ostan	Total	Nitrogenous	Phosphate	Potash	Macro & micro elements
1380	2919813	1761637	656242	213176	288758
1385.....	4574238	2511989	1244861	378162	439226
1390.....	1603623	1093827	315146	61900	132750
1391.....	1633822	1383979	194196	53947	1700
1392.....	1645379	1193247	443558	8574	0
1393.....	2193023	1402276	540089	250658	0
1394.....	1432288	1148765	212970	70553	0
1395.....	1690288	1438960	131941	119387	0
East Azarbayejan.....	68211	63149	2266	2796	0
West Azarbayejan	61776	49453	9404	2919	0
Ardebil	55990	53862	1826	302	0
Esfahan	55364	46942	3699	4723	0
Alborz	9253	8085	224	944	0
Ilam	23757	21651	1258	848	0
Bushehr	3125	2099	725	301	0
Tehran	28314	25204	200	2910	0
Chaharmahal & Bakhtiari	25607	21693	1626	2288	0
South Khorasn	11106	8010	348	2748	0
Khorasan-e-Razavi.....	125756	104619	9789	11348	0
North Khorasn	23334	19995	1450	1889	0
Khuzestan	246081	214689	19477	11915	0
Zanjan	43514	35783	5998	1733	0
Semnan	15617	13253	870	1494	0
Sistan & Baluchestan	21144	18957	1234	953	0
Fars	126297	114848	2276	9173	0
Qazvin	40274	32154	4277	3843	0
Qom	10970	6858	2890	1222	0
Kordestan	47269	40770	4865	1634	0
Kerman ⁽¹⁾	81818	66240	2619	12959	0
Kermanshah	75167	60264	10935	3968	0
Kohgiluyeh & Boyerahmad	18270	16591	700	979	0
Golestan	130593	110572	10842	9179	0
Gilan	48502	40512	4919	3071	0
Lorestan	63221	54320	5693	3208	0
Mazandaran	100873	85692	9883	5298	0
Markazi	46546	37879	5446	3221	0
Hormozgan	12900	8528	258	4114	0
Hamedan	59906	50354	5494	4058	0
Yazd	9733	5934	450	3349	0

1. The amount of fertilizer distributed in Jiroft is included in Kerman Ostan.

Source: Agricultural Support Services Company.

2.8. PESTICIDES SOLD BY TYPE**(ton)**

Year	Total	Insecticides	Acaricides	Fungicides	Herbicides	Rodenti- cides	Mollusc- ocides	Granule and oil ⁽¹⁾	Others
1380	25578	⁽²⁾ 8663	1134	2813	7211	122	65	5537	33
1385	20894	⁽²⁾ 3917	240	3285	9971	5	0	3394	82
1390	3574	162	30	188	1181	0	0	2004	9
1391	1884	92	29	122	530	0	0	1109	1
1392	724	6	0	27	94	0	0	449	148
1393	1195	49	0	49	292	0	0	801	4
1394	997	57	46	0	45	0	0	830	19
1395	1241	66	178	9	39	0	0	947	2

1. Including diazinon granules, padan granules, emulsified oil and regent.

2. Including tablets.

Source: Agricultural Support Services Company.

2.9.EMISSION OF POLLUTANT AND GREENHOUSE GASES RESULTED FROM BURNING OF FUELS IN AGRICULTURE SECTOR BY TYPE**(ton)**

Description	NOX	SO ₂	SO ₃	CO	SPM	CO ₂	CH ₄	N ₂ O
1385	66602	68185	415	18968	29072	11114290	000	000
1390	60871	62639	381	14128	26593	12344301	642	4136
1391	60900	62542	380	14690	26607	12612274	649	4138
1392	60110	61659	375	14141	26277	12937229	644	4087
1393	54004	55519	340	12234	23604	12474815	590	3672
1394	000	000	000	000	000	15055261	302	36
Motor spirit	000	000	000	000	000	408076	17	3
Burning oil	000	000	000	000	000	947221	37	7
Gas oil	000	000	000	000	000	9276722	165	17
Fuel oil	000	000	000	000	000	3766856	73	7
Natural gas	000	000	000	000	000	656385	10	1

Source: Ministry of Energy.

**2.10. EMISSION OF POLLUTANT AND GREENHOUSE GASES RESULTED FROM
BURNING OF FUELS IN MANUFACTURING SECTOR BY TYPE (ton)**

Description	NOX	SO ₂	SO ₃	CO	SPM	CO ₂	CH ₄	N ₂ O
1385	131299	138668	1995	16473	15157	61522460	000	000
1390	162056	190465	2806	24553	16776	91536175	2009	316
1391	168065	202589	2996	14687	17228	94598785	2075	279
1392	162924	171867	2516	15669	16968	93437617	2023	267
1393	173129	172715	2530	21945	17793	100392669	2138	279
1394.....	157225	107646	1545	16663	16029	94462067	1931	239
Motor sprit	424	47	-	10990	41	74704	3	1
Burning oil.....	5	22	-	7	-	24217	1	//
Gas oil.....	11879	37298	475	475	3564	6693974	271	54
Fuel oil.....	14917	70013	1070	6	1492	4816915	187	37
Liquefied gas	35	//	-	23	-	53854	1	//
Natural gas.....	129965	266	-	5162	10932	82087473	1463	146
Coke gas	000	000	000	000	000	126626	3	//
Blast furnace gas.....	000	000	000	000	000	584303	2	//

Source: Ministry of Energy.

