

Emerging practices from Agricultural Water Management in Africa and the Near East

Thematic Workshop



Discussion Theme 1 Water Productivity



28 August 2017



Discussion theme 1

Water Productivity



Guiding questions

1. Has a simulation model such as AquaCrop responded to the need for critical assessment of crop water productivity and its improvement? What are its limitations and strengths and how can it be further applied?
2. Is it viable to reduce yield gaps further to reach close to potential yields by single irrigation improvement without considering additional agronomic measures? What could be those measures?



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Guiding questions

3. The sustainability of water productivity improvements relies on the involvement and participation of the major stakeholders, especially Farmers Associations. How can an inclusive and effective strategy be developed for long-term sustainability?
4. Crop Water Productivity and Water Use Efficiency are closely linked: how can the tools/methodologies (and their implementation) in the two domains be brought together to seek the increase in both yields and efficiencies at the same time?



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OUTCOME OF THE PLENARY DISCUSSION



Conclusions

- AquaCrop should be seen as a simulation tool for scenario building that responds to certain questions for possible improvement of CWP. Within the context of the project, it should be seen as a tool providing guidelines to improve farming practices. The more you fill/update the model with accurate data, the more precise the predictions and improvement practices.
- Data acquisition appears to be a key factor particularly in the African context. Because of spatial variability, there is a limit for data collection, but the model will not be used for operational purposes, only from the models' perspective, thus it is not a critical issue.
- It appears that priorities and constraints differ in the three countries, where the water dimension is not always apparent



Conclusions

- Not all measures to increase CWP are appropriate in all circumstances. Measures must be considered in a realistic context. Measures must be integrated with other AWM practices (such as water use efficiency, water harvesting, etc.) to maximize benefit of improved CWP at project implementation
- Optimum results will be reached mostly by combined actions going beyond water. Showcases demonstrate that yields close to attainable may be already achieved by some farmers employing good practices
- Measures to increase CWP go beyond farm irrigation management. For example, fertilizer use, cropping practices, and scheme irrigation management may be co-limiting the achievement of high CWP.



Conclusions

- Distilling complex research results to reach farmers requires engagement of farmers at different stages of the methodology applied
- Introduction of Action Research in agricultural water management brought academic research, science and practice to the field and involved farmers as well as key stakeholders. In this Project, farmers are involved as central actors, from diagnosis to demonstration stage.
- In certain cases, changes of the organization of the Water User Associations are required to accommodate new types of irrigation systems to fully benefit from interventions aimed at best practices
- Training serves as a multi-objective tool to make stakeholders understand the need of introducing good practicing, and also to make them committed
- Multiple expectations of productivity increase should also be reflected in economic, environmental and social dimensions. Hopefully, this will be achieved at the end of the Project.



Conclusions

- Emphasis was given to work on the interrelations of CWP and WUE. Although not always efficiency improvements result in higher CWP, many water delivery issues can impact the achievement of high CWP.