

Food security through shared community-based natural resources management: water resource management strategy in small-scale farmers under arid-condition in Al Halawat Village in Egypt

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In the community-based natural resources management power and responsibilities are given to grass roots institutions to control their resources. Equal and trustable cooperation among community members on sharing natural resources could gain rural as well as sustainable development. In the food production system, water is a fundamental source. The water quality has a direct impact on the food quality in every step of food production system, including food growing, processing and cooking. In Egypt, small-scale farmers in rural areas have less opportunity to access land and water. Even though, small-scale farmers play an important role in food production in Egypt, they have disadvantaged or marginalized in access of good quality and enough quantity of water. Under an arid climate condition, farmers encountered severe water shortage that lead to unsustainable water usages. How small scale farmers integrate into a common pool to manage water resource is an important question to answer.

The paper report about a field research at Al Halawat Village, El Sharqia Governorate, Egypt including a survey (face-to-face interviews with farmers) to investigate how water quality has an impact on food production in 2015/16. The data will show the current situation of water quality and its effect on food production system and food culture of small scale rural farmers. This investigation will carry out to evaluate the effect of water quality on small-scale farmer's food safety and sketching of discussed water adaptation strategies, the following measures are carried out : physical-chemical analysis of irrigation water used for food wheat produced in the region.

Keywords: water management, small scale farmers, arid condition, food safety and quality