

More Crop per Drop

**Meteodat helps Darewadi's water budgeting efforts to get a success**

Today, many farmers in the Darewadi Area of Maharashtra, India, situated in the rain shadow of the Western Ghats mountain chain have not enough water to ensure sustainable irrigation (particularly during Rabi, the dry season). That is the reason why Meteodat could introduce several tools to get more crop per drop of water, supported by Schwank Earthpartner, Swiss Development Corporation and WOTR, a local NGO. For example, they could introduce FAO's CROPWAT as a tool, which allows to plan irrigation in a way that individual water resources can be managed in an optimal way. In future, the farmers of the Darewadi area can choose crops and irrigation plans, which meet minimal water needs.



Photo: M. Rohrer

Simple but mild ploughing methods help to keep the soil fertility

Today, some farmers in WOTR's project villages in Maharashtra are comparably rich in water resources. Some of them are not aware, that they are wasting water with the present irrigation practices. The principles of a managed irrigation shall enable them in future to use less water. With WOTR's experience in strengthening of community awareness, and Meteodat's capacitation how to sharing water with other villagers should be possible in future.

Planning of Crop-calendars for farmers or even whole villages is possible with CROPWAT. Such a planning can be done in future on the base of the CROPWAT water usage calculations, but, of course, also on the base of economic aspects as e.g. the expected yields and respective incomes, considering food and cash crops.

Additionally Meteodat introduced some other tools and techniques to facilitate water budgeting like FAO's AquaCrop, deficit irrigation, erosion control and estimating water cycle.



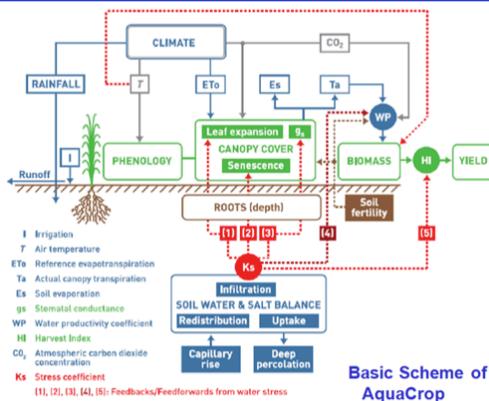
Photo: M. Rohrer

Sustainable water budgeting results both optimal harvests and quality of living, even in dry areas

**AquaCrop: Scheme**

Most important differences from AquaCrop to CROPWAT:

- Crop Coefficient is splitted in evaporation and transpiration part
- Transpiration amount of crop is used to calculate Biomass
- Via a Harvest Index (HI) a Yield is calculated from Biomass



Agro-meteorological stations play a key role in a successful implementation of the water budgeting software CROPWAT.

Regular recalibration and maintenance is a prerequisite for consistent meteorological data. That's the reason that Meteodat has introduced a recalibration and maintenance guide. To ensure sustainability of proposed measures, Meteodat presented various hands-on courses for «capacity builders».



SDC – WOTR – Meteodat: Joint India - Swiss Collaboration: Rain-scarcity zone Maharashtra

Basic scheme of the AquaCrop water budgeting system, a tool to facilitate the understanding of complex hydrological and meteorological processes in the field of crop farming. AquaCrop is also designed for practical purposes, as the assessment of specific yield under current and future climate conditions (Graph: FAO, Meteodat)

**Meteodat GmbH**  
 Technoparkstr. 1, 8005 Zürich  
 Tel ++41 (0)44 445 34 20  
 Email: info@meteodat.ch  
 Internet: www.meteodat.ch