**2.11. EMISSION OF POLLUTANT AND GREENHOUSE GASES RESULTED FROM
BURNING OF FUELS IN TRANSPORTATION SECTOR BY TYPE**
(ton)

Description	NOX	SO ₂	SO ₃	CO	SPM	CO ₂	CH ₄	N ₂ O
<i>Total transportation sector</i>								
1385.....	853845	350932	3725	9512573	273446	111500973	000	000
1390.....	870086	410401	4572	7799735	307679	126377800	42470	5687
1391.....	895715	397972	4327	8286992	314674	130791492	45678	5930
1392.....	929137	417993	4576	8897621	320725	135987919	47025	6132
1393.....	979812	588904	7158	9035554	329885	150173422	48488	6291
1394.....	927285	609897	14230	9198114	302293	148460232	49692	6382
Motor sprit.....	348791	38755	0	9042740	33587	61466348	29225	2834
Gas oil.....	486895	319004	10469	125687	242874	51128585	2593	3368
Liquefied gas.....	000	000	000	000	000	75430	110	4
Natural gas.....	000	000	000	000	000	16046775	17734	57
Fuel oil.....	48020	225382	3443	18	4802	15506354	000	000
Jet fuel (JP4).....	703	78	0	18235	68	124642	1	4
Jet oil fuel (ATK).	42876	26678	318	11434	20962	4112098	29	115
<i>Road transportation</i>								
1385.....	794813	310544	3221	9449575	247237	104591386	000	000
1390.....	798551	347584	3752	7707863	275729	117951801	42390	5212
1391.....	828475	356394	3831	8208263	282824	123858601	45595	5430
1392.....	849715	357472	3812	8823312	283885	127213375	46938	5607
1393.....	860668	361671	3856	8957589	287229	129609960	48388	5685
1394.....	796333	317501	3319	9148244	252597	124256026	49531	5356
Motor sprit.....	348252	38695	0	9028756	33535	61372704	29225	2834
Gas oil.....	448081	278806	3319	119488	219062	46761117	2461	2461
Liquefied gas.....	000	000	000	000	000	75430	110	4
Natural gas.....	000	000	000	000	000	16046775	17734	57
<i>Railway transportation</i>								
1385.....	8200	5102	61	2192	4009	804228	000	000
1390.....	9234	5746	68	2462	4515	963676	54	372
1391.....	9886	6151	73	2636	4833	1031645	58	398
1392.....	10435	6493	77	2783	5102	1088999	61	420
1393.....	12236	7614	91	3263	5982	1276964	72	493
1394.....	22520	14012	167	6005	11010	2350110	132	907
Gas oil.....	22520	14012	167	6005	11010	2350110	132	907

2.11. EMISSION OF POLLUTANT AND GREENHOUSE GASES RESULTED FROM BURNING OF FUELS IN TRANSPORTATION SECTOR BY TYPE (continued) (ton)

Description	NOX	SO ₂	SO ₃	CO	SPM	CO ₂	CH ₄	N ₂ O
Marine transportation								
1385	18271	15720	212	17240	6815	2811404	000	000
1390	24959	34348	483	53801	9572	3802476	000	000
1391	20260	12820	155	42425	9246	2269475	000	000
1392	30546	30484	408	42484	13233	3939886	000	000
1393	65333	194224	2910	39844	16712	15225352	000	000
1394	64845	251627	10426	13988	17655	17617356	000	000
Motor spirit..	531	59	0	13776	51	93644	000	000
Gas oil.....	16294	26186	6983	194	12802	2017358	000	000
Fuel oil.....	48020	225382	3443	18	4802	15506354	000	000
Air transportation								
1385	32561	19565	231	43565	15385	3293955	000	000
1390	37342	22724	269	35609	17864	3659847	26	102
1391	37094	22607	268	33668	17771	3631771	25	102
1392	38440	23544	279	29042	18505	3745659	26	105
1393	41575	25395	301	34858	19962	4061147	28	114
1394	43587	26757	318	29877	21031	4236740	30	119
Jet fuel (JP4).....	703	78	0	18235	68	124642	1	4
Jet oil fuel (ATK).....	42876	26678	318	11434	20962	4112098	29	115
Motor Spirit	8	1	0	208	1	000	000	000

Source: Ministry of Energy.

2.12. EMISSION OF POLLUTANTS AND GREENHOUSE GASES RESULTED FROM BURNING OF FUELS IN HOUSEHOLDS, TRADE, AND PUBLIC SECTOR BY TYPE

(ton)

Description	NOX	SO ₂	SO ₃	CO	SPM	CO ₂	CH ₄	N ₂ O
1385	121164	87244	956	71176	12576	125869250	000	000
1390	115934	52887	582	47073	11284	136823495	3836	491
1391	107302	53774	614	45552	10517	127626346	4019	518
1392	116644	50646	578	46450	11347	138205055	4233	537
1393	115371	37505	397	48083	11205	137269757	4168	522
1394	116893	30076	296	47936	11368	139504993	4176	517
Motor spirit	644	72	-	16695	62	113484	5	1
Burning oil	1616	7758	-	2522	-	8417850	351	70
Gas oil	4665	14648	187	187	933	2628900	106	21
Fuel oil	1521	7139	109	1	152	491153	19	4
Liquefied gas.....	1419	31	-	14189	-	6513842	103	10
Natural gas	107028	428	-	14342	10221	115731419	2063	206
Animal waste	000	000	000	000	000	144605	43	6
Bush and thorn	000	000	000	000	000	1004201	301	40
Firewood	000	000	000	000	000	4415875	1183	158
Charcoal	000	000	000	000	000	2192	1	//
Coal	000	000	000	000	000	40801	//	1

Source: Ministry of Energy.

