# ANALISIS PENGELOLAAN WADUK CENGKLIK
# UNTUK MENGURANGI RISIKO BENCANA KEKERINGAN

## Yovi Hardianto
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Pembimbing Utama
**Dr. Ir. Rachmad Jayadi, M.Eng**

Pembimbing Pendamping
**Ir. Darmanto, Dip.HE., M.Sc.**

Anggota Dewan Penguji Lain
**Prof. Dr. Ir. Djoko Legono**

## ABSTRACT

Cengklik reservoir's water availability problem that ended by drought disaster appears latest year. The latest real impact is irrigation water crisis in 850 hectares farm area that causes 350 hectares were not planted. The risk that must be faced by farmers is potential production in the amount more than 2,5 billion dissapeared. Therefore it needs technically problem solution to reduce this drought disaster risk.

To obtain an alternative solution of water availability limitedness problem in drought disaster mitigation, this research uses optimation of reservoir standard operation simulation (standards operating rule) with decision variable is farm area for rice or palawija in the $2^{nd}$ and or $3^{rd}$ time plants, objective function is maximizes productivity value, parameter is irrigation water demand which depends on alternative pattern plants and time plants that chosen, with several constraint are: reservoir reliability is 100;, all farm area can be irrigated in the $1^{st}$ and $2^{nd}$ time plants; and maximum farm area which is not irrigated in $3^{rd}$ time plants are 300 hectares. The tool that used to do optimation is a problem solver facilities in microsoft excell software.

Result of this research shows pattern plant that can considering as an alternative solution of water availability limitedness problem in Cengklik reservoir is rice-rice-corn beginningly November II and farm service area during a year for $1^{st}$ and $2^{nd}$ group each 433 hectares and 1524 hectares. Risk reduction that reachable is 9,33% reviewed from reservoir reliabilitas, 23,61% reviewed from area can be serviced, and 27,29% reviewed from consequence of water availability crisis.

**Keyword**: water availability, water required, and reservoir operation