

Aswan Dam Revisited

The Benefits of a Much-Maligned Dam

Egypt, said the eminent Greek historian Herodotus, is “the gift of the Nile.” This is not an overstatement since without the Nile, the country as we know it, simply would not exist. The importance of the Nile to the survival of the country was reiterated by Napoleon during the French occupation of Egypt. He said: “If I were to rule a country like Egypt, not a single drop of water be allowed to flow into the Mediterranean.”

Throughout history, the Egyptians have harnessed the water of the Nile. They built a very successful civilisation on the banks of the Nile. Even now, after harnessing the full flow of the Nile, only about 4 per cent of the land area of the country, mainly stretched as narrow strips on both sides of the Nile, are arable: the rest of the country is basically a desert.

Of all the dams in the world, the Aswan High Dam is unquestionably most well-known. It is also the most vilified dam in the world. An important question that has never been asked is why this dam is so well-known globally, when there are many other dams, which are much larger and/or more spectacular. Engineering-wise, it is a somewhat average dam. It is not as awe-inspiring as the Ataturk Dam in Turkey, or not as spectacular as many other much smaller dams like the Yagisawa Dam in Japan. Yet, very few people outside Japan have ever heard of Yagisawa Dam. Even in Japan, the Aswan Dam is better known than the Yagisawa Dam. The logical question then to ask is why this anomaly exists? This is a question that has never been asked, let alone answered.

Politics of the Aswan Dam

To understand this anomaly, it is necessary to analyse the hydropolitics that engulfed the construction of this dam. On the basis of the research carried out at the Third World Centre for Water Management in Mexico, it is now becoming evident that much of this can be explained by the superpower rivalries between the United States and the Soviet Union. The Aswan Dam became a victim of the Cold War because of the hydropolitics that were associated with it. Irrespective of its overall benefits and costs, this superpower rivalry of the past was instrumental to make the dam famous and also in giving it a bad name, which has prevailed to date.

The facts are as follows. The United States had initially agreed with the Egyptian President Gamal Abdel Nasser to pro-

nance the dam. A week after this official letter was received, Nasser declared in a speech in Alexandria to commemorate the departure of King Farouk from Egypt that the High Dam would be built by Egypt and paid for out of the revenues of the Suez Canal. He went on to say: “We have taken this decision to restore part of the glories of the past, and to safeguard our national dignity and pride”

As Mohammed Heikal, a confidant of President Nasser, said later: “After the West had fumbled and failed it was the Soviets who had stepped into the breach, and with their money and their skills had built the ‘new pyramid’...”

When the construction of the Aswan High Dam was completed, the General Secretary of the Central Committee of the Communist Party of the Soviet Union, Nikita Khrushchev, sent an informal message to President Nasser requesting that he be officially invited to participate in the opening ceremony of the Dam. This invitation was extended to him and this became the first visit of the General Secretary to any Arab or African country. During the opening ceremony, Khrushchev declared that the Soviet Union would “drown capitalism” in the African continent, and the Soviet assistance to construct the Dam was the beginning of this process.

The superpower politics over the construction of the Aswan Dam generated considerable media and public interest in the West, as well as in other parts of the world. This contributed to the global awareness of this dam.

Soon after the dam was constructed, several American journalists published a series of articles condemning it because of its adverse social, environmental and economic impacts. Since the construction of this dam was completed before any country in the world required environmental impact assessment (EIAs), or methodologies were even available for carrying out EIAs, not surprisingly no environmental impact studies were conducted. Accordingly, all these published opinions were of course at best only conjectures, since the real impacts, both positive and negative, were unknown as there was no systematic analysis or monitoring of such impacts. It is now well known that the intelligence agencies of both the two superpowers at that time routinely used some journalists and academics to plant stories that were detrimental to the other side. To what extent dirty tricks were used to den-

Asit K. Biswas

The Aswan High Dam across the mighty river Nile is perhaps one of the most controversial of the existing big dams in the world. Political, economic and environmental arguments have been raised against it ever since its construction in the early 1960s. But Asit K. Biswas, after a careful evaluation of the dam's impact on Egypt, concludes that it has been overwhelmingly beneficial to the country.



