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Controling of sedimentation, qualitative and corrosively of a river in Zanjan

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Abstract—**This In this research,was survied water quality of Ghezel-Ozan river,for evaluation of water corrosivity and sedimentation.A total of 16 samples were taken from various points on 2 half of year for calculation Langelier,Ryznar and Pukorious Index.Compare of this indexes,was shown is tendency on sedimentation,that must is remedied to prevention from the sediment and corrosion pipes of water,to prevention costs of replace of pipes.Determination the kind of plantation on regions that has a salty water,is necessary,to prevention of reducing of efficiency.in this research,pay comparison water quality this river with methods of plantation for using optimum to increasing efficiency on irrigation systems.**

Keywords- Ghezel-Ozan, river , Zanjan, corrosion, sediment, quality water, operation, efficiency, plantation, Ryznar, Langelier, Pukorious, willcox.

I.   INTRODUCTION

In nature the water exist inform of impure, and has a dissolved and suspense matter always. But impurities the water do not prevent the using this waters, as long as is not more than allowed limit. Factors that closed the dropper is, physically and biologically (Alizadeh and Khiabani, 1996). At the present, since metal pipes for water transmission is commonly used in the world, so water have to consider effects of corrosion upon water quality and conversely (Dietrich, 2004). In our country (Iran) limited studies was carried out in the field of corrosion, Finding of a study in Zarrinshahr city (Iran)water distribution system show that high concentration of lead, Cadmium and Zinc in drinking water relates to corrosion of internal walls in galvanized pipes (Shahmansori and Pormoghadas, 2004). In the world, every year several billion dollars loser via corrosion. For the best operation of boiler or cooling tower, the water quality control is detrimental factor (Log et al , 2004). A Ryznar Index number of less than about 6 is indicative primarily of the start of calcium carbonate (scale) deposition, an Index number greater than 6 to 7 is indicative of increasing water corrosivity (Salvato, 2003).

Study the corrosion and sediment in Iran is important, because country of Iran has a first place of sediment on world with amount 10 ton/hec (Khodabakhshi et al, 2008). Also, study of waters on Ahvaz indicated, corrosivity of this water is low(Savari et al, 2008). Whereas Karim et al shown the water of Ahvaz according to Ryznar Index is very corrosivity (Karim et al, 2008). In the other study Nikpurr et al indicated waters of springs, wells, and water tank Behshahr, is corrosivity according to Ryznar and is sedimentation according to Langelier (Nikpur et al, 2006).

Pukorious and Brock were introduce the Pukorious Index for distinction corrosivity and sedimentation in waters(Puchorius et al, 1991). Also Pakshir et al (Pakshir et al, 2004), according to guidance Pukorious and Brock (Puchorius et al, 1991) in Esfahan is described Pukorious Index for waters. Al-Rawajfeh and Al-Shamaileh applied CCPP Index on