

Foreword

Over the past three decades, mention of large dams often brings very different reactions from water and environment professionals. Water professionals generally consider dams as necessary structures, which are essential to ensure water, food and energy securities of the world. Environmentalists, in turn, consider them to be unnecessary and mostly cause more harms to the society than benefits. The debate between both sides is still continuing, and there are no indications that it will be settled definitively one way or another any time soon.

My own interest in dams started during the early 1960s when I started teaching at the University of Strathclyde, Glasgow. However, my initial interest was not whether large dams are good or bad for the society but rather what have been the human dimensions of failures of a few large dams in the past.

My focus on dams radically changed when I became the Senior Scientific Advisor to the Executive Director of the newly established United Nations Environment Programme in Nairobi. In 1975, its Executive Director, a brilliant Egyptian botanist from Egypt, asked me to assess the economic, social and environmental impacts of the Aswan High Dam objectively. At that time, Aswan High Dam was cause célèbre globally. It was unanimously considered in the West to be a very bad dam whose costs far exceeded the benefits. The Egyptians generally considered it to be an essential structure needed to assure its economic development.

During the 1970s, it was not easy to conduct an assessment of the impacts of the Dam. Because of the ongoing Arab-Israeli conflict, the Dam was considered to be a possible military target and was heavily guarded. Even the Egyptians were not allowed to visit the dam site, let alone foreigners. Dr. Tolba managed to get a special authorization for my visits. I was also able to visit the new areas where water was being used for irrigation, impacts of hydropower that was generated by the Dam which then accounted for nearly half of Egypt's electricity consumption, and the Nubian resettlements. Based on my work, I reported to Dr. Tolba that if the Aswan High Dam was not built, Egypt's future economic and social situations would have been dire. My conclusion was that the real question was not whether the dam should have been built or not, since Egypt really did not have a choice, but,

rather, when the structure was planned and constructed during the 1960s, was there anything Egyptians could have done to further increase its benefits and minimize its social and environment costs? Until Dr. Tolba retired in 1992 as the Executive Director, UNEP's view on the Dam remained the same. My view has not changed either.

After the assessment of the Aswan High Dam, the question I wrestled with was why the Western scientists and the media viewed the Aswan High Dam was a very bad structure which many suggested should not have been built when in fact according to our assessment it was one of the best dams of the world in terms of total benefits to the nation?

During the early 1980s, Dr. Tolba asked me to chair the International Advisory Board of UNEP's Water Programme. One of the members of this Board was a remarkable scientist, Prof. Gilbert White, who had also done considerable work on dams. During one of our discussions in Athens, Greece, I asked Gilbert if he can suggest an authoritative and objective scientist who can separate the wheat from the chaff in the area of dam-related involuntary resettlements. Gilbert said immediately that without any doubt the real world authority in this area was Prof. Ted Scudder of California Institute of Technology. I had of course read many of Ted's works earlier. However, after Gilbert's strong recommendation, I very specifically read nearly all of Ted's available work.

I first met Ted when I was in Oxford, and he came to participate in a workshop on involuntary resettlement due to large development projects. Our paths have crossed numerous times since then. Ted has been kind enough to contribute several chapters to many of my books. Over the years, my respect for Ted has steadily grown, both as a human being and as an independent and objective scholar on dams and resettlement.

When I was growing up, my parents warned me that if two persons agreed on everything, I can be assured that only one of them was doing the thinking. Thus, not surprisingly, Ted's and my views on large dams coincide nearly 75% of the time. I am somewhat more pro-dam, especially when dams are properly planned, constructed and policies are followed, compared to Ted. Part of the explanation may lie in the fact that dams I have analysed are often not the same as Ted's. Thus, both of us could be right since the dams on which our respective judgements are based are not the same.

Probably even more important could be other factors which Ted and I have identified independently.

The first factor could be because lack of reliable and comprehensive social, economic and environmental data of the region during pre-dam construction periods. Consequently, it is difficult to compare ex-post analyses of their long-term social, economic and environmental impacts with unreliable information of pre-dam conditions. In addition, without reliable data, it is extremely difficult to answer impartially fundamental questions related to resettlement like how many people had to be resettled due to reservoir inundation, whether all of them were resettled properly, or actually received the full compensation packages they were promised legally entitled to.

Objective and comprehensive ex-post studies on the economic, social and environmental impacts of large dams, say 10–15 years after their construction, are mostly missing at present. In fact, a number of such reliable studies available from any part of the world can be counted in the fingers of one's hands and still have a few fingers left over!

It is indeed strange that all large dams that have been constructed anywhere in the world, during the past 3–4 decades, had environmental impact analyses (EIAs) carried out before their constructions were authorized. However, such EIAs are only forecasts of future likely developments. Predictions of impacts, including their types, magnitudes and spatial and temporal distributions, are often an art and not science. A good EIA study can at best identify around 70% of potential future impacts. Anecdotal evidence indicates that some 30–50% of the negative and positive impacts are often not accurately predicted. Some are completely missed. The only way to assess the impacts is to study what they are after 5–15 years of operation of any dam.

Without good ex-post analyses, it has not been possible to improve the validity of techniques used for conducting EIAs. Accordingly, biases and errors in conducting EIAs have continued to haunt the process.

In my view, until serious, objective and comprehensive studies are conducted on the positive and negative impacts of a critical mass of large dams from different parts of the world, and these are compared with reasonably reliable socio-economic, environmental and technical information of pre-project conditions, the debates on the effectiveness of large dams are unlikely to be resolved in one way or another.

At present, the best one can do is to read carefully the life-long work of objective, contentious and unbiased scientists, both from natural and social sciences, and then try to make a judgement on the contributions of dams to overall social and economic development and quality of life of people in the dam-affected region. Regrettably, in this area, the number of such objective people from anywhere in the world is severely limited.

After some five and half decades of my work in water-related areas, my view is there are only two people in the world whose work on dam-related issues I take seriously: late Gilbert White and Ted Scudder. One may or may not agree with all of their findings, but they are the best unbiased studies that are available at present.

The present book is part autobiographical and part technical. It is very readable, and gives a good historical perspective on evolution of thinking on large dams, especially in terms of dam-induced involuntary resettlement. In my view, it should be in the “must reading” list of any person interested in the impacts of large dams. I most sincerely hope this book will reach the audience it richly deserves.

Singapore, Singapore

Asit K. Biswas
Distinguished Visiting Professor
Lee Kuan Yew School
of Public Policy
National University of Singapore