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### **Success Stories**

The RKVY project on "Irrigation Water Requirement Advisory Services" (IWRAS) was started in Department of Irrigation and Drainage Engineering, MPKV, Rahuri in February, 2015 with the main objectives of providing the information to the farmers regarding, how much water should apply for specified crop based on soil, weather condition and irrigation method and subsequently provide the information on time of operation of irrigation system. This is important in view of providing exact amount of water to be applied to the crop so as to make the efficient use of water. The need of this project was arise as the farmers don't know the information on the exact amount of water to be applied to the crop under such circumstances under irrigation will subject crop to the water stress and over irrigation will causes the loss of water. The exact amount of water requirement need the information on evapotranspiration requirement of crops and crop coefficient (Kc). This project has started working on the development of crop coefficient of tomato, potato, onion, cotton, wheat, soybean, gram, groundnut and work of development of crop coefficient of pomegranate, banana, grape, citrus, guava, custard apple, fig crops are being undertaken.



Tomato experimental plot



Potato experimental plot



Onion experimental plot



Gram experimental plot



Wheat experimental plot



Sugarcane experimental plot



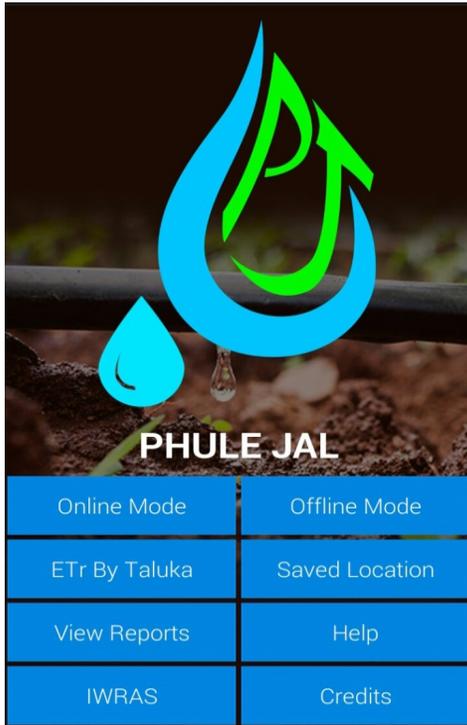
Peagion pea experimental plot



Ground nut experimental plot

Further this project has generated the weekly values of evapotranspiration (ETr) by using 32 years data of 28 stations in 10 districts (Nandurbar, Dhule, Jalgaon, Nashik, Ahmednagar, Pune, Sopalpur, Sangali, Satara and Kholapur) of Maharashtra state using Arc-GIS software. The final output is tahasil wise weekly, monthly and fortnightly evapotranspiration (ETr ) values were generated. The developed spatial distribution maps of evapotranspiration (ETr) are useful to the farmers. To determine water requirement of different crops and which is one of the component of the district irrigation plan under Prime Minister Krishi Sichai Yojana (PMKSY). The information is being disseminate to different agencies for use.

The knowledge of evapotranspiration in real time provides the exact information on water requirement. Therefore, this project has developed desktop application called 'Phule Jal' and has been release in the workshop of "ICT Based Application in Irrigation Scheduling" held on 24<sup>th</sup> March, 2015 in form of CD's. This desktop application has been appreciate by different users. Further due to the advance of smart phones, it is useful to provide this application in the mobile app form to users. Accordingly this project develop the mobile application called as 'Phule Jal' wherein the app fetches the real time data from the weather service provider and estimate the evapotranspiration at the specified location. It is important for the farmers to convert the information on evapotranspiration to the exact amount of water to be applied and time of application for the specific crop, soil, irrigation system, weather condition and location.



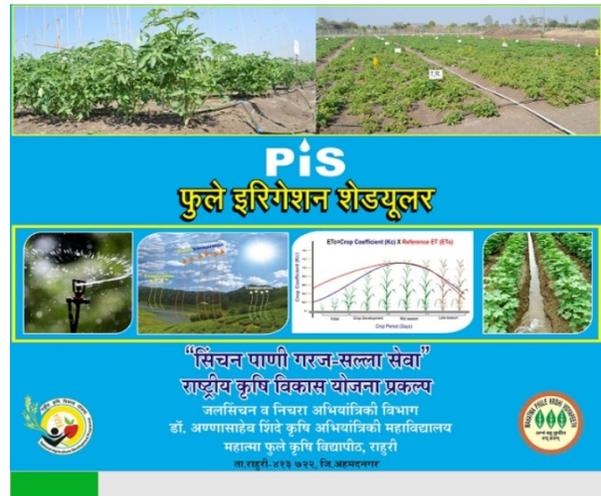
**Phule Jal English version Mobile App    Phule Jal Marathi Version Mobile App**



**Phule Irrigation Scheduler Mobile App**



**Phule Irrigation Scheduler (English)  
Desktop application**



**Phule Irrigation Scheduler (Marathi)  
Desktop application**



**CD's of Phule Irrigation Scheduler**

Therefore, this project has developed desktop application called 'Phule Irrigation Scheduler' wherein the users can know the volume of water to be applied and time of operations of specific irrigation system. In this application the crop coefficient values and other details are provided as default data set. However users can change like Phule Jal. Phule Irrigation Scheduler desktop application has also converted into mobile app wherein farmers has to register farm, crop, soil, irrigation system and its other details, based on which mobile app estimate the how much water need to be applied and time of operation of irrigation system. Both the

applications have been prepared in English and Marathi local language. This app have been provided to farmers, progressive growers, scientist from SAU's, KVKs, NGOs, Officer from Department of Agriculture for the purpose of testing and so in the period of one and half year the project is successful in terms of providing the knowledge to farmers regarding irrigation water requirement and his / her step which was not available before. Once the location specific crop coefficient values are available desktop application and mobile app will be release at the large scale for use.

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