Myths of the Aral Sea

1. TECHNOLOGY IS THE ANSWER

To many observers of the Aral Sea crisis situation scarcity of regional water supply is seen as the cause of the problem and an increase in the water supply, more specifically the clean water supply is seen as the solution. In a region of finite water supply and increasing societal demand for its exploitation, such an observation is to some extent correct. However, it is only a partial solution to a more complicated problem.

Why do states in the region need more water? What will they do with the additional water supplies if they were to become available as a result of technological innovation or more efficient use of existing supplies? Is the driving force national power, agricultural development, human needs such as improved sanitation?

The ability to move water from point A to point B is not a difficult task from an engineering standpoint and if funds are available to pay for it. That, however, is only part of the solution. What is also needed is education of the public about the true economic, social and health value of water; in other
words capacity building at the grassroots level of the affected societies. Clearly, a key reason for bringing additional clean water to urban and rural areas is to improve human health conditions. Education and training are as important as increased water supply in some of these regions in the Aral basin.

2. PEOPLE CARE ABOUT THE PLIGHT OF THE KARAKALPAK PEOPLE

If actions can be said to speak louder than words, one must question whether those who say they are concerned about the plight of the KARAKALPAK people are really concerned. After a few years and hundreds of aid missions to the region, the plight of the Karakalpak people seems to have remained the same, if not worsened closest to the shore of the disappearing sea. Funds that go to resolve the Aral crisis or to improve the human health seem to stay in the capital cities and are not showing up in the most affected regions. Human health conditions in other words has not improved in the past few years. For example, while clean water might be piped into Nukus, the capital of Karakalpakstan, it will not necessarily be brought into the rural areas. some villages are benefitting from reverse osmosis facilities while many others have received no such help.
3. CONSTRUCTION OF THE KARAUKM CANAL WAS A BAD IDEA

On this highly charged issues we need to take a few steps back in time to get a better perspective on the reasons for and value of the canal (now named after Turkmen President Nyazov). When the canal was discussed in the early 1930s, one of the reasons for its construction was to bring water from the mighty Amudarya to the Caspian Sea. Beginning in the 1930s the level of the Caspian Sea began to drop; it continued to do so until the middle of the 1970s. The other reason for the construction of the canal was to bring water to the potentially fertile Karakum desert sands. Cotton, wheat, fodder and vegetable crop production would benefit from the water diversions, as the water passed westward across Turkmenistan to the Caspian Sea. It seems that people have forgotten the role of the Caspian in consideration of the diversion. The bad idea with regard to the canal was the way in which it was eventually done; that is, the canals were to be unlined and there were to be no controls (prices or otherwise) on the amount or way the water was used.

4. AS AN ENVIRONMENTAL DISASTER THE ARAL CRISIS IS SECOND ONLY TO CHERNOBYL

Many of those concerned with the Aral Sea situation have
likened it to Chernobyl in terms of the magnitude and impacts of the problem on environmental and health. Russians on the street have referred to it as an environmental crisis second only to Chernobyl and as a "quiet Chernobyl". I have even called it one of the world's major environmental disasters of the 20th century. But, is it?

When one begins to review the environmental problems encountered around the globe throughout this century, the Aral Sea situation takes on a different perspective. First of all the problems can be divided into quick onset and slow onset and can also be divided into advertent and inadvertent. The Aral Sea is of the slow onset, advertent environmental problems. It is unlike Chernobyl which was in the form of a quick onset accident, for which there was no time to respond effectively.

Other major problems of this century include but are not limited to the following: the London killer smog (1954), the 1970 tropical cyclone that hit Bangladesh, Earthquake in China, America's Dust Bowl days in the mid-1930s, desertification in the West African Sahel in the 1970s, the decline in the level of Lake Chad, and so on. While the Aral situation may share some characteristics as an environmental problem with these other issues, it not like many of them in the sense that it was
acknowledged early on as a problem with potentially severe consequences within a matter of generations.

5. SIBERIAN RIVER DIVERSION TO CENTRAL ASIA IS A DEAD ISSUE

A few decades ago, the leaders of the Soviet Union set into motion the planning process for the possible diversion of northward-flowing Siberian rivers to the arid southern part of their country. The diversions would water the desert sands of the Kyzylkum desert in Central Asia. It was proposed in the days when Soviet leaders were out to dominate nature. In fact, Khrushchev once said that his country could not wait for nature to provide its fruits to society and that his society was ready to take those fruits ... using its national technological prowess.

There was considerable debate over the wisdom of such diversions. Many Soviet geographers, soil scientists, and writers, among others, opposed the diversions, citing the adverse environmental impacts that would ensue. Some even suggested that diverting large amounts of fresh river water from flowing
naturally into the Arctic Ocean could ultimately lead to the melting of Arctic Sea ice and a change in global climate.

