



Tourists return to swimming in Lake Urmia on July 20, 2026, after recent precipitations have raised the lake's water level.
● MEHRDAD TABRIZI/IRNA

favorable, nature can assist in the lake's rehabilitation. As a result of these rains, approximately 3 to 4 billion cubic meters of water accumulated in the lake during early spring, and this event generated considerable optimism. In addition to the water that gathered in the lake, unofficial reports of the gradual dissolution of the lakebed's salt in certain areas and the deepening of the bed constituted another auspicious piece of news.

Of that volume of water, how much remains now?

Precise estimation is not feasible owing to the same issue I explained regarding the condition of the lakebed; however, based on superficial estimates, approximately 1.5 to 2 billion cubic meters of that lake water probably remains at the present time. But the atmospheric precipitations of the past year and the persistence of water in portions of the lake convey an important message: Lake Urmia is still restorable. We have no alternative but to proceed along the path of the lake's rehabilitation. Lake Urmia is not merely an aesthetically pleasing aquatic expanse; this lake plays a critical role in the region's climatic conditions, and its desiccation will entail serious consequences for the environment and for human livelihoods.

Therefore, the principal problem must be sought beyond the lake itself and in the water consumption within the catchment basin?

Precisely. I always employ an example to elucidate this matter. Suppose an individual has contracted diabetes due to excessive sugar consumption and, as the disease progresses, his foot has been damaged. We cannot merely contemplate treating or amputating his foot; we must rectify the primary disease, namely diabetes, which is rooted in the individual's consumptive regimen and lifestyle patterns. Lake Urmia is, in a sense, the consequence of a chronic ailment, and that ailment is the excessive consumption of water and unsustainable development within the catchment basin. If we persist in agricultural expansion and the immoderate extraction of water resources, the rainfall, even if increased, will not suffice to resolve the lake's and the basin's water problems. This trajectory endangers even the future security, the region's sustainability, and the resilience of forthcoming generations.

If the lake desiccates, what will be the most consequential ramification?

One of the significant repercussions of the lake's desiccation is the heightened risk of dust and salt particle emissions and the exacerbation of climatic alterations and damages in the region. Therefore, the issue is not merely the disappearance of a lake; its desiccation could generate a cascade of

environmental and social consequences. The problem, of course, is not confined to the Urmia catchment basin. Nearly all of the country's plains are confronting a negative water balance, and Iran is also in an extremely alarming state regarding land subsidence. The roots of this situation must be sought in unsustainable agricultural development, the disproportionate expansion of orchards, the establishment of water-intensive industries in water-scarce regions, and the neglect of territorial planning.

For the salvation of Lake Urmia and escaping from this predicament, what action should be prioritized?

If we desire the restoration of Lake Urmia and the preservation of the nation's wetlands, we must resolve the root cause of the problem. The excessive extraction from the basin's water resources is our foremost difficulty, and the volume of water that enters the lake through precipitation cannot compensate for these extractions. Even today, the issue is not exclusively environmental; we are also confronting a serious crisis in the provision of potable water. The past hydrological year was among the most difficult years in the country, and many cities, metropolises, and villages encountered grave difficulties in securing drinking water. Under such circumstances, it is natural that the primary priority is the supply of potable water, and in many regions, we cannot even furnish sufficient water for agriculture. This circumstance has exacerbated the heavy extraction of subterranean waters in the absence of supervision and governance. To extricate ourselves from this situation, we require integrated management and sound water governance. We must bring the water consumption into equilibrium and accept that, in an arid territory, we cannot continue to position traditional agriculture as the central axis of development. This does not signify the abandonment of agriculture. We require agriculture for food security, but we must transform our production methods. Today, novel technologies and scientific methodologies exist that permit us, with reduced cultivated area as well as lower water, pesticide, and fertilizer consumption, to achieve greater production and even sustainable exports of agricultural products.

Given the current circumstances, can it be stated that Lake Urmia has transcended the crisis phase, or does it remain in a critical condition?



