

ABSTRACT

DESIGN OF WEIR IN DODA IRRIGATION AREA, CENTRAL SULAWESI

By

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Indonesia is an agricultural country where most of people there works as farmer. In Central Sulawesi, there is an irrigation area called Doda Irrigation Area with area of 1350 ha. The farmers of this area can cultivate paddy or crops only once in a year. This condition is due to the lack of irrigation water dan unmaintained irrigation structures. Some weirs in this area are not functioning well and some others are broken. In order to establish good irrigation system, it is necessary to build some new weirs in the area to guarrantee water availabilty in this area.

This research contains a design of one weir in Doda Irrigation Area. The weir called Torire Weir. This weir is designed using gravel stone covered by concrete plate. The desain of dimension of the weir based on engineering calculation is given as follows, effective width of weir is 9.3 meter, height of weir is 2 meter, type weir is ogee type, type of stilling basin is Vlughter type, length of stilling basin is 6.9 meter, length of upstream floor is 22.23 m, and height of endsill is 1.65 meter. The design has passed the requirement of shear stability, slide stability, eccentricity stability, and ultimate bearing soil capacity.

Keywords: Weir, Doda Irrigation area, Design