When Gorbachev came to power in the mid-1980s, he implemented a policy of glasnost, or openness. Thus, debates that had taken place only in journals or in closed meetings were exposed to the public, in both the Soviet Union and in countries around the globe. Environmentalists rallied to the side of those opposed to the diversions. Gorbachev cancelled plans to undertake the diversion of the Siberian rivers.

Gorbachev's decision upset leaders of the Soviet Central Asia Republics, especially Uzbekistan and Kazakhstan who, in essence, were trying to cope with the environmental impacts of regional river diversions and wanted retribution. Their land surrounds the Aral Sea, which, as we now know, is drying up at an unnatural rate of speed because increasing amounts of water from the rivers that feed the Aral Sea had been diverted since 1960 to grow irrigated cotton and rice in the desert sands. With no water flowing into the Sea, evaporation took its toll on the remaining sea water. The Central Asian leaders expected that Siberian water would eventually make up for their sacrifice of the Aral Sea. At least, that is what they believed that the leaders in Moscow owed them for sacrificing their land to grow
cotton to feed the textile mills in the Russian part of the Soviet Union.

Today, the Sea lies dying. The Siberian river diversion project is dead. End of Story. Or is it? Like a poltergeist, the river diversion project is back --- to the surprise of everyone.

At a regional heads-of-state meeting on the Aral Sea crisis, organized by the United Nations Development Programme in mid-September in Tashkent, Uzbekistan, the Russian Minister for the Environment told the presidents of the Central Asian Republics that Russia was now prepared to provide them with water, either from the Volga River or from other Russian rivers in Siberia. This was interpreted as a renewal of the old, grandiose scheme to move large amounts of water to solve Central Asia's water problems. The Russians, however, were talking about selling water for drinking purposes and only in relatively limited amounts. They had also gone to the World Bank with this proposal last July, seeking Bank funding for the building of the pipeline. The Bank turned down the proposal. But now, leaders in Central Asia have been brought into the act, calling once again for water from Siberia or the Volga, water that they believe is owed to them by the Russian government that succeeded that of the former
At a press conference, President Karimov of Uzbekistan applauded the Russian offer, as did President Nazarbayev of Kazakhstan. Everyone else in the audience was shocked by the offer. Was it loose talk? Was it authorized by Yeltsin? No one yet knows. But, despite the radical political shifts of the past decade, it seems that the desire to dominate nature at almost all costs is still viewed as an option in Moscow as well as in Central Asian capitals. Apparently, plans to divert water from somewhere in Russia to Central Asia may still be alive and well in the minds of political leaders who are in a position to make it happen.

6. THE ARAL SEA CRISIS IS A GLOBAL PROBLEM

Government leaders in Central Asia are constantly referring to the Aral Sea situation as a global problem. That implies that its solution will require global involvement. There are many good reasons for the involvement of the international community in addressing the consequences of the drawdown of the Aral Sea level (it is in fact a drawdown in the sense that it is the result of human actions that are undertaken with full knowledge of their
ecological and social consequences). However, those reasons are for the most part humanitarian and voluntary and in no way obligatory.

The Aral Sea situation is a problem that is neither global in cause nor global in effect. It was caused by leaders of the former Soviet Union (not necessarily only those who were from Moscow) who wittingly chose to pursue certain strategies of economic development at the expense of environmental quality. Its direct and indirect effects are in fact local and regional, not global. It is, however, an environmental problem that is global in interest.

Interest in the Aral region exploded when glasnost exposed the level of environmental degradation and its impacts on human health to the international community. The plight of people and environment tugged at the hearts of many who most likely knew little about the region. A National Geographic article with vivid photographs depicting fishing vessels resting on desert sands and the anguish on human faces of affected inhabitants of the former fishing town of Muynak educated the public. Environmental nongovernmental organizations (NGOs) heard the pleas for help from newly created NGOs in the region. UNEP staff was attracted to the environmental problem, then being cited as second only to
Chernobyl, and finally the World Bank got involved, at first reluctantly, in the Aral crisis situation.

