THE ARAL SEA: BACK FROM THE BRINK?

◆ Sue Lloyd-Roberts and Ethirajan Anbarasan

An ecological disaster area, the shrinking Aral Sea generated a flood of assessment studies but little follow-up. Humanitarian action is now an urgent priority.

"The health of women of child-bearing age is steadily deteriorating because of the bad quality of the drinking water. There are as many pregnancies as ever but the women either miscarry or give birth to stillborn or handicapped babies. We have one of the highest infant mortality rates in the world," says the director of the maternity hospital on the edge of the Aral Sea in the port city of Aralsk, in Kazakhstan.

Behind him, pregnant women lie on rows of hospital beds. They have been brought in to ensure that they get clean food and water for at least the last trimester of their pregnancies. The eyes of one woman betray terror. "This is my ninth pregnancy," she says, "I have yet to give birth to a live child and I am frightened." Similar situations exist elsewhere in this Central Asian region.

Man-made environmental disasters

The worsening health and environmental problems of people living in the Aral Sea basin, which consists of parts of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan, are the direct consequences of man-made environmental disasters in the region—the shrinking of the sea and pollution of the rivers which flow into it.

Experts say the disaster has left behind a 36,000-sq.km sea bed covered with accumulated salts, which the wind carries away and deposits over thousands of square kilometres of cultivated land. Pesticides and fertilizers have also found their way into water and irrigation channels, poisoning food and drinking water affecting the lives of about five million people.

After the collapse of the Soviet Union in 1991, international donor agencies rushed to the Central Asian region to assess the environmental impact of the shrinking of the Aral Sea and to find ways of restoring it to its original level. Now, almost a decade later, after countless studies and reports have been written,experts say that restoration is impossible and efforts should now focus on avoiding a humanitarian catastrophe.

Rescue missions

The Aral Sea,covering an area the size of Lithuania, started receding in the 1960s after Soviet state planners diverted its water sources,the Amu Dar'ya and the Syr Dar'ya rivers, to irrigate cotton and other crops.

From 1960 to 1990, the area of irrigated land in Central Asia increased from 3.5 million hectares to 7.5 million. Cotton production soared, making the region the world's fourth largest producer. But by the 1980s the annual flow of fresh water into the Aral was barely one-tenth of the 1950 supply. The salinity level increased, destroying the sea's flora and fauna. The fishing industry suffered; all but two of the 30 species once found in the sea died out.

With no other means of water supply, the sea started to recede, eventually losing half of its former area and a third of its volume. In 1989, it divided into a smaller northern sea and a larger southern one. The two main fishing ports, Moynaq in Uzbekistan and Aralsk in Kazakhstan were left high and dry, and fishing communities found themselves 100 kilometres or more away from the shore.

Today, drinking water in the region contains four times more salt per litre than the limit recommended by theWorld Health Organization. This has caused increases in kidney disease, diarrhoea and other serious ailments. Tuberculosis has reached epidemic proportions. In some towns there are an estimated 400 cases out of a population of 100,000.

The people of this once-fertile region

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High and dry. Rusting fishing boats dot the desolate landscape at Moynaq (Uzbekistan), once a fishing port, now far away from the sea.

have been calling for help since Soviet times, but after their countries became independent at the end of 1991 their cries became more urgent than ever. International agencies including the World Bank, the United Nations Development Programme (UNDP), Unesco, and the European Union rushed to the region to offer help. Initiatives like the Aral Sea Basin Programme (ASBP), the International Aral Sea Rehabilitation Fund (IFAS), and the Interstate Commission for Water Co-ordination (ICWC) were launched to assess the problems and find solutions. The activities they proposed brought high hopes to the people of the Aral Basin, who thought their problems would eventually be solved.

So why after nearly a decade of rescue missions does the Aral Sea remain on the critical list of world environmental catastrophes? According to experts, it is a classic case of too many players entering too late, with too few resources but in many cases with a huge stock of vested interests that are not necessarily consistent with environmental protection.

The international aid agencies soon gauged the enormity of the problem and realized that the funds allotted were not enough to rectify a disaster of this magnitude.

"Of course people here have been disappointed by the international community," says Antonius Lennarts of the World Bank, in Almaty (Kazakhstan). "There have been lots of donor activity and promises but no follow-up, and long delays because of the huge funds involved. The money available to solve a problem of this magnitude simply isn't available."

In view of the gravity of the situation, the Nobel Prize-winning medical relief organization Médicins Sans Frontières (MSF), which is more usually associated with the world's hot spots, has launched an emergency programme to save the people of Central Asia from what it calls in a recent report, "possibly the world's greatest environmental disaster and human tragedy."

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"To date," the MSF report says, "millions of dollars worth of assessments have been made of the Aral Sea region, resulting in very little direct humanitarian action in the area."

MSF has some justification for lamenting that so much has been spent in the last eight years on talking about the Aral Sea and so little has actually been done. But why has this happened? "It could be because the problem is just so huge and everyone wants to help but many agencies just don't know where to start," explains Barbara Britton of the United States Agency for International Development (USAID), the biggest donor agency involved, in Tashkent.

There is another major hurdle as well as lack of funds—lack of co-ordination among the five Aral basin nations. "They started competing with each other to get international aid rather than co-operating in solving the problem," says Professor J. A. Allan, a water resources specialist at the University of London.

