

Investigating Reservoir Sedimentation Control in the Conservation of Water

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Abstract : Despite years of diligent study, sedimentation is still undoubtedly the most severe technical problem faced by the dam industry. The problem of sedimentation build-up and its removal should be the focus as an approach to remedy this. The world's reservoirs lose about 1% of their storage capacity yearly to sedimentation, what this means is that 1% of water that could be stored is lost the world-over. The increase in population means that the need for water also increases and, therefore, the loss due to sedimentation is of great concern especially to the conservation of water. When it comes to reservoir sedimentation, the thought of water conservation comes with soil conservation since this increasing sediment that takes the volume meant for water is being lost from dry land. For this reason, reservoir sediment control is focused on reducing sediment entering the reservoir and reducing sediment within the reservoir. There are many problems with sediment control such as the difficulty to predict settling patterns, inability to greatly reduce the sediment volume entering the river flow which increases the reservoirs trap efficiency just to mention a few. Notably reservoirs are habitats for flora and fauna, the process of removing sediment from these reservoirs damages this ecosystem so there is an ethical point to be considered in this section. This paper looks at the methods used to control the sedimentation of reservoirs and their effects to the ecosystem in the aim of reducing water losses due to sedimentation. Various control measures which reduce sediment entering the reservoir such as Sabo dams or Check dams along with measures which emphasize the reduction in built-up settled sediment such as flushing will be reviewed all with the prospect of conservation.

Keywords : sedimentation, conservation, ecosystem, flushing

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020