2.13. EMISSION OF POLLUTANT AND GREENHOUSE GASES RESULTED FROM BURNING OF FUELS IN REFINERY SECTOR BY TYPE

(ton)

Description	NOX	SO ₂	SO ₃	CO	SPM	CO ₂	CH ₄	N ₂ O
1385	000	000	000	000	000	000	000	000
1390	000	000	000	000	000	14915289	314	39
1391	000	000	000	000	000	14915289	314	39
1392	000	000	000	000	000	27052693	531	62
1393	000	000	000	000	000	24211800	476	55
1394	000	000	000	000	000	15055261	302	36
Gas oil	000	000	000	000	000	408076	17	3
Fuel oil	000	000	000	000	000	947221	37	7
Natural gas.....	000	000	000	000	000	9276722	165	17
Refinery gas.....	000	000	000	000	000	3766856	73	7
Liquefied gas.....	000	000	000	000	000	656385	10	1

Source: Ministry of Energy.

2.14. EMISSION OF POLLUTANT AND GREENHOUSE GASES RESULTED FROM BURNING OF FUELS IN POWER PLANTS AFFILIATED TO THE MINISTRY OF ENERGY, PRIVATE SECTOR, AND LARGE INDUSTRIES BY TYPE (ton)

Description	NOX	SO ₂	SO ₃	CO	SPM	CO ₂	CH ₄	N ₂ O
1385.....	172332	192733	2943	222	20728	110207121	000	000
1390.....	634884	709408	5130	148500	30724	165184877	4087	666
1391.....	629392	823623	5319	161831	31957	174664087	4273	698
1392 ⁽¹⁾	678024	910658	6574	162707	36199	179825215	4725	803
1393.....	651610	627934	4586	177660	31105	177744913	4243	654
1394.....	627724	437381	4158	162624	30330	174010543	4201	630
Ministry of Energy	247168	351775	2831	140313	15972	74999268	2132	359
Gas oil	17930	10815	313	636	1298	3800018	149	30
Natural gas	175445	-	-	70620	4134	47233443	664	66
Fuel oil	53793	340961	2518	69056	10540	23965807	1319	263
Private sector	366680	85442	1324	19499	13852	91944288	1980	262
Gas oil	100439	43930	1144	1489	4748	13804891	544	109
Natural gas	259092	-	-	17862	8352	75344476	1342	134
Fuel oil	7149	41512	180	147	752	2794921	94	19
large industries	13876	163	3	2813	506	7066987	89	9
Gas oil	88	163	3	17	13	33036	1	0
Natural gas	13788	-	-	2795	493	4565306	79	8
Coke gas ⁽²⁾	000	000	000	000	000	3716	0	0
Blast furnace gas ⁽²⁾	000	000	000	000	000	2464929	9	1

1. In the year 1392, kerosene delivered to the Ministry of Energy was mixed with gas oil to be consumed in power plants. Due to unavailability of emission coefficient of the kerosene consumed in power plants, emission amount of the pollutants of this energy carrier was not considered in the calculations.

2. Used as part of fuel in the Esfahan Steel Company.

Source: Ministry of Energy.

2.15. EMISSION OF POLLUTANT AND GREENHOUSE GASES RESULTED FROM BURNING OF FUELS IN POWER PLANTS AFFILIATED TO THE MINISTRY OF ENERGY, PRIVATE SECTOR, AND LARGE INDUSTRIES BY TYPE OF POWER PLANT AND POLLUTANT, THE YEAR 1394

(ton)

Description	NOX	SO ₂	SO ₃	CO	SPM	CO ₂	CH ₄	N ₂ O
Total	627724	437381	4158	162624	30330	174010543	4201	630
Ministry of Energy.....	247168	351775	2832	140313	15973	74999268	2132	359
Thermal plant.....	143232	341433	2527	136506	12059	47007644	1562	288
Gas power plant.....	41417	7372	196	1522	2341	17551116	338	43
Combined cycle.....	62418	2664	104	2284	1554	10385483	230	28
Diesel power plant.....	102	307	5	0	19	55024	2	0
Private sector	366680	85442	1323	19499	13852	91944288	1979	262
Thermal plant.....	44586	41681	182	12804	2162	16021139	320	42
Gas power plant.....	88617	26921	591	2852	5759	38869815	812	109
Combined cycle.....	233477	16841	550	3842	5931	37053334	847	111
large industries.....	13876	163	3	2813	505	7066987	90	9

Source: Ministry of Energy.

2.16. COVERAGE OF URBAN SEWAGE EXTENSION

Ostan	The year 1390		The year 1391	
	Cities under coverage of fresh water installation	Cities having sewage extension	Cities under coverage of fresh water installation	Cities having sewage extension
Total country	1055	258	1082	263
East Azarbayejan	57	12	57	12
West Azarbayejan.....	38	10	38	10
Ardebil	23	7	23	7
Esfahan	97	27	103	27
Alborz	17	4	19	4
Ilam.....	19	4	19	4
Bushehr.....	16	3	19	3
Tehran	41	7	41	8
Chaharmahal&Bakhtiyari.....	26	7	26	6
South Khorasan	19	1	19	1
Khorasan-e-Razavi	71	5	74	5
North Khorasan	18	2	18	2
Khuzestan	63	18	62	17
Zanjan.....	18	2	18	2
Semnan	17	5	18	6
Sistan&Baluchestan.....	36	2	37	3
Fars	79	6	78	7
Qazvin	26	10	26	13
Qom	2	1	5	1
Kordestan.....	23	19	23	19
Kerman	63	2	63	2
Kermanshah	27	27	27	27
Kohgiluyeh&Boyerahmad.....	12	2	15	2
Golestan.....	21	4	22	4
Gilan	48	33	48	33
Lorestan	23	7	23	7
Mazandaran	46	7	52	7
Markazi.....	29	7	29	7
Hormozgan	33	4	33	4
Hamedan.....	29	11	29	11
Yazd	18	2	18	2

