Impact of Participatory Management on Optimal Water Use in Aqqala County

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Abstract

One of the main components of sustainable water management is attraction of farmers' participation in management and maintenance of water networks. Moreover, attraction of farmers' participation in the process of planning, designing, building, and exploitation of the projects (based on popular organizations and groups) can impact optimal water management. The purpose of this case study was to investigate the effect of participatory management on optimal water use in Payvand Production Cooperative of Aqqala County, Golestan province, Iran. Survey method and questionnaire was used to collect the required data. Target population included 400 farmers of cooperative members in 7 villages with participatory irrigation management project in Aqqala County. Using Cochran formula, 196 farmers were selected with random sampling method. Validity of research questionnaires was confirmed based on view of experts and its reliability was verified by calculation of Cronbache's alpha coefficients for scale of optimal management, (0.8) satisfaction of project, (0.77) participatory project management, (0.83) and awareness of the current situation (0.73). The comparison of the optimal water management, before and after the implementation of the project by using of Wilcoxon test showed that there was significant difference in means ranking. The result of path analysis showed that the highest impact on final dependent variables of optimal water management was related to "awareness of the present situation of irrigation system". The variables of level of participation and satisfaction with implementation of the project, background of membership in the cooperative, access to farm road, type of irrigation method, and education were in the next ranks, respectively. In contrast, having a second job had negative effect on optimal water management.

Keywords: **Water management, management transformation, Payvand Production Cooperative, JIKA projec, Wilcoxon test**

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