So, while the Aral problem is not global in cause or in effect, it is clearly global in interest. How long the interest of the international community can be sustained is not clear. What is clear from previous examples is that the interest will not last forever. The lifetime of that interest can be lengthen or shortened by actions initiated and taken by the Central Asian Republics. Interest will surely wane, if the international community begins to doubt the sincerity of the governments in resolving international as well as intranational issues related to water resources and to human health. Some observers already doubt the stated level of government concern which they feel has not been directly backed up by actions to improve the welfare of people in the so-called Disaster Zone. International assistance support must get to the grass roots levels of society to address basic chronic problems. Participation in decisionmaking related to the Aral Sea, including participation of the environmental non-governmental organizations will likely prove essential to long term support of the international community in dealing with the region's environmental problems.
There has been considerable pressure put on the Central Asian states by bilateral and multilateral donors. Donors are insisting openly and by indirect signals that these newly independent republics must work together if they are (a) to solve their common or shared environmental problems and (b) if they are to continue to receive the moral and financial support that they desire to address problems other than the environment. This, of course, is not bad advice. Nevertheless, as newly independent countries each Central Asian republic has pursued policies to ensure that independence. Those policies sometimes conflict with those of the other republics, especially policies that are related to the quantity, quality and use of water from the Amudarya and Syrdarya. A good example is the Turkmen extension of the already controversial (to the other republics) Karakum Canal. Whether this argument --- having to cooperate on a variety of issues --- will eventually be strong enough to overwhelm the tendency of new republics to pursue their individual policies and not abide by the dictates of "outsiders" such as donors remains to be seen.

In the meantime the donor nations and organizations seem to be acting on their own volition, and pursuing their own interests.
As a result each donor supports those projects and activities it favors and neglects others that may be as important to the improvement of environment-related situations in the Aral region. True, projects are identifies for donor support but not all are funded. So, it may be easier to pay lots of money (on the order of $10 million US) to build a pipeline to bring water from the Tuyamuyun reservoir to Nukus that to get money for education and training related to improving awareness of sanitation, eg, convincing people not to drink contaminated irrigation water from the canals.

It is important for the donors to better coordinate their activities and to work better together in a cooperative rather than independent mode in order to address the environment and health problems in the region. Not to do so reinforces the actions of the Central Asian states to follow their lead. The donors, in other words, must begin to practice what they preach.

8. GOVERNMENT PLEAS TO SAVE THE ARAL SEA ARE AUTHENTIC

One can judge the beliefs of a government leader either by assessing their words or by assessing their deeds. The words of Central Asian republic leaders clearly suggest their support for
saving the Aral Sea. Saving the sea, however, can take on many forms. It can mean, for example, preserving the sea at its present reduced level; it can mean restoring the sea to its previous level of, say, 1960. Saving the sea could take on a different twist by letting it further reduce until it breaks up into several small highly saline ponds. It could mean that all the drainage water from irrigated fields would eventually collect in the sea, while at the same time protecting the Amudarya and Syrdarya deltas. All of these suggestions have been made by someone discussing how or whether to save the sea.

Looking only at deeds of governments instead of just assessing the statements of their political leaders, one is left with the impression that the desire to save the sea seems to have waned. It appears that the plight of the sea and the inhabitants in the surrounding regions (e.g., the officially designated disaster zone) has been used to some extent to encourage international development efforts in the region. Funds provided to Central Asian governments in the name of "Saving the Aral Sea" or in "rehabilitating Karakalpakstan" are often shared with those areas outside of the official disaster zone. People in this zone have complained that their situation has neither improved nor has the prospects for improvement in the near future increased. Suggestions such as dumping drainage water into the sea, while
saving the deltas, can not be considered as saving the sea; it would become a biologically dead sea.

There are still those decisionmakers who privately say that the sea is of little interest or of little value. The water in the sea would be more valuable if its waters were to be used to irrigate cash crops for sale. This argument has been made for decades in opposition to those who sought to preserve the integrity of the Aral Sea. This is a lingering feeling among decisionmakers despite their vocal pronouncements.

9. THE ARAL CRISIS OF RECENT ORIGIN

Many people believe that the Aral crisis is of recent origin, having been exposed to the world at large when Gorbachev opened up the Soviet Union to public scrutiny. Some take the beginning of awareness of a possible crisis back to the year 1960. That was the year after which there was an expansion of desert sands being put under irrigation in Central Asia.

Awareness of the potential for major changes in the parameters that characterized the Aral Sea, such as its sea level, its volume, its surface area, existed even earlier. When there was consideration in the early 1930s of building the Karakum Canal
across Turkmenistan, one writer, Tzimmerling noted in 1933 that diversions from the Amudarya would have a major impact on the Sea. He made the following appraisal:

_tzimmerling quote_

10. A UNIT OF RIVER WATER ON THE LAND IS MORE VALJABLE THAT UNIT WOULD BE IF LEFT IN THE SEA

There is a lingering belief among many policymakers in the region that a unit of water in the sea (perhaps supporting fish) has a value that is one-hundredth of that if the same amount of water were to be applied to the desert sands to irrigate cotton crops. But this is a narrow (eg, economic) view of "valuing" certain kinds of natural resources. If one views the Aral Sea basin holistically, that is, as an ecosystem, than there its value is much more than the sum total of the economic value of its separate ingredients. For example, as the sea declines, larger amounts of surface areas of the seabed becomes increasingly exposed to wind erosion: toxic dust is put in the air and the frequency of dust storms increase. As the sea shrinks, fish
spawning grounds disappear with adverse consequences for fish populations and those involved in the fishing sector. As chemicals are put into the soils and the ground and surface waters, human and animal health becomes adversely affected; and so forth.