Photo: GMP

From time immemorial, the Nile has been Egypt's lifeline.

vide the necessary funding for the construction of the dam. However, for a variety of reasons, the USA was displeased with President Nasser, and on July 19, 1956, a letter announcing the withdrawal of the American offer to finance the dam was handed to the Egyptian Ambassador in Washington. This was not unexpected, since by this time Nasser was convinced that the Americans would decline to fi-

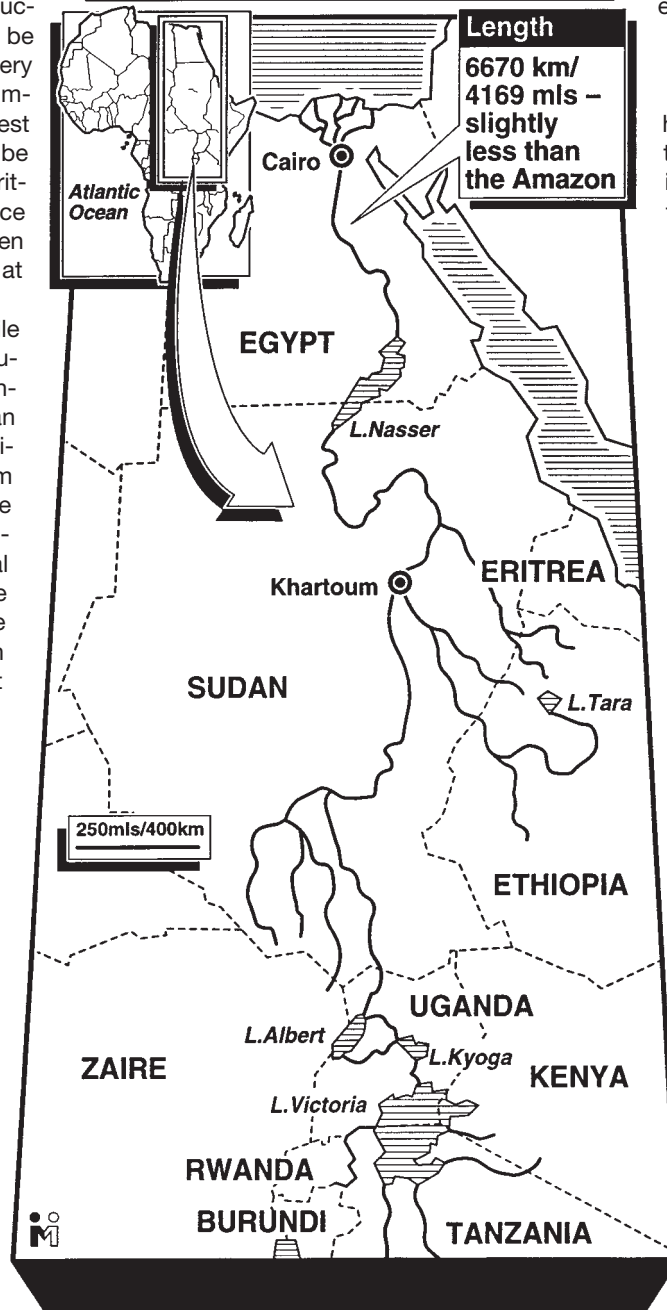
igrate the reputation of the Aswan Dam because it was constructed with Soviet help, and also because it was the first major Soviet-assisted structure in Africa, will probably never be known definitively. However, to a very significant extent, the current bad image of the Aswan dam in the West and the rest of the world could be traced to these early journalistic writings which were accepted at face value by people outside Egypt, even though most were misleading at best, and incorrect at worst.

In retrospect, the high-profile media articles which focused exclusively on the so-called negative environmental impacts of the Aswan High Dam found a receptive audience in the West, many of whom were already convinced at that time that such large development projects could only be environmental disasters. Very few, if any, people realised that the articles were based on suppositions rather than facts, and it was highly likely that many such stories were 'planted' by the intelligence agencies. Not surprisingly, most of these stories were later found to be incorrect.

These writings in the US media simply reinforced the prevailing biases such as 'small is beautiful', and ensured that the Dam became a cause célèbre among the newly emerging environmental movement as a prominent example of a bad, large development project. Irrespective of detailed studies later, which refuted most of the earlier shortcomings of the structure, the legend of the Aswan High Dam has continued to live until the present day. The detailed studies that were carried out in the 1980s and early 1990s on the actual impacts of the dam with the support of the Canadian International Development Agency (CIDA) are only known to the very few people who were directly associated with this project. The CIDA-assisted studies indicated that contrary to the popular belief that the Aswan Dam was a 'complete disaster', it was actually one of the best dams in the world because of the very substantial overall benefits it brought to the country and its people.

The myths surrounding the Aswan High Dam have been repeated so many times that these are now accepted as facts, especially outside Egypt. In reality, evidence indicates that Aswan has been remarkably

The mighty Nile



successful dam, without which Egypt would have been in dire economic straits. It has unquestionably contributed to some adverse environmental impacts as well as to many positive ones. Not surprisingly, the Executive Director of the United Nations Environment Programme, Dr. Mostafa Kamal Tolba, concluded in 1988: "The real question can no longer be whether the Aswan Dam should have been ever built, since without it the Egyptians would have been facing a continuing economic and social catastrophe over the past three decades, but rather what steps should have been taken to maximise further the positive socio-environmental

benefits and reduce the negative ones so that the net benefit to the Egyptian people could have been even higher."