2.16. COVERAGE OF URBAN WASTEWATER EXTENSION (continued)

Ostan	The year 1392		The year 1393		The year 1394	
	Cities under coverage of fresh water installation	Cities having sewage extension	Cities under coverage of fresh water installation	Cities having sewage extension	Cities under coverage of fresh water installation	Cities having sewage extension
Total country	1113	269	1125	280	1144	286
East Azarbayejan	57	12	58	12	58	12
West Azarbayejan.....	38	10	38	11	38	11
Ardebil	23	8	23	8	26	8
Esfahan	104	28	105	31	104	31
Alborz	19	7	19	7	19	7
Ilam.....	19	4	19	4	19	4
Bushehr.....	32	3	33	3	33	3
Tehran	41	8	41	8	41	8
Chaharmahal&Bakhtiari.....	34	6	34	8	38	8
South Khorasan.....	21	1	21	1	21	1
Khorasan-e-Razavi	74	5	74	7	74	8
North Khorasan.....	18	2	18	2	21	2
Khuzestan	62	17	62	17	62	17
Zanjan	19	2	19	2	21	3
Semnan	18	6	19	6	19	6
Sistan&Baluchestan.....	37	3	37	4	37	4
Fars	78	7	81	7	81	8
Qazvin	26	13	26	14	26	14
Qom	6	1	6	1	6	1
Kordestan.....	24	17	24	18	24	18
Kerman	67	2	69	2	69	2
Kermanshah	27	27	27	27	28	28
Kohgiluyeh&Boyerahmad.....	15	3	15	3	15	3
Golestan.....	22	4	22	4	22	4
Gilan	48	33	48	33	50	34
Lorestan	23	7	24	7	24	7
Mazandaran	52	7	52	7	54	7
Markazi.....	28	8	30	8	33	8
Hormozgan	36	5	36	5	36	6
Hamedan.....	29	11	29	11	29	11
Yazd	16	2	16	2	16	2

2.16. COVERAGE OF URBAN WASTEWATER EXTENSION (continued)

Ostan	The year 1395	
	Cities under coverage of fresh water installation	Cities having sewage extension
Total country.....	1154	295
East Azarbayejan.....	60	12
West Azarbayejan.....	38	11
Ardebil	26	9
Esfahan	104	31
Alborz.....	19	10
Ilam.....	19	5
Bushehr.....	33	3
Tehran	41	8
Chaharmahal&Bakhtiari.....	39	9
South Khorasan	24	1
Khorasan-e-Razavi	74	8
North Khorasan	21	2
Khuzestan	62	17
Zanjan.....	21	4
Semnan	19	6
Sistan&Baluchestan.....	37	4
Fars	83	8
Qazvin	26	14
Qom	6	1
Kordestan	24	18
Kerman	69	2
Kermanshah	28	27
Kohgiluyeh&Boyerahmad.....	15	3
Golestan.....	22	4
Gilan.....	50	35
Lorestan.....	24	7
Mazandaran	57	7
Markazi.....	32	8
Hormozgan	36	6
Hamedan.....	29	12
Yazd	16	3

Source: National Water and Wastewater Engineering Company.

2.17. NUMBER OF WASTEWATER-TREATMENT PLANTS

Ostan	The year 1385	The year 1390	The year 1391	The year 1392	The year 1393	The year 1394	The year 1395
Total country.....	90	137	146	150	156	164	182
East Azarbayejan.....	5	7	9	9	9	9	10
West Azarbayejan.....	4	7	7	7	7	8	9
Ardebil.....	3	3	3	3	3	3	4
Esfahan.....	16	21	21	21	24	24	25
Alborz.....	⁽¹⁾ 000	1	1	1	1	1	4
Ilam.....	3	4	4	4	4	4	5
Bushehr.....	2	3	3	3	3	3	3
Tehran.....	⁽¹⁾ 9	10	9	9	13	13	14
Chaharmahal&Bakhtiyari.....	4	5	5	5	5	5	6
South Khorasan.....	1	1	1	1	1	1	1
Khorasan-e-Razavi.....	5	7	7	7	7	10	12
North Khorasan.....	1	2	2	2	2	2	2
Khuzestan.....	4	6	6	6	7	7	8
Zanjan.....	2	2	2	2	2	2	3
Semnan.....	2	3	3	3	3	3	5
Sistan&Baluchestan.....	1	2	2	3	2	2	2
Fars.....	2	2	4	4	3	4	4
Qazvin.....	3	4	4	4	4	4	6
Qom.....	1	2	2	2	2	3	3
Kordestan.....	1	3	3	3	4	5	5
Kerman.....	1	1	1	1	2	1	1
Kermanshah.....	5	7	7	7	7	7	7
Kohgiluyeh&Boyerahmad.....	1	1	2	2	2	2	3
Golestan.....	2	3	4	4	4	4	4
Gilan.....	1	2	3	4	4	4	4
Lorestan.....	2	4	4	4	4	4	4
Mazandaran.....	2	6	6	6	6	6	6
Markazi.....	4	9	10	10	10	11	11
Hormozgan.....	1	5	5	4	4	4	4
Hamedan.....	1	3	5	7	5	5	5
Yazd.....	1	1	1	2	2	3	2

1. The statistics for Alborz are included with Tehran.

Source: National Water and Wastewater Engineering Company.

