Supplementary material 1: Urmia Lake Restoration Program roadmap *

I. Control and reduction of water depletion in the agricultural sector

1. Reduction of 40% allocated ground and surface water to the farmers through a direct purchasing system by the Ministry of Energy in a five-year period.

2. Planning for enhancing the productivity of the 60% remaining water used in the agricultural sector by the Ministry of Jihad-e-Agriculture.

3. Allocating funds and supplying the required technologies by the government to increase the efficiency of remaining water usage.

II. Control and reduction of withdrawal from surface and groundwater resources in the basin

4. Prevention of increasing water depletion and new project developments, especially in the agricultural sector (no new water allocations).

5. Prevention of unauthorized surface water withdrawal.

6. No new dam construction projects (except the Cheraghveis and Shahid Madani dams), no new irrigation and water supply networks in the ULB and the storage of water in the Madani Dam's reservoir held exclusively for the purpose of releasing it into Urmia Lake.

7. Improvement in the current conditions of wells in the ULB through the installation of smart water volume counters to record and monitor the withdrawal volumes (in order to increase the river flow recharge to the lake).

8. Execute the necessary coordination with the judiciary in order to facilitate and accelerate the implementation of the law for illegal wells, particularly wells affecting surface water conditions.

III. Initiatives on protection and mitigation of negative impacts

9. Identification of dust sources and stabilizing them.

10. Study and implementation of an ecological protection program in the Urmia National Park following environmental concerns.

11. Identifying effective factors on feeding the major rivers leading to the lake through watershed management in order to increase recharge rates from rivers to the lake.

12. Establishment of the Urmia Lake Research Center by the Iranian Department of Environmental.

13. Finding out the vulnerability of health, hygienic, social and environmental problems caused by Urmia Lake dry up; preparation and implementation of prevention programs reducing and preventing the likelihood of risk effects.

14. Preparation of productive programs increasing alternative employment and livelihoods by relevant organization.

15. Identification of halophyte species adapting well with the ULB circumstances and preparation of a program in order to plant selected species in the salt marsh areas around the Urmia Lake.

IV. Studies and software strategies

16. Development and implementation of a comprehensive training program, capacity building, awareness, and getting public and local community participation in order to illustrate the consequences of current critical situations and the necessity of reviving Urmia Lake.

17. Conducting a cadastral survey for Urmia Lake Basin Lands.

18. Design and implementation of a comprehensive decision support system in the ULB.

19. Study and evaluation of Shahid Kalantary's causeway effects on the Urmia Lake ecosystem and providing constructive solutions.

20. Feasibility study on the industrial utilization of salt from the Urmia Lake, taking the environmental aspects into consideration.

21. Feasibility study on the application of new technologies for the sake of Urmia Lake rescue.

V. Facilitate and increase the water volume entering the Lake throughout the structural strategies

22.   Water transfer from rivers to the lake.

23.   Water transfer from the Hasanloo Dam to islands and wetlands located in the borders of Urmia Lake and opening the path of waterways feeding the southern wetlands.

VI. Water supply from new water resources

24.   Appropriation of required funds and accelerate the transferring of water from the Zab river to the ULB.

25.   Priority in the implementation of the Silveh water transfer project.

26.   Transfer of the ULB treated wastewater into the Urmia Lake.

27.   Study of the water transfer project from the Caspian Sea to the Urmia Lake.

In addition, the executive agencies are responsible for implementing the approved projects, while the ULRP committee is only responsible for monitoring the implementation process of those projects.

*: Urmia Lake Restoration Program (ULRP). 2017. Available online: http://ulrp.sharif.ir/en/road-map/ (accessed on 24 May 2017).

Supplementary material 2
Table S1. Urmia Basin ex-ante (2000-2010) and ex-post (2020-2030) *Demand; Withdrawals* from ground and surface water, *Depletion* and return flows to surface and groundwater ($\times 10^9 m^3 yr^{-1}$) for different sectors under different socioeconomic scenarios.

Component	Period	Scenario	Domestic				Industry		Agriculture		Total
			Urban		Rural						
			SW	GW	SW	GW	SW	GW	SW	GW	
Demand	Ex-ante ULRP	-	0.207		0.045		0.090		6.669		7.011
	Ex-post ULRP	Business-as-planned Sc.	0.560		0.106		0.329		4.084		5.079
		Business-as-usual Sc.	0.611		0.110		0.493				5.297
Withdrawals	Ex-ante ULRP	-	0.089	0.118	0.007	0.039	0	0.090	3.214	2.142	5.708
	Ex-post ULRP	Business-as-planned Sc.	0.241	0.319	0.016	0.090	0	0.329	2.450	1.633	5.079
		Business-as-usual Sc.	0.263	0.348	0.017	0.093	0	0.493			5.297
Depletion	Ex-ante ULRP	-	0.041		0.012		0.017		2.758		2.855
	Ex-post ULRP	Business-as-planned Sc.	0.100		0.027		0.059		2.885		3.074
		Business-as-usual Sc.	0.110		0.021		0.089				3.108
Return flow	Ex-ante ULRP	-	0	0.166	0.005	0.028	0.010	0.063	0.091	1.660	2.844
	Ex-post ULRP	Business-as-planned Sc.	0.321	0.137	0.011	0.066	0.188	0.081	0.208	0.987	1.999
		Business-as-usual Sc.	0.351	0.150	0.014	0.074	0.283	0.121			2.188

Supplementary material 3

Table S2. Urmia basin water *Availability* ($\times 10^9 \text{m}^3\text{yr}^{-1}$) for ex-ante period and ex-post under RCP2.6 and RCP8.5.

Component	Period	Scenarios	Naturalized surface flow	Inter-basin	Groundwater		Total	
					Business-as-planned Sc.	Business-as-usual Sc.	Business-as-planned Sc.	Business-as-usual Sc.
Availability	Ex-ante ULRP	-	4.676	0	2.389		7.065	
	Ex-post ULRP	RCP2.6	4.553	0.690	2.371	2.568	7.524	7.811
		RCP8.5	3.941	0.690			7.109	7.198