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Effects of Flood Collection in Bandsars on Soil Physical and Chemical Properties

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Abstract

Collection of flood in arid regions is done by several methods. One of them is traditionally used in Khorasan province named Bandsar. Collection of floods in the reservoirs of Bandsar has such benefits as deposition of the sediment, increase of soil moisture, and recharging of ground water. In this study, the effects of flood collection on soil physical and chemical properties were determined for an area in Birjand town, south of Khorasan province. It was found that collection of floods in Bandsar affected the soil physical and chemical properties. It should be noted that these effects were more obvious for physical characteristics since it improved soil condition and structure. On the other hand, it chemically increased mineral and organic matter in soil; however, this effect was not sensible. Generally, it can be mentioned that flood collection in the Bandsar was important both for ground water recharging and cropping. Finally, paying enough attention to this aspect of flood mitigation can solve many problems related to drought in arid area.

Keywords: Arid regions, Flood collection, Bandsar, Artificial recharge, Aquifers, Soil physical and chemical properties, Flood agriculture, Soil moisture, Organic matter.

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