

Article Title- National Water Security Assessment: An Approach to National Water Security Catalogue

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Table 1 Scores of Indicators in Water Resources Security Dimensions in ANP method

Name of basins	code	Balance between water supply and demand	Development and exploitation of water resources	Improvement of the allocation system	Water Resources Security	Rank of basins in Water Resources Security
Aras	11	12.857	9.481	15.72	38.058	14
Talesh	12	19.907	11.036	21.016	51.959	3
Sefidrood	13	14.318	9.113	22.663	46.094	8
Haraz-Sefidrood	14	26.118	9.859	20.403	56.381	1
Haraz Qaresu	15	11.207	6.458	19.436	37.102	15
Qaresu-Gorgan	16	8.527	9.653	16.262	34.442	21
Atrak	17	12	7.021	15.853	34.875	20
West border	21	17.888	10.371	23.423	51.682	4
karkheh	22	9.261	9.658	16.019	34.937	18
Karoon	23	12.992	9.33	19.91	42.232	10
Jarrahi-Zohreh	24	14.871	10.903	13.93	39.704	11
Heleh	25	18.728	9.849	19.703	48.279	6
Mand	26	20.893	10.156	22.9	53.949	2
Kal Mehran	27	10.219	12.977	12.382	35.577	16
BandarAbbas Sadij	28	10.897	8.705	25.336	44.938	9
South Baluchestan	29	11.106	14.322	23.122	48.55	5
Urmia Lake	30	11.996	8.979	18.033	39.008	13
Salt Lake	41	6.455	3.73	12.695	22.88	30
Gavkhuni	42	4.315	6.722	12.825	23.862	28
Maharlu Bakhtegan	43	6.121	3.551	14.213	23.885	27
Abarghu Sirjan	44	6.125	5.845	18.457	30.426	22
Hamun Jazmurian	45	4.965	10.037	20.548	35.55	17
Lut Desert	46	7.083	5.857	16.217	29.157	25
Central Desert	47	4.231	11.059	14.488	29.778	23
Siakuh	48	3.738	7.155	14.657	25.55	26
Deranjir Desert	49	3.821	7.224	12.319	23.364	29
Khaf	51	6.385	12.295	16.257	34.937	19
Hamun Hirmand	52	24.697	6.411	17.039	48.146	7
Hamun Mashkil	53	6.784	11.674	21.002	39.459	12
Ghareghum	60	6.547	7.199	15.637	29.384	24

Table 2 Scores of Indicators in Urban Water Security Dimensions in ANP method

Name of basins	code	Social welfare by water	Population growth	Urban water security	Rank of basins in urban water security
Aras	11	16.292	35.274	51.566	14
Talesh	12	11.517	43.134	54.651	10
Sefidrood	13	15.449	34.218	49.667	17
Haraz-Sefidrood	14	11.236	34.133	45.369	27
Haraz Qaresu	15	14.831	32.669	47.5	22
Qaresu-Gorgan	16	14.607	34.263	48.87	18
Atrak	17	14.831	43.191	58.022	7
West border	21	16.19	40.055	56.24	8
karkheh	22	14.48	36.26	50.741	15
Karoon	23	4.792	39.959	44.751	28
Jarrahi-Zohreh	24	11.969	40.219	52.188	12
Heleh	25	11.104	41.263	52.367	11
Mand	26	12.284	43.064	55.347	9
Kal Mehran	27	10.236	37.141	47.377	24
BandarAbbas Sadij	28	11.087	39.365	50.452	16
South Baluchestan	29	11.489	30.858	42.346	29
Urmia Lake	30	13.764	33.648	47.412	23
Salt Lake	41	25	44.11	69.11	2
Gavkhuni	42	25	44.08	69.08	3
Maharlu Bakhtegan	43	12.725	35.299	48.024	20
Abarghu Sirjan	44	14.185	57.238	71.423	1
Hamun Jazmurian	45	16.826	30.11	46.936	26
Lut Desert	46	16.191	31.477	47.668	21
Central Desert	47	25	39.712	64.712	4
Siakuh	48	25	37.788	62.788	5
Deranjir Desert	49	16.18	43.969	60.149	6
Khaf	51	14.663	37.165	51.828	13
Hamun Hirmand	52	9.242	37.934	47.176	25
Hamun Mashkil	53	9.719	25.501	35.22	30
Ghareghum	60	12.612	35.453	48.065	19

Table 3 Scores of Indicators in Economic Water Security Dimensions in ANP method

Name of basins	code	Increase in water productivity	Financial sectorial variation	Economic water security	Rank of basins in economic water security
Aras	11	12.071	9.747	21.818	29
Talesh	12	10.62	21.092	31.712	22
Sefidrood	13	10.843	7.94	18.783	30
Haraz-Sefidrood	14	13.625	10.692	24.317	28
Haraz Qaresu	15	18.19	36.177	54.367	4
Qaresu-Gorgan	16	16.528	36.401	52.929	6
Atrak	17	11.907	20.502	32.409	20
West border	21	7.705	17.173	24.878	27
karkheh	22	10.137	25.087	35.225	17
Karoon	23	13.162	12.146	25.307	26
Jarrahi-Zohreh	24	11.411	20.801	32.211	21
Heleh	25	15.761	27.633	43.395	11
Mand	26	14.344	31.79	46.135	7
Kal Mehran	27	21.333	22.086	43.419	10
BandarAbbas Sadij	28	21.452	33.629	55.081	3
South Baluchestan	29	15.595	10.823	26.419	25
Urmia Lake	30	11.875	20.606	32.481	19
Salt Lake	41	13.309	23.16	36.469	16
Gavkhuni	42	15.749	11.185	26.933	24
Maharlu Bakhtegan	43	11.406	51.748	63.154	1
Abarghu Sirjan	44	12.299	33.585	45.884	8
Hamun Jazmurian	45	12.552	29.375	41.926	13
Lut Desert	46	11.296	33.429	44.725	9
Central Desert	47	12.149	25.595	37.743	15
Siakuh	48	15.468	14.57	30.038	23
Deranjir Desert	49	11.949	30.952	42.902	12
Khaf	51	14.545	42.961	57.506	2
Hamun Hirmand	52	14.828	17.819	32.647	18
Hamun Mashkil	53	13.932	26.718	40.65	14
Ghareghum	60	14.798	39.215	54.013	5