2.18. CUSTOMERS OF URBAN SEWAGE

Ostan	The year 1390		The year 1391	
	Total subscribers	Household subscriber	Total subscribers	Household subscriber
Total country	4247278	3896159	4683600	4269731
East Azarbayejan.....	393974	364045	436694	401536
West Azarbayejan	252191	238837	265617	251551
Ardebil	75527	70010	91674	84358
Esfahan	507722	461324	537273	482538
Alborz	24029	21211	34037	30358
Ilam	41812	38854	45162	42278
Bushehr	24602	24050	27583	26859
Tehran	325535	305403	413025	383392
Chaharmahal&Bakhtiyari	87155	81002	93352	86828
South Khorasan	27448	25866	33740	31678
Khorasan-e-Razavi.....	342256	285455	381109	321488
North Khorasan	33859	30227	40731	35907
Khuzestan	437089	391809	451024	403998
Zanjan	27402	25794	30693	28876
Semnan.....	26635	25582	33067	31799
Sistan&Baluchestan	33620	32867	41051	40298
Fars	173651	159830	191505	181027
Qazvin	103000	99541	124360	103751
Qom	34777	34196	39490	38858
Kordestan	218782	206899	244238	221913
Kerman	8238	7483	12664	11361
Kermanshah	293663	269395	304972	278481
Kohgiluyeh&Boyerahmad	15278	14475	20641	19348
Golestan	13460	12499	15767	14491
Gilan.....	219845	189115	226002	196609
Lorestan.....	141375	132592	147452	138458
Mazandaran.....	13040	12728	19771	19442
Markazi	114731	107539	123742	115166
Hormozgan.....	53388	48763	54905	49965
Hamedan	157244	154435	174339	171005
Yazd	25950	24333	27920	26114

2.18. CUSTOMERS OF URBAN SEWAGE (continued)

Ostan	The year 1392		The year 1393		The year 1394	
	Total subscribers	Household subscriber	Total subscribers	Household subscriber	Total subscribers	Household subscriber
Total country	5456792	4980614	5743982	5219090	6109084	5526748
East Azarbayejan	482885	441502	519041	467838	558518	504681
West Azarbayejan.....	278979	264182	312857	297218	326858	310424
Ardebil	105614	97201	119750	110356	129310	119375
Esfahan	561561	507504	588565	530868	611934	550526
Alborz.....	50771	46409	65432	60174	81810	75307
Ilam.....	48003	43633	52468	47756	56308	51378
Bushehr.....	29719	28871	32344	31332	34092	32970
Tehran	839622	775646	790862	737967	869620	785728
Chaharmahal&Bakhtiyari.....	96427	89627	104960	97387	111713	103467
South Khorasan.....	38092	35715	41480	38824	43923	40766
Khorasan-e-Razavi	426753	364818	461304	373896	487169	398294
North Khorasan.....	45659	41054	48283	43355	49892	44682
Khuzestan	468059	419618	486621	436251	499826	448522
Zanjan	35171	33228	35850	33874	36299	34382
Semnan	38074	36645	40688	39148	45458	43624
Sistan&Baluchestan.....	45976	45223	47085	46332	50995	50117
Fars	203232	192656	217291	206180	217872	206833
Qazvin	139674	117056	151890	127724	159807	134469
Qom	44085	43277	56002	54179	67426	65044
Kordestan.....	259267	235889	276649	251330	291545	265696
Kerman	15640	14073	18080	16184	25207	22938
Kermanshah	314783	287565	324791	295641	330305	301155
Kohgiluyeh&Boyerahmad.....	22889	21469	22889	21469	28290	26456
Golestan.....	20438	18882	24757	22789	28107	25800
Gilan	240013	206180	249422	213537	257440	219074
Lorestan	156720	147210	175714	165548	201902	187665
Mazandaran	29734	29361	32495	31929	34633	33573
Markazi.....	132365	123025	138428	127755	146598	135099
Hormozgan	67223	59509	69335	61114	71391	62520
Hamedan.....	189499	185672	207941	202470	220277	213983
Yazd	29865	27914	30708	28665	34559	32200

2.18. CUSTOMERS OF URBAN SEWAGE (continued)

Ostan	The year 1395	
	Total subscribers	Household subscriber
Total country	6491495	5863674
East Azarbayejan	610224	546310
West Azarbayejan.....	347996	330563
Ardebil	140493	128204
Esfahan	635946	571401
Alborz	93370	87475
Ilam.....	59690	54475
Bushehr.....	37306	35911
Tehran	937564	851533
Chaharmahal&Bakhtiari.....	125196	113171
South Khorasan.....	47209	43723
Khorasan-e-Razavi	520606	430267
North Khorasan.....	51879	45617
Khuzestan	512951	460316
Zanjan	43068	40905
Semnan	51482	49105
Sistan&Baluchestan.....	51201	48754
Fars	232256	220127
Qazvin	169501	143341
Qom	78731	76004
Kordestan.....	302879	276111
Kerman	28780	26227
Kermanshah	333713	304079
Kohgiluyeh&Boyerahmad.....	34267	31555
Golestan.....	29996	27443
Gilan	262805	223533
Lorestan	213191	191169
Mazandaran	38321	37043
Markazi.....	159015	146528
Hormozgan	74554	64965
Hamedan.....	230677	223827
Yazd	36628	33992

Source: National Water and Wastewater Engineering Company.