Economic benefits

The dam's economic benefits have never been in doubt. At the time of its construction, total cost, including subsidiary projects and the extension of electric power lines, amounted to Egyptian £450 million. This is estimated to have been recovered within only two years, since its annual return to the national income was estimated at E£255 million: E£140 million from agricultural production, E£100 million from hydropower generation, E£10 million from flood protection, and E£5 million from improved navigation. Viewed from any angle, these are remarkable economic returns from any development project.

The importance of the dam to Egypt's economic survival was clearly demonstrated in the 1980s. It is not difficult to see what would have happened to the Egyptian economy and its social-political conditions if the Dam had not been there to protect the country from first, the potentially catastrophic impact of nine years of continued drought from 1979 to 1988; and second the abnormally high summer flood of 1988 (which had devastating impacts on another Nile Basin country, Sudan). Even with the Dam, Egypt had come perilously close to feeling the catastrophic impacts of the drought in 1988, due to a dangerously low water level in the High Dam Lake. There can be no doubt that if the drought had continued for another few years, even

the Aswan High Dam would not have been able to protect Egypt from its ravages.

Impact on downstream areas

Clearly, construction of the Dam has changed the hydraulic regime of the river downstream. In effect, it has become a "glorified canal", since its water flows totally controlled by a series of dams and barrages. Canalisation of the river has reduced its length. Similarly, the number of islands in the river has declined from 150 before the Dam to 36 at present.

A major environmental concern was the potential drop in river-bed level downstream of the Dam as the result of serious

erosion caused by the flow of silt-free water (silt is now deposited behind the dam) Estimates by various national and international experts put this drop at between 3 and 8.5 metres. The actual drop has now been measured at less than 15 per cent of the lowest estimate.

Prior to the construction of the Dam, silt used to be spread over land or carried to the Mediterranean delta. It is estimated that each year floods used to deposit 12 million tonnes of silt on land along the Nile. The reduction in soil fertility due to the loss of the nitrogenous component of the silt now has to be compensated for by the annual addition of some 13,000 tonnes of lime-nitrate fertiliser.

The Egyptians had been taming the River Nile long before the construction of the Aswan High Dam, and coastal erosion in the Nile Delta was first observed in 1898, when the first manmade structures started to control the river's flow. This erosion accelerated after the construction of the Dam. Appropriate measures have been taken, or are being implemented, to mitigate the effect of the coastal erosion.

Waterlogging and disease

Over-irrigation and other inefficient uses of water, bad land levelling and the intensification of cropping patterns have contributed to an increase in the ground-

water level of irrigation areas. Absence of proper drainage in the past contributed to the development of salinity and waterlogging, which reduced land productivity. Egypt then embarked on an ambitious programme of providing drainage in 2 million ha, where productivity has increased by 15-30 per cent depending on soil conditions.

Following the construction of the Dam, the fish catch in the Mediterranean declined from 22,618 tonnes in 1968 to 10,300 tonnes in 1972. By 1980, it had recovered to 13,450 tonnes. However, what is not generally recognised is that the High Dam Lake created a completely new source of fish, and, by 1982, was producing 32,000 tonnes annually, more than compensating for the loss in the Mediterranean catch.

The Aswan High Dam has been widely blamed for an increase in schistosomiasis. It is now clear that in most cases schistosomiasis infection occurred not during irrigation, but during human contact with canal water due to the absence of water-supply and sanitation facilities. Provision of basic services like clean water, sanitation, health education and rural clinics has reduced the overall prevalences of schistosomiasis from more than 40 per cent during the pre-dam period to only 10.7 per cent in 1991. It is expected that this figure

will continue to fall, dropping below 5 per cent, at which point the disease will no longer be considered endemic for the first time in centuries.

Balanced assessment

An objective evaluation of the impacts of the Aswan High Dam based on over 30 years of operational data clearly indicates that it has been overwhelming positive. Although the Dam has contributed to some environmental problems, these have proved to be significantly less severe than was generally expected, or currently believed by many people. In retrospect, the Aswan High Dam deserves much more credit than it has received thus far for its significant beneficial contributions to Egypt's overall social and economic development.

The Third World Centre for Water management is now conducting a major study on the actual economic, social, and environmental impacts of the Aswan High Dam Ataturk Dam in Turkey and Bhakra-Nangal Dam in India, with the support of the Nippon Foundation of Japan. The present report is based on the initial finding of this assessment project.

Prof. Asit K. Biswas is the President of the Third World Centre for Water Management in Mexico. Former President of International Water Resources Association, he was a Member of the World Commission on Water, and Senior Advisor to the Executive Director of UNEP for 19 years. His work has now been translated into 31 languages.

