



## Contaminated water devastates health across the Aral Sea region

**Ill-conceived and badly managed** farming methods have devastated the economy, health and ecology of the Aral Sea Basin in Central Asia, affecting millions of people.

It all started to go drastically wrong when planners decided to intensify cotton production in the 1950s. By 1978, a vast network of irrigation channels stretched into the deserts to quench cotton's thirst across 7.6 million ha, mainly in Uzbekistan and Turkmenistan.



The water was diverted from the Amu Dar'ya and Syr Dar'ya rivers which feed the Aral Sea. Salinization became widespread leading to acute soil degradation, and the Aral, once the fourth largest lake in the world, began to shrink rapidly, leaving fishing boats and their communities high and dry, sometimes tens of kilometres from the old shoreline.

As well as losing their livelihoods when the fishery collapsed in the early 1980s, many of these communities now face appalling health conditions. In Karakalpakstan, a semi-independent republic of Uzbekistan, women are victims of a pandemic of anaemia that has hit the small republic in the past decade.

Aral Sea Basin facts		
Salinized land in Uzbekistan		
1982	12 000 km <sup>2</sup>	(36%)
1985	16 430 km <sup>2</sup>	(43%)
Inflow into the Aral Sea Historical 56 km <sup>3</sup> per year		
1966-1970	47 km <sup>3</sup>	
1981-1985	2 km <sup>3</sup>	

Studies show that of the 700 000 women here, some 97 percent are anaemic with haemoglobin levels in their blood well below the World Health Organization's standard of 110 grams per litre. Five times the percentage of women affected a decade ago, it is probably the highest rate in the world, reports the British-based magazine *New Scientist*.

Local doctors say the polluted water is to blame. The drinking-water available to most people is polluted drainage water laden with salts and concentrated chemicals from the cotton fields. One doctor says that local women cannot absorb iron -- iron deficiency is the usual cause of anaemia -- because of high levels of metals such as manganese and zinc in the water.

Nor is anaemia the only health problem. The people of Karakalpakstan also suffer from rising rates of thyroid and kidney disease. Over the period 1981 to 1987, it is estimated that liver cancers soared an incredible 200 percent, throat cancers were up 25 percent and infant mortality climbed 20 percent.

### Key farming blunders

- Discharge of highly mineralized, pesticide-rich return flows into main rivers
- Use of unlined irrigation canals leads to waste and seepage of salts into groundwater
- Waterlogged fields lead to salty groundwater and salt runoff
- No drainage network to remove unwanted water and chemicals from the fields

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