2.19. POPULATION UNDER COVERAGE OF COLLECTION AND REMOVAL SERVICES OF URBAN SEWAGE

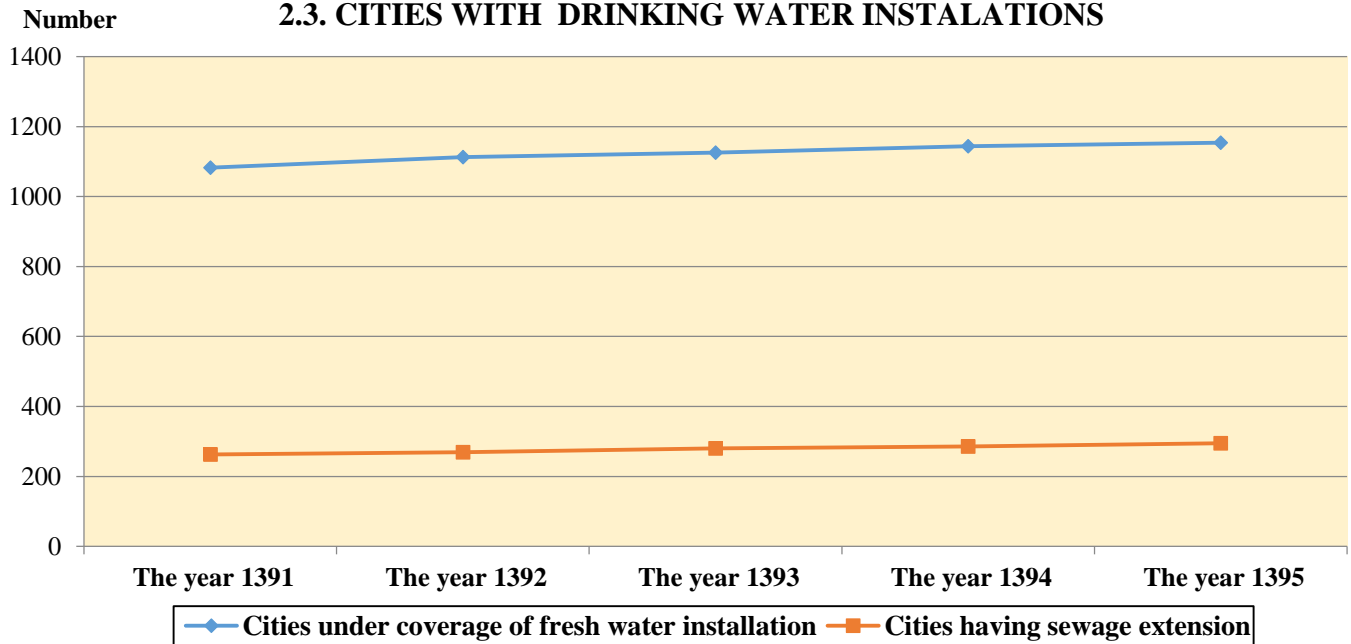
(percent)

Ostan	The year 1385	The year 1390	The year 1391	The year 1392	The year 1393	The year 1394	The year 1395
Total country	27	37	39	40	42	44	47
East Azarbayejan	39	54	56	57	57	57	60
West Azarbayejan.....	41	56	58	59	61	62	63
Ardebil	27	41	41	48	47	47	49
Esfahan	43	58	59	61	62	69	64
Alborz	⁽¹⁾ 000	11	17	21	16	24	28
Ilam.....	29	38	45	45	46	49	49
Bushehr.....	19	23	23	23	24	24	25
Tehran	⁽¹⁾ 18	24	26	30	32	37	42
Chaharmahal&Bakhtiyari.....	43	54	56	53	53	54	53
South Khorasan.....	21	28	35	35	30	30	30
Khorasan-e-Razavi	15	36	46	47	48	49	53
North Khorasan.....	21	28	29	30	31	32	34
Khuzestan	47	53	54	55	56	57	61
Zanjan	8	18	29	31	29	27	31
Semnan	11	14	16	18	19	21	23
Sistan&Baluchestan.....	8	12	17	17	17	18	19
Fars	11	24	26	27	28	29	35
Qazvin	41	55	66	67	68	66	62
Qom	14	20	22	24	28	33	34
Kordestan.....	75	97	99	91	91	92	92
Kerman	3	5	6	7	8	10	11
Kermanshah	52	64	66	65	65	86	86
Kohgiluyeh&Boyerahmad.....	13	18	20	23	23	20	28
Golestan.....	6	10	10	10	13	15	16
Gilan	54	62	63	65	68	67	68
Lorestan	40	54	56	56	55	58	58
Mazandaran	3	6	6	6	11	13	11
Markazi.....	36	52	53	53	54	61	62
Hormozgan	28	34	36	44	45	48	51
Hamedan.....	44	60	64	64	65	67	71
Yazd.....	7	12	16	17	20	21	23

1. The statistics for Alborz are included with Tehran.

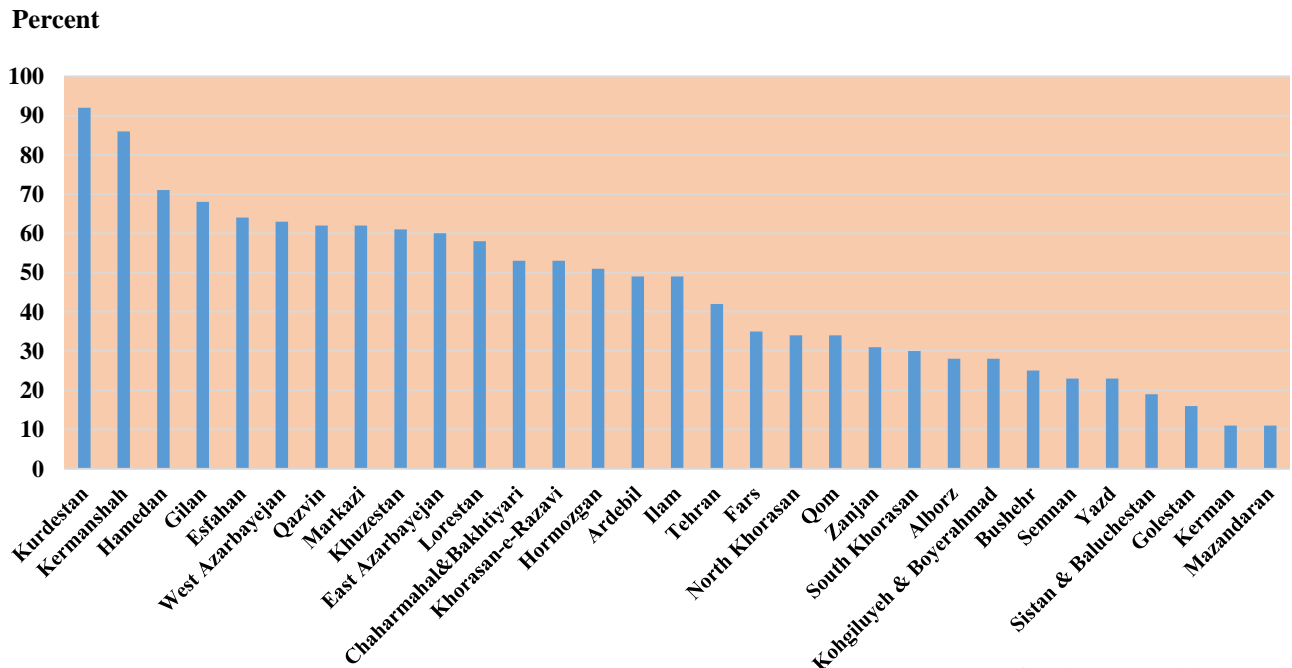
Source: National Water and Wastewater Engineering Company