Table 4 Scores of Indicators in Environmental Water Security Dimensions in ANP method

Name of basins	code	Environmental vulnerability	Water quality	Environmental water security	Rank of basins in Environmental water security
Aras	11	0.043	0.005	0.0478	18
Talesh	12	0.038	52.83	52.86	1
Sefidrood	13	0.014	0.001	0.015	21
Haraz-Sefidrood	14	0.017	0.005	0.0224	19
Haraz Qaresu	15	0.146	0.003	0.149	15
Qaresu-Gorgan	16	0.137	0.002	0.138	16
Atrak	17	0.059	0.004	0.064	17
West border	21	7.719	0.001	7.72	9
karkheh	22	18.782	0.001	18.78	3
Karoon	23	3.799	0.001	3.8	11
Jarrahi-Zohreh	24	0	0.001	0.001	28
Heleh	25	0	0.001	0.001	29
Mand	26	0	0.007	0.0068	22
Kal Mehran	27	0.326	0.002	0.328	14
BandarAbbas Sadij	28	47.17	0.003	47.17	2
South Baluchestan	29	0	0.001	0.0005	30
Urmia Lake	30	3.087	0.003	3.09	12
Salt Lake	41	9.005	0.011	9.017	8
Gavkhuni	42	18.096	0.002	18.098	4
Maharlu Bakhtegan	43	0	0.004	0.0044	23
Abarghu Sirjan	44	0	0.004	0.00377	24
Hamun Jazmurian	45	0	0.003	0.0031	25
Lut Desert	46	1.947	0.003	1.95	13
Central Desert	47	14.323	0.001	14.32	5
Siakuh	48	9.091	0.001	9.091	7
Deranjir Desert	49	0.017	0.003	0.02	20
Khaf	51	0	0.002	0.002	27
Hamun Hirmand	52	6.475	0.001	6.476	10
Hamun Mashkil	53	0	0.003	0.003	26
Ghareghum	60	9.434	0.001	9.435	6

Table 5 Scores of Indicators in Water related disaster Security Dimensions in ANP method

Name of basin	Code	Water related disasters	Rank of basins in water related disasters
Aras	11	43.230	16
Talesh	12	62.739	5
Sefidrood	13	89.142	1
Haraz-Sefidrood	14	52.204	12
Haraz Qaresu	15	48.667	13
Qaresu-Gorgan	16	65.563	4
Atrak	17	62.063	6
West border	21	39.181	24
karkheh	22	68.091	3
Karoon	23	39.834	19
Jarrahi-Zohreh	24	53.295	10
Heleh	25	39.558	20
Mand	26	40.308	18
Kal Mehran	27	39.233	23
BandarAbbas Sadij	28	30.850	30
South Baluchestan	29	36.544	26
Urmia Lake	30	47.860	14
Salt Lake	41	52.358	11
Gavkhuni	42	75.072	2
Maharlu Bakhtegan	43	55.054	8
Abarghu Sirjan	44	39.547	21
Hamun Jazmurian	45	41.515	17
Lut Desert	46	39.520	22
Central Desert	47	54	9
Siakuh	48	59.036	7
Deranjir Desert	49	47.788	15
Khaf	51	33.629	27
Hamun Hirmand	52	31.322	29
Hamun Mashkil	53	31.570	28
Ghareghum	60	37.238	25

Table 6 Scores of Indicators in Water Dependency Security Dimensions in ANP method

Name of basin	Code	Water dependency security	Rank of basins in water dependency security
Aras	11	33.334	7
Talesh	12	33.337	6
Sefidrood	13	33.334	7
Haraz-Sefidrood	14	33.334	7
Haraz Qaresu	15	66.668	1
Qaresu-Gorgan	16	33.336	7
Atrak	17	33.341	6
West border	21	33.368	5
karkheh	22	66.668	1
Karoon	23	66.667	2
Jarrahi-Zohreh	24	66.668	2
Heleh	25	33.334	7
Mand	26	66.667	2
Kal Mehran	27	66.667	2
BandarAbbas Sadij	28	66.668	2
South Baluchestan	29	36.668	3
Urmia Lake	30	66.667	2
Salt Lake	41	33.67	5
Gavkhuni	42	0.668	9
Maharlu Bakhtegan	43	67	1
Abarghu Sirjan	44	67	1
Hamun Jazmurian	45	67	1
Lut Desert	46	67	1
Central Desert	47	34	4
Siakuh	48	0.67	8
Deranjir Desert	49	67	1
Khaf	51	33.668	5
Hamun Hirmand	52	0.006	10
Hamun Mashkil	53	66.668	2
Ghareghum	60	0.005	11