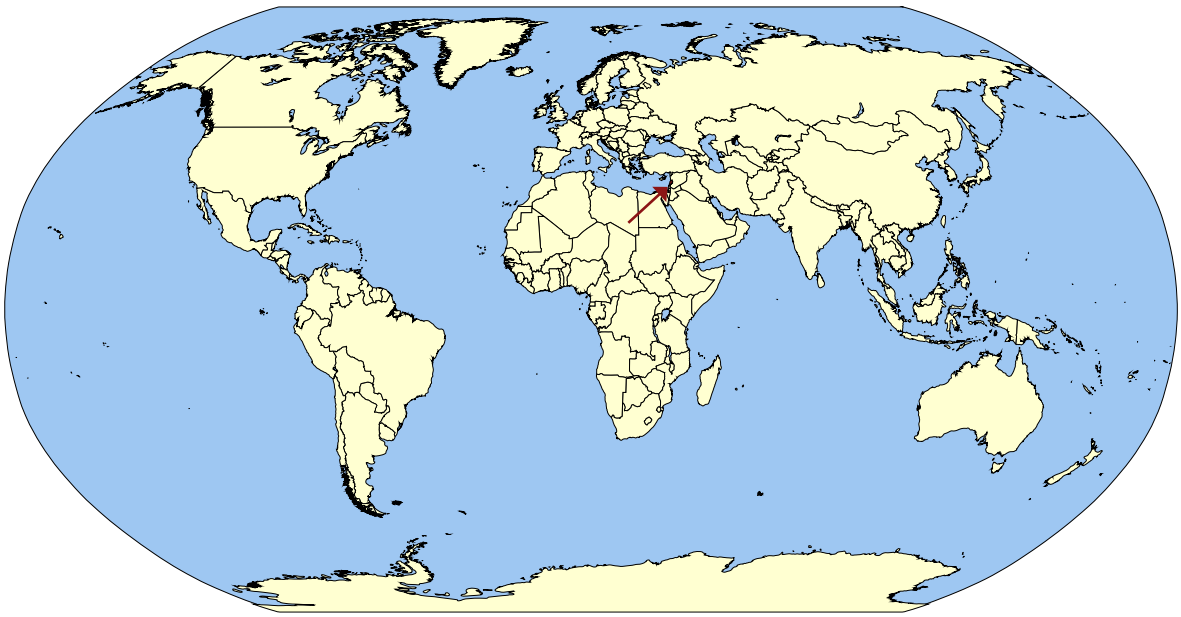
Lebanon

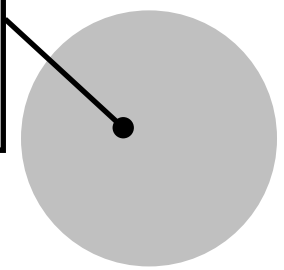


The History of Schistosomiasis in Lebanon

Schistosomiasis in Lebanon was isolated to a small area on the Mediterranean coast and was eliminated with a focused control effort. Surveys conducted between 1950 to 1951 reported the existence of *Bulinus* snails in coastal and central regions in four foci, including the mouth of the Litani River [1]. But, the Litani River soon became the focus of Lebanon's agricultural irrigation projects, and the United States granted $4 million in aid towards agricultural intensification from 1953-1957 [2]. Starting in 1953, drafting of the Kasmiye-Litani Project dam officially began [1,2]. During the construction of the dam, all canals were lined with plain concrete "as [was] the usual practice in Lebanon," to deter unauthorized trespassing of canals and to prevent water loss [2]. This likely deterred snail populations from increasing, as the concrete blocked off vegetation. Still, in 1961, the dam was completed and the first autochthonous case of schistosomiasis in Lebanon was reported in the village of Sarafand on the Mediterranean Coast between Tyr and Saida [3].

Schistosomiasis in Lebanon

Schistosomiasis
eliminated
due to low endemicity and successful snail control



Overview of Lebanon [8]

- Population in 2015: 6,184,701
- Official Language: Arabic
- Capital: Beirut
- Republic
- Percentage of Population with Access to Improved Drinking Water in 2012: 100%
- Percentage of Population with Access to Improved Sanitation in 2011: 98.3%

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Schistosomiasis Control Programs in Lebanon

S. haematobium foci in Lebanon remained restricted to this region in the aftermath of the Kasmiye-Litani Irrigation Project, and the canal which bisects the village of Sarafand [1,4]. By 1962, it was noted that siphons and irrigation channels encompassed snail habitats in Sarafand and surrounding villages [5]. In 1963, when pilot intervention was implemented with molluscicide snail control and chemotherapeutic treatment with Ambilhar, the baseline schistosomiasis prevalence in Sarafand and surrounding villages was 5.3% [5]. By 1968 prevalence in Sarafand dropped to 0.27% and no autochthonous cases were reported in 1969 [3,5]. Fortunately, control interventions in the targeted foci achieved success before civil war rocked the country from 1975 to 2000 [6].The Lebanese Medical Journal was suspended between 1975 and 1977, and data from the civil war years is sparse. However, no resurgence has occurred and schistosomiasis in Lebanon is considered eliminated [7].

References

1. Abdel Azim, M. & Gismann, A. Bilharziasis Survey in South-western Asia. *Bull. World Health Organ.* **14**, 403–456 (1956).
2. Shamsedin, E. M. The economic impact of development: a case of the Litani river and other projects in Lebanon. 83–118 (1961).
3. WHO. *Atlas of the global distribution of schistosomiasis - Syrian Arab Republic, Turkey, Lebanon.* (1987).
4. Azar, J. E., Luttermoser, G. & Schacher, J. F. First report of a focus of schistosomiasis in Lebanon. 709–711 (1961).
5. El-Halawani, A. Evaluation of molluscicidal control of schistosomiasis in the Middle East. in *Proc. Int. Conf. Schistosomiasis* (Abdallah, A.) 349–357 (Egypt Ministry of Health, 1978, 1978).
6. Database - Uppsala Conflict Data Program (UCDP). at <http://www.ucdp.uu.se/gpdatabase/gpcountry.php?id=92>
7. Rollinson, D. *et al.* Time to set the agenda for schistosomiasis elimination. *Acta Trop.* **128**, 423–440 (2013).
8. Central Intelligence Agency. (2014). Lebanon. In The World Factbook. at <https://www.cia.gov/library/publications/the-world-factbook/geos/le.html>

The Litani River

The Litani River (**left**) in Lebanon is the location of several irrigation and damming projects such as the Kasmiye-Litani Project. The village of Sarafind is also found along the Litani River. Schistosomiasis has historically been endemic to Sarafind.

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