2.3. CITIES WITH DRINKING WATER INSTALATIONS



For data see Table 2.19

2.4 .POPULATION UNDER COVERAGE OF COLLECTION AND REMOVAL SERVICES OF URBAN SEWAGE: The YEAR 1395



for data see table 2.19

2.20. AVERAGE VOLUME OF COLLECTED SEWAGE**(cum/day)**

Ostan	The year 1385	The year 1390	The year 1391	The year 1392	The year 1393	The year 1394	The year 1395
Total country.....	1938898	2863322	3021291	3492166	3848013	4242400	4401032
East Azarbayejan	88428	207648	208548	254321	257622	283262	274707
West Azarbayejan.....	121300	182430	194179	211078	223043	231530	243865
Ardebil	28640	47124	49929	57968	91623	95612	97418
Esfahan	390450	446526	451163	432192	427541	474923	482765
Alborz	⁽¹⁾ 000	26897	35139	49893	61645	89443	113241
Ilam.....	13400	21460	22598	25146	27224	28012	29848
Bushehr.....	17850	35262	38046	37224	36377	41820	44747
Tehran	⁽¹⁾ 495872	567088	572698	477321	367944	659753	801166
Chaharmahal&Bakhtiyari..	40256	45210	46448	47661	49277	52732	55256
South Khorasan.....	4060	8024	9358	11336	10490	13119	12895
Khorasan-e-Razavi	101370	159200	170925	274689	206370	221531	227268
North Khorasan.....	10890	15200	16443	16469	16459	17741	18827
Khuzestan	102090	130700	136244	518368	725611	768789	579329
Zanjan	3100	14230	18287	20179	21219	30340	31858
Semnan	900	6420	10609	15984	6233	10274	10905
Sistan&Baluchestan.....	8620	13150	14569	20719	16793	17269	17591
Fars	34112	129760	133873	143936	148211	154392	165658
Qazvin	22360	75240	79327	76296	90868	52954	97099
Qom	15620	53248	58249	65201	62400	69339	63022
Kordestan.....	51260	75246	79843	142396	192393	179008	192380
Kerman	1850	7122	9583	12254	15788	16983	17918
Kermanshah	126854	163580	168018	174692	228427	261228	234976
Kohgiluyeh&Boyerahmad..	1230	2841	2880	10548	10834	13388	20822
Golestan.....	984	8500	9826	13574	18002	21812	24171
Gilan	81254	120461	165768	129912	168786	179343	176189
Lorestan	61258	88546	90331	28415	86921	10558	85471
Mazandaran	5200	14200	15361	596	43973	33840	48041
Markazi.....	34560	72121	74662	79222	89750	92699	98914
Hormozgan	20150	40293	43628	47338	52792	55407	54616
Hamedan.....	49560	76541	85177	84701	79021	49274	60791
Yazd.....	5420	9054	9582	12537	14376	16025	19278

1. The statistics for Alborz are included with Tehran.

Source: National Water and Wastewater Engineering Company.

**2.21. LENGTH OF NETWORK FOR COLLECTION AND TRANSMISSION LINES
OF SEWAGE**
(km)

Ostan	The year 1390		The year 1391		The year 1392	
	Collection network	Transmission lines	Collection network	Transmission lines	Collection network	Transmission lines
Total country	42391	2390	46124	2678	48941	2752
East Azarbayejan	2420	22	2621	50	2733	50
West Azarbayejan	2278	58	2371	59	2441	61
Ardebil	933	32	989	33	958	16
Esfahan	5941	363	6247	371	6526	383
Alborz	508	26	631	27	704	29
Ilam	683	15	698	22	711	23
Bushehr	455	48	462	48	467	48
Tehran	4671	80	5652	124	5942	115
Chaharmahal&Bakhtiyari ..	886	73	900	81	927	85
South Khorasan.....	308	20	365	20	408	20
Khorasan-e-Razavi.....	2830	290	3094	291	3375	287
North Khorasan.....	274	18	309	21	340	22
Khuzestan	3798	435	4648	568	5670	609
Zanjan	363	10	414	14	421	14
Semnan.....	303	18	374	25	396	26
Sistan&Baluchestan	459	16	493	24	555	30
Fars	2043	181	2019	184	2094	186
Qazvin	1028	49	1141	49	1174	49
Qom	672	8	712	13	737	14
Kordestan	1453	122	1461	130	1536	155
Kerman	351	11	412	11	462	11
Kermanshah	2645	232	2696	236	2724	239
Kohgiluyeh&Boyerahmad ..	235	30	253	30	255	31
Golestan	484	23	516	23	524	23
Gilan	644	45	664	52	669	52
Lorestan	1179	31	1262	33	1286	33
Mazandaran.....	593	18	629	18	656	18
Markazi	1345	31	1409	31	1440	31
Hormozgan.....	750	16	766	16	788	17
Hamedan	1233	49	1265	51	1282	53
Yazd	626	20	651	23	740	23

