

Hydrological Benefits Sharing Concepts in Constructing Friendship Dams on Transboundary Tigris River Between Iraq and Turkey

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Abstract : Because of the increasing population and the growing water requirements from the transboundary water resources within riparian countries in addition to un-proper management of these transboundary water resources, it is likely that a conflicts on the water will be occurred. So it is mandatory to search solutions to mitigate the action and probabilities of these undesired conflicts. One of the solutions for these crises may be sharing the riparian countries in the management of their transboundary water resources and share benefit. Effective cooperation on a transboundary river is any action by the riparian countries that lead to improve management of the river to their mutual acceptance. In principle, friendship dams constructed by riparian countries may play an important role in preventing conflicts like the Turkish-Syrian friendship dam on Asi river (Orontes), Iranian-Tukmenistan dam on Hariroud river, Bulgarian-Turkish dam on Tundzha river, Brazil-Paraguay dam on Parana river, and Aras dam between Iran and Azerbaijan. The objective of this study is to focus the light on the hydrological aspects of cooperation in constructing dams on the transboundary rivers, which may consider an option to prevent conflicts on water between the riparian countries. The various kinds of benefits and external impacts associated with cooperation in dams construction on the transboundary rivers with a real examples will be presented and analyzed. The hydrological benefit sharing from cooperation in dams construction, which type of benefit sharing mechanisms are applicable to dams, and how they vary were discussed. The study considered the cooperative applicability to dams on shared rivers according to selected case study of friendship dams in the world to illustrate the relevance of the cooperation concepts and the feasibility of such propose cooperation between Turkey and Iraq within the Tigris river. It is found that the opportunities of getting benefit from cooperation depend mainly on the hydrological boundary and location of the dam in relation to them. The desire to cooperate on dams construction on transboundary rivers exists if the location of a dam upstream will increase aggregate net benefits. The case studies show that various benefit sharing mechanisms due to cooperation in constructing friendship dams on the riparian countries border are possible for example when the downstream state (Iraq) convinces the upstream state (Turkey) to share building a dam on Tigris river across the Iraqi -Turkish border covering the cost and sharing the net benefit derived from this dam. These initial findings may provide guidance for riparian states engaged in and donors facilitating negotiation on dam projects on transboundary rivers.

Keywords : friendship dams, transboundary rivers, water cooperation, benefit sharing

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