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“Bridging the gap between increasing knowledge and decreasing resources”

Looking at Food Security through the Agricultural Water Poverty Index

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Abstract

Water, not land, is now the limiting factor in agricultural production systems, particularly in arid and semi arid areas. Food insecurity and the current water crisis are the most immediate challenges of countries located in these areas, which will result in threatening sustainable livelihood of farmers' household, especially poor families. Water is one of the main factors that constrain their agricultural output and income. Low precipitation, over-exploitation of water resources by farmers to increase production, low irrigation efficiency, drought and increased population together contribute to worsen the water crisis. This insecure condition has prompted an increased attention for more effective ways of water management, particularly accurate assessment of the water situation in the agricultural sector. This paper offers a glimpse of the vulnerability contexts related to agricultural water in dry areas of developing countries and then introduces the Agricultural Water Poverty Index (AWPI). It also describes the components of AWPI and emphasises on its potential to address the two important dimensions of farmers' sustainable livelihood, namely the vulnerability context and capitals needed for improving livelihood with regard to agricultural water. The most fundamental function of the AWPI is to measure the level of agricultural water poverty as the most important construct that influences agricultural water management. The paper concludes that increasing water availability can no longer be the driving force beyond secure production in those countries; however, increasing capitals in order to change the agricultural practices is the real alternative for improving agricultural production as well as ensuring a more food secure future for the water scarce countries.

Keywords: Agricultural water poverty index, developing countries, food security, sustainable livelihood