

Category	: International Rice Research Conference
Select Theme	: Climate change and environmental sustainability
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Title of Entry	: Steps to Raising Water Productivity in Asian Rice Production
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Abstract : The starting point for our discussion is the situation before climate change was an issue. The major crop in the region is rice. In many cases the main water-related problem encountered was due to up-stream dams constructed for hydropower. The Green Revolution that began in the 1960s was accompanied by a doubling of the rice area irrigation. This was followed by the groundwater revolution. In some cases policies have encouraged the overexploitation of water aquifers. The performance has been poor in operation and management of these systems. Today's management takes place in an environment of water scarcity with growing demand for agricultural and non-agricultural uses. We now note practices that will increase water productivity and help to offset the impact of climate change. (i) conservation or real water savings (ii) alternate wetting and drying.(AWD) or keeping the paddy saturated but not flooded. This can save as much as forty percent of the water at the farm level. At the same time it reduces methane gas emission from the paddy field. (iii) breeding for resistance to abiotic stresses: Varieties are being bred for resistance to abiotic stresses such as flooding, drought, salinity. (iv) crop diversification (v) virtual water trading: If one country exports a water intensive crop to another country it is said to export water in a virtual form. The term virtual water is not familiar to many. The term was coined by Tony Allen in 1998. Trade in virtual water is widespread. China, for example, is extremely short of water and imports sorghum and corn from the US and Brazil instead of using their own scarce water resources to grow those crops. Similarly, rice self-sufficiency makes no sense for the Philippines. In short, it will take a good deal of skill, effective research and policies for a country to maintain a secure water situation. Increasingly food security will rest on water security.

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