**2.21. LENGTH OF NETWORK FOR COLLECTION AND TRANSMISSION LINES
OF SEWAGE (continued)**
(km)

Ostan	The year 1393		The year 1394		The year 1395	
	Collection network	Transmission lines	Collection network	Transmission lines	Collection network	Transmission lines
Total country	51147	2703	53334	2776	55626	2982
East Azarbayejan	2879	50	3096	60	3261	60
West Azarbayejan.....	2583	64	2709	66	2823	70
Ardebil	1098	39	1125	44	1163	45
Esfahan	6921	392	7231	407	7461	414
Alborz.....	765	30	815	30	858	34
Ilam.....	764	24	806	24	835	24
Bushehr.....	473	48	492	48	510	48
Tehran	6515	124	6928	153	7186	268
Chaharmahal&Bakhtiari.....	977	85	1070	85	1102	88
South Khorasan.....	427	22	452	22	463	22
Khorasan-e-Razavi	3558	300	3434	289	3995	309
North Khorasan.....	359	23	374	26	395	26
Khuzestan	5309	592	5376	625	5452	639
Zanjan	427	14	435	14	452	14
Semnan	421	27	462	27	460	27
Sistan&Baluchestan.....	614	30	654	30	666	30
Fars	2185	209	2322	212	2458	223
Qazvin	1207	49	1230	49	1263	53
Qom	803	15	841	15	878	15
Kordestan.....	1571	155	1600	134	1729	147
Kerman	498	11	520	11	551	12
Kermanshah	2627	107	2704	110	2718	112
Kohgiluyeh&Boyerahmad.....	255	31	285	21	292	21
Golestan.....	548	24	551	26	553	27
Gilan	679	53	687	53	691	53
Lorestan	1362	35	1430	35	1474	35
Mazandaran	691	18	825	20	868	20
Markazi.....	1485	31	1552	31	1608	32
Hormozgan	828	24	849	26	864	28
Hamedan.....	1325	56	1351	59	1379	59
Yazd.....	994	23	1129	23	1218	28

Source: National Water and Wastewater Engineering Company

2.22. NUMBER OF SEWAGE TREATMENT PLANTS⁽¹⁾ IN INDUSTRIAL TOWNS AND REGIONS BY OSTAN

Year and Ostan	In operation	Under construction	Under designing
1385	45	27	36
1390	129	33	40
1391	144	42	62
1392	156	37	59
1393	169	30	55
1394	187	21	47
1395	193	19	49
East Azarbayejan	9	1	6
West Azarbayejan	8	2	3
Ardebil	5	0	0
Esfahan	12	1	5
Alborz	3	0	0
Ilam	2	0	2
Bushehr	2	0	0
Tehran	9	1	1
Chaharmahal&Bakhtiari	5	0	3
South Khorasan	2	0	0
Khorasan-e-Razavi	8	0	2
North Khorasan	4	0	0
Khuzestan	7	3	1
Zanjan	4	1	0
Semnan	5	0	0
Sistan&Baluchestan	5	0	1
Fars	15	1	2
Qazvin	3	0	2
Qom	2	0	2
Kordestan	6	0	0
Kerman	8	0	0
Kermanshah	6	1	0
Kohgiluyeh&Boyerahmad	1	0	0
Golestan	11	0	2
Gilan	8	5	3
Lorestan	3	0	1
Mazandaran	14	1	3
Markazi	10	0	5
Hormozgan	3	0	0
Hamedan	9	0	2
Yazd	4	2	3

1. Statistics in tables in different years are accumulated.

Source: Ministry of Industry, Mine and Trade.

2.23. AREA OF LANDSCAPE⁽¹⁾ IN INDUSTRIAL TOWNS AND REGION BY OSTAN (ha)

Year and Ostan	Area of landscape
1385.....	616
1390.....	5441
1391.....	6165
1392.....	6209
1393.....	6604
1394.....	7336.5
1395.....	7505.1
East Azarbayejan.....	307.4
West Azarbayejan	118
Ardebil	218.2
Esfahan	649
Alborz	112.4
Ilam	39
Bushehr	79.9
Tehran	814.1
Chaharmahal&Bakhtiari	253.4
South Khorasan	61.5
Khorasan-e-Razavi.....	864.5
North Khorasan	35.3
Khuzestan	190.1
Zanjan	149.7
Semnan.....	550.4
Sistan&Baluchestan	287.7
Fars	528.4
Qazvin	176
Qom	318.7
Kordestan	49.5
Kerman	416.7
Kermanshah	225.6
Kohgiluyeh&Boyerahmad	83
Golestan	112.1
Gilan.....	136
Lorestan.....	29.8
Mazandaran.....	137.1
Markazi	252
Hormozgan.....	37.4
Hamedan	85.3
Yazd	186.9

1. Statistics in tables in different years are accumulated.

Source: Ministry of Industry, Mine and Trade.

2.24. ENVIRONMENTAL CHARACTERISTICS OF HEALTH AND MEDICAL CENTRES

Description	The year 1385	The year 1390	The year 1391	The year 1392	The year 1393	The year 1394	The year 1395
Percentage of hospitals with appropriate wings ⁽¹⁾	–	–	76	83.9	84	86.1	88.3
Percentage of rural households enjoying a hygienic sewage disposal system.....	⁽²⁾ 96	⁽²⁾ 96	63.8	⁽³⁾ 67	69	72.7	000
Percentage of health and medical centres with appropriate conditions	77	71	75	77.4	81	81.4	85.1
Percentage of hospitals with appropriate solid waste management	69	79	74	78.7	80	84	90.3
Percentage of hospitals with appropriate wastewater management.....	76	73	74	75.4	75	74.3	77.6
Percentage of hospitals with appropriate kitchen and restaurant	78	83	78	78.6	78	78.2	80

1. This indicator has been created since the year 1391.

2. It was calculated based on the results of the National Population and Housing Census.

Source: Ministry of Health, Treatment, and Medical Education.