

In order to enhance flexibility one strives towards consideration of alternative designs of reservoirs. Comparing alternative designs: different locations, different construction options, different sizes, one may arrive at the most acceptable and sustainable solution. Specialists studying the possible climate change impacts recommend that in order to cope with overwhelming uncertainties, flexibility of the project should be enhanced. A dam should not be constructed now in anticipation of being needed in several decades. However, if it is being built now, it may be useful to “design-in” the possibility of further augmentation, should the need arise in the future.

Syngal (1994) compared two alternative plans proposed independently by different agencies for the same region in South Asia. The first plan with one large reservoir was compared to a more decentralized plan with 34 reservoirs. The latter option, while better in terms of higher flood storage, surface water area for recreation, and lower area of inundated bottom, costs only one third of the centralized option. The only advantage of the large reservoir over the set of smaller units was in energy production.

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