In the absence of the kind of federal authority that existed in Soviet times, the five states set up the International Aral Sea Rehabilitation Fund (IFAS) in 1993 in order to co-ordinate water and agricultural projects. In 1995, their leaders attended a UN-sponsored meeting in Nukus (Uzbekistan), which concluded with a resounding declaration saying they would co-operate to resolve the human and environmental consequences of the Aral Sea crisis. But, according to Britton, distrust ▶

The Aral Sea region has one of the world's highest rates of malformed or handicapped children.

between the states continued.

For example, when the Uzbekis were given the responsibility for water management, they were accused of producing a programme that would irrigate Uzbekistan and not other countries. Then the Uzbekis accused Kazakhstan of draining water away from its southern neighbour by constructing a dam across the northern Aral Sea.

Anatoly Buranov, technical director of the Executive Committee of IFAS,admits that the states could have done better. "Part of the problem is that we were all excited by independence and after so many years of enforced togetherness we enjoyed the centrifugal forces which the collapse of the Soviet Union allowed us. Now, however, we are realizing the importance of co-operation."

Ironically, the slow and delayed action from outsiders and their governments has had a positive effect on one Aral basin country. Frustrated by years of unfulfilled promises, the people of Kazakhstan raised an astonishing $2.5 million and built themselves a sand dam 14 kilometres long and 30 metres wide, creating a lake in the northern Aral Sea,close to Aralsk.

Kazakh officials say they also made efforts to draw less water from the Syr Dar'ya than in the past and that the dam contained the increased inflow into the smaller,northern Aral. As a result, the water level rose by three metres for the first time in 30 years, bringing back greenery and birdlife to the desertified area.

As a result of increased inflow of fresh water the salinity level in the northern Aral fell, reviving the hopes of the fishing industry. Above all,the dam brought hope to the people of Aralsk, "a commodity which until recently has been as scarce around here as water," says Aitbai Kuserbaliv, the city's mayor.

With the prospects of saving the sea remote, experts and locals now seem to be turning their attention to relieving the social disaster

Unfortunately, Kuserbaliv explains, the dam keeps breaking as a result of rainfall and increased inflow into the sea.In 1998, from three to five kilometres of the dam were washed away and water flowed into the southern Aral. Officials say the project cannot be sustained unless they get $15 million funding they have asked from the World Bank to build a permanent structure. "I wrote to them several months ago and they still have not got back to me," says the mayor.

With the survival of the reclaimed sea, the efforts of dozens of dam builders and the livelihoods of several hundred fishermen at stake, the World Bank seems likely to come up with some funds. "We have agreed that it is a highly necessary dam and the money will be forthcoming," says Antonius Lennarts of the World Bank.

Even if the World Bank funds this project it will save only the smaller part of the Aral Sea. To maintain the present water level of the bigger southern part, at least 20 cubic kilometres of water per year are required. Some grandiose schemes have been proposed,including diverting waters from Siberian rivers or from the Caspian Sea, over 2,400 km and 500 km away respectively, projects which could cost up to $8 billion each. The Central Asian countries do not have the resources to embark on such costly undertakings.

Another option would be to allow more water to flow into the Amu Dar'ya river, which means that agricultural patterns in

the region, especially in Uzbekistan, through which most of the river flows, would need to be changed. This proposal could invite stiff resistance from farmers in Uzbekistan who heavily depend on the river for irrigation. "It is a very uneasy situation for them. You cannot stop agriculture. People would lose their livelihood," says Prof Janos Bogardi, senior water resources expert at UNESCO.

The first priority: saving people's lives

There is no doubt that it would take billions of dollars and decades to change the agricultural pattern by introducing new technology and less water consuming plants. It is highly unlikely that Uzbekistan, the second largest cotton exporter in the world, would agree to shift from its prime cash crop.

With the prospects of saving the sea remote, experts and locals now seem to be turning their attention to relieving the social disaster. If present conditions persist, then the southern part of the Aral is likely to disappear in the next 25 years. The priority should be saving the lives of the people, says Vefa Moustafaev, a UNESCO water resources expert.

After a decade of research and assessment reports, the international agencies have now started implementing some of their projects to help the Aral basin population, mainly by providing clean drinking water and better health care facilities. The World Bank has financed a project to establish 25 stations to monitor drinking water quality across the Central Asian region. The Bank also plans to fund projects to improve agricultural practices which consume a lot of fresh water.

Experts say that the region may require an estimated $20 billion for much-needed development and environmental activities, mainly to modernize agriculture, to reduce river pollution and provide clean drinking water. At present, the cash-strapped Central Asian countries are in no position to raise such funds on their own.

But the region is not without hope as far as its natural resources are concerned. With their enormous gas and oil reserves the Central Asian states would be among the major players in the global power sector in the coming years. However, it is far from clear what the consequences of oil and gas exploitation would be for the Aral Sea.

"There is still lots of hope in the region. But the countries need to co-ordinate their efforts," says Bogardi. ■

FACTFILE

Uzbekistan
Capital: Tashkent
Area: 447,000 sq km
Population: 23.7 million
Adult literacy rate: 99%
GNP per capita: $870
GNP per capita annual decline (1988-98): 2.1%
Life expectancy at birth (years): 69
Infant mortality (per 1,000 live births): 24

Kazakhstan
Area: 2,717,300 sq km
Capital: Astana (former capital Almaty)
Population: 15.7 million
Adult literacy rate: 99%
GNP per capita: $1,310
GNP per capita annual decline (1988-98): 6.7%
Life expectancy at birth (years): 65
Infant mortality rate (per 1,000 live births): 24

Source: World Bank statistics, 1999

At a children's hospital in Nukus (Uzbekistan), a baby is treated for a serious pelvic malformation.