The photo shows several artemia, the small brine shrimp that live in Lake Urmia, held in a person's hand.
● IRNA

Responding to this question necessitates precision. We have perhaps not had the former Lake Urmia for more than 10 years, and what we observe today is more of a seasonal wetland. In recent years, during autumn and early spring, precipitation causes some water to accumulate in the lake, but by the conclusion of the hydrological year, approximately in Shahrivar (August–September), the greater part of the bed again becomes desiccated, and this cycle repeats perpetually. Therefore, one cannot assert that we have passed beyond the crisis. As long as integrated water resource management is not established, the excessive expansion of farms is not halted, and the cultivation of crops incompatible with the region's climatic conditions is not controlled, one cannot speak of having overcome the crisis.

As you indicated, one of the critical issues is the extensive extraction of subterranean waters from the lands surrounding the lake. What direct connection do these extractions have with the condition of the lake itself?

This matter, from a scientific perspective, requires more meticulous investigation, and one must speak with scientific data regarding the degree of direct impact of subterranean water extraction upon the lake. Here, I principally wished to elucidate the dimensions of the water crisis; that is, that simultaneously with the lake's desiccation, on a broader scale, we are also confronting the depletion of subterranean water resources. These two phenomena, in conjunction, demonstrate that we are facing a grave crisis and that we must devise remedies for it as expeditiously as possible.

Do species that previously existed in Lake Urmia, such as Artemia, still persist?

Artemia, fortunately, has the capacity to tolerate harsh conditions of water scarcity, and even under desiccated conditions, its cysts can persist; and whenever conditions become suitable — that is, when water enters the lake and salinity reaches a tolerable level — Artemia can become active anew and resume its life cycle.

At present, Artemia exists in the lake, and given its abundance, proposals have even been advanced for its harvest and appropriate utilization since this aquatic organism could be economically and livelihood-wise beneficial for farmers and residents surrounding the lake.

Under current conditions, can water from rivers and dams be redirected toward Lake Urmia through management measures?

Unfortunately, due to climatic conditions, a considerable portion of efforts is now devoted to securing potable water. On the other hand, along the course of rivers and in the plains, agricultural lands have expanded to such an extent that a large fraction of river water is consumed before it can reach the lake. For this reason, we no longer possess a river capable of conveying a substantial volume of water to the lake as it once did. According to estimates, the basin's rivers, under natural conditions, should deliver approximately 3.2 billion cubic meters of water annually to the lake; however, under current circumstances, the quantity of water that actually reaches the lake is far inferior to this amount.

If you were to offer a concluding warning or principal recommendation regarding the future of Lake Urmia and the nation's water crisis, what would you state?

We must arrive as rapidly as possible at the recognition that the water issue is not merely an environmental matter but can be declared a crisis, and therefore we must take action to resolve this issue as soon as possible. The pattern of water consumption in the country is not commensurate with the region's capacity. We must transition toward activities that generate greater revenue with lower water consumption, including the development of services and industries appropriate to the region's capacity, and novel agricultural technologies. If we do not institute these changes, we shall continue to progress along the same worsening trajectory, and the water crisis will assume far more serious dimensions in the future.

”

It must be considered that, at this time last year, virtually no water remained within the lake — perhaps less than 100 million cubic meters. On the other hand, climatological projections indicate that the forthcoming autumn will likely bring relatively abundant rainfall as well. Perhaps the precipitation will not match the exceedingly heavy rainfall of the autumn of the previous year, but greater rainfall is forecast relative to recent years. Therefore, one may remain hopeful that autumnal precipitations will also contribute to the lake.

”

The problem, of course, is not confined to the Urmia catchment basin. Nearly all of the country's plains are confronting a negative water balance, and Iran is also in an extremely alarming state regarding land subsidence. The roots of this situation must be sought in unsustainable agricultural development, the disproportionate expansion of orchards, the establishment of water-intensive industries in water-scarce regions, and the neglect of territorial planning.

The photo shows an overview of the lands surrounding a part of Lake Urmia on August 30, 2026, after comparatively increased rainfalls of the previous months.
● HAMID AKBARI/FARS