

## List of Abbreviations

ACWP	Apparent Crop Water Productivity
AMC	Antecedent Moisture Conditions
ANN <sub>s</sub>	Artificial Neural Networks
ANOVA	Analysis of Variance
AOGCMs	Atmosphere-Ocean General Circulation Models
ASCE	American Society of Civil Engineers
ASCE- EWRI	American Society of Civil Engineers - Environmental & Water Resources Institute
ASCE PM	American Society of Civil Engineers Penman-Monteith Equation
ASM	Available Soil Moisture
AWS	Automatic Weather Stations
CCA	Culturable Command Area
CD	Critical Difference
CWP	Crop Water Productivity
CWSI	Crop Water Stress Index
CWSI - TT	Crop Water Stress Index - Time Threshold
$D_e$	Cumulative depletion depth at the end of day $i$
$D_{e, i-1}$	Cumulative depletion depth at the end of the previous day
$D_{r, i}$	Root zone depletion at the end of day $i$
$D_{r, i-1}$	Depletion in the root zone at the end of the previous day
$E_c$	Water Use Efficiency
EC Mix	Electrical conductivity mix
EPIC	Environmental Policy Integrated Climate
ET	Evapotranspiration
$ET_a / ET_{act}$ $/ ET_{cadj}$	Actual Evapotranspiration
$ET_c$	Crop Evapotranspiration
$ET_o$	Potential Evapotranspiration
$ET_{ref} / ET_r$	Reference Evapotranspiration

FAO	Food And Agriculture Organization
FAO-PM	Food And Agriculture Organization - Penman-Monteith Equation
FAO24	FAO Irrigation and Drainage Paper No. 24
FAO-56	FAO Irrigation and Drainage Paper No. 56
$f_c$	Soil fraction covered by vegetation
$f_{ew}$	Exposed and Wetted Soil Fraction
FMIS	Farmer Managed Irrigation System
FVC	Fraction of Vegetation Cover
$F_w$	Fraction of the Surface Wetted
GCA	Gross Command Area
GIS	Geographic Information System
GWRDC	Gujarat Water Resources Development Corporation Limited
GWSSB	Gujarat Water Supply And Sewerage Board
ha	Hectare
IMD	Indian Metrological Department
IWP	Irrigation Water Productivity
IWUE	Irrigation Water Use Efficiency
$K_c$	Crop Coefficient / Single Crop Coefficient
$K_{cb}$	Basal Crop Coefficient / Dual Crop Coefficient
$K_e$	Soil Evaporation Coefficient
$K_r$	Soil Evaporation Reduction Coefficient
$K_y$	Crop Yield Response Factor
LAI	Leaf Area Index
LEPA	Low Energy Precision Application
MAF	Million Acre Feet
MCM	Million Cubic Meter
MSE	Mean Square Error
NDVI	Normalized Difference Vegetation Index
NIR	Net Irrigation Requirement

NPG	Narmada Planning Group
NRCS	Natural Resource Conservation Service
ORG	Operations Research Group
PM	Penman-Monteith Method
PPM	Parts per million
Q	Accumulated run-off depth
RAW	Readily Available Water
RBD	Randomized block design
RCN	Runoff Curves Numbers
RCWP	Real Crop Water Productivity
REW	Readily Evaporable Water
$R_n$	Net Radiation
S	Potential maximum retention
S I	Irrigation Strategy I
S II	Irrigation Strategy II
S III	Irrigation Strategy III
S IV	Irrigation Strategy IV
S V	Irrigation Strategy V
S VI	Irrigation Strategy VI
SCS	Soil Conservation Service
SE	Standard Error
SMB	Soil Moisture Balance
SMD	Soil Moisture Depletion
SSNNL	Sardar Sarovar Narmada Nigam Limited
SSP	Sardar Sarovar Project
STP	Sewage Treatment Plant
S-W model	Shuttleworth And Wallace Model
SWDC	State Water Data Centre
TAW	Total Available Water

TDS	Total Dissolved Salts
TEW	Total Evaporable Water
VPD	Vapour Pressure Deficit
VSA	Village Services Area
WALMI	Water and Land Management Institute
WEAP	Water Evaluation and Planning
WUE	Water Use Efficiency
$Y_a$	Actual Yield
$Y_m$	Maximum Yield
$Z_e$	Effective depth of surface soil
$Z_r$	Effective rooting depth