In a way this is like the memorable words of Shakespeare voiced by Richard the Third (?????) "For the want of a nail, the kingdom was lost".

11. COTTON IS the PROBLEM

Cotton has borne the brunt of the blame for the demise of the Aral Sea. Cotton has been the reason behind the Soviet leaders' decision to expand the irrigated acreage of cotton, to be used for textiles, ammunition and rocket fuel. Cotton demands lots of water and lots of chemicals for use as pesticides, herbicides, and fertilizers. Thus, cotton is seen as THE culprit in Central Asia for the failure of the ecological (and human) health in the Aral Sea basin. But is it the culprit, or is it the victim?

A close look at the situation will show that the large amounts of chemicals applied to the fields were greatly in excess of that required for optimal cotton production. Poor engineering
practices of the Soviet government (in order to save money) constructed irrigation systems that wasted large amount of water on desert sands. Poorly designed drainage systems meant that increasing amounts of water would need to be diverted from the region's rivers in order to flush increasing amounts of salt buildup in the soil. No consideration was given to the environmental costs associated with large-scale irrigation development in desert regions, despite the fact that numerous studies existed for other parts of the globe showing that arid ecosystems are fragile.

In modern Uzbek culture cotton has been symbolized everywhere as a life-saving crop. It is often referred to as "white gold". It appears in paintings, in murals on walls, on clothing, in jewelry, in designs on eating utensils and even on postage stamps. No, cotton is not the culprit in Central Asia with regard to the demise of the Aral Sea. It has become the symbol of the destruction.

12. THE DISASTER ZONE IS RESTRICTED TO THE PEARALYA

see undp paper section for this response
13. NGOs CAN OPERATE IN THE CENTRAL ASIAN REPUBLICS AS THEY DO IN OTHER COUNTRIES

There are environment-related non-governmental organizations (NGOs) in the Central Asian Republics and they are of recent origin. Some of them have been able to link with NGOs in other countries, while others are totally on their own. Unlike their brethren in other countries, especially those in industrialized nations with a tradition of democracy, they are operating in countries where decisions are still for the most part like those of the old Soviet Union. They are of the command and control variety.

14. THE UN ENVIRONMENT PROGRAMME (UNEP) HAS NO ROLE TO PLAY IN RESOLVING THE ARAL CRISIS

Ever since the UNEP issued its Diagnostic Study on the Aral Sea Basin in late 1992, its activities in the region have been minimal. It seems that the World Bank has taken over the lion's share of activity in the region. The UN Development Program (UNDP) has also become involved in the region. Both of these organizations have considerably more funds available than UNEP in
general and for the region, specifically. Each of these organizations have different missions in the region: the Bank's mission is to bring democracy and privatization to this part of the Former Soviet Union, whereas the UNDP is focused on capacity building through, for example, education, training and the empowering, so that people within the region can take change of their own affairs. Concern for the environment is secondary to both of these organizations.

At a recent Heads of State meeting in Nukus, Karakalpakstan, Uzbekistan, UNEP's role was non-existent. Although it is in theory a partner with the UNDP and the World Bank, its post-Diagnostic study role has been passive. Its name appears on several Bank publications, but its involvement in those reports has been minimal. After this respite of a few years, watching others take action prompted in large measure by its own early work in the Aral region, it is again important for the production of successful integrated assessments of Bank and UNDP projects that UNEP re-emerge itself in the Aral Sea region.

The Aral Sea environment needs a spokesperson and the logical spokesperson is the UNEP. The process to produce the Diagnostic Study as well as the final document has been instrumental in raising awareness, concern and action to address the Aral Sea
crisis in all of its facets.

As the next phase of involvement in the region begins the UNEP has an important role to play in integrating into World Bank and UNDP activities a true and primary concern for the environment, for viewing the Aral Sea and the rivers that feed it as part of a larger (holistic) Aral Sea basin ecosystem.

15. AFGHANISTAN, IRAN AND CHINA HAVE NO ROLE TO PLAY IN THE FUTURE OF THE ARAL BASIN

Although the spatial portions of the Aral Sea basin in each of these countries are relatively small, they are in the headwaters of the rivers that feed not only the sea but the populations that depend on the river waters of the Amudarya and the Syrdarya. To date, there has been a tendency (no, a proactive policy) to exclude these countries from deliberations being held by the five Central Asian republics of the Former Soviet Union. However, any future activities of the upper basin states for the major rivers that feed the sea can have major consequences for the quality and quantity of water in the rivers as they pass through these states. Eventually, the views of these countries will have to be
taken into consideration by the leaders of the Central Asian republics. The question is not whether but when this will happen.