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Aspects of Water Resource Management and Hydrosolidarity on the Level of Farming Systems and Households in the Eastern Jordan Valley

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Abstract

Growing water demand in all economic sectors of the Near Eastern countries inevitably presses for a change in the allocation of the scarce water resources in terms of quantity and quality. Agriculture, as the current principal consumer of freshwater, will not only face a reduction of water supply but also a rising share of low quality water, which originates from the increased freshwater consumption in other sectors. Meeting this challenge demands a management of water resources that considers simultaneously social imperatives, environmental sustainability and changes in the sources of living standard for farm/household systems and the livelihood of rural communities. Hydrosolidarity, as a conclusive term for ethic principles in water distribution, has only room for manoeuvre if a balanced development for all actors and stakeholders in the concerned regions can be attained. The Jordan Valley is the smallest of the four large-scale watersheds in the Near East and allows thus for relatively clear and representative analyses of quantitative relationships between water users and their dependencies on water resources. On the Jordanian side, adjacent urban areas, in particular the capital Amman, compete to an increasing degree for surface water from rivers and dammed temporary creeks, which provide the principal source of water for irrigation. Treated wastewater from the urban areas adds an increasing component to the overall water balance of the Valley, but remains an ambivalent issue due to suspected negative impacts on soils, groundwater and the quality of agricultural products. The analysis of 137 representatively selected farming systems and agricultural enterprises in the middle and northern part of the Valley allowed for a first estimation of the potential impacts from changing water quantities and qualities on the economic success and living standard of the different types of concerned households. The results show that pursuing the goal of hydrosolidarity, which considers the rights of the weaker members of the population as well as measures against the increasing damage to natural resources and habitats, demands for a management that goes beyond the boundaries of the watershed and combines the development in agriculture with the growth in the other economic sectors.

Keywords: Farming systems, hydrosolidarity, Jordan Valley, water resource management