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## Shallow groundwater irrigation in White Volta Basin: Current status, livelihood contributions, and up-scaling potential

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**Session: Volta Basin x Learning 2 Innovate**

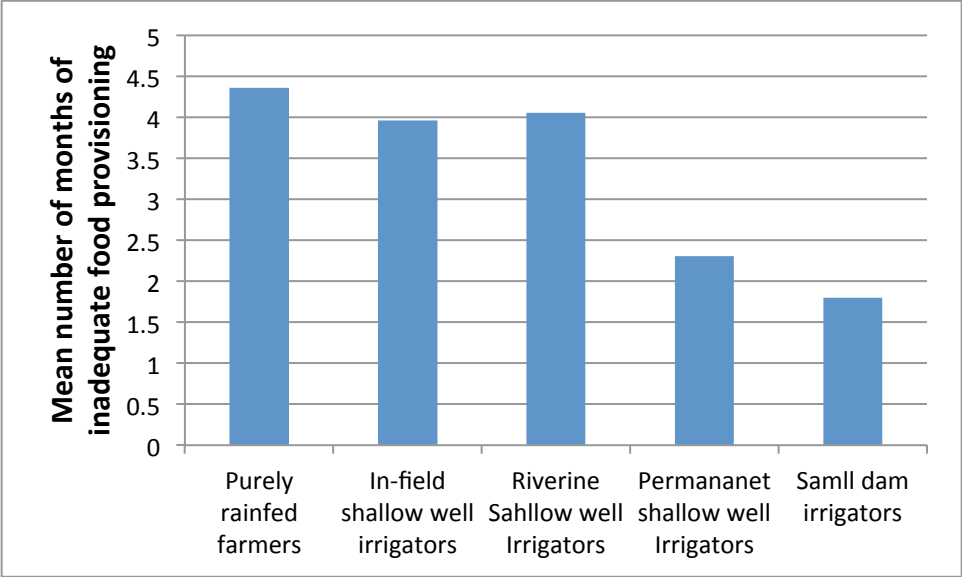
### Key Message

1. The shallow groundwater based irrigation systems have significantly contributed to communities' economy, poverty reduction, and food access. 2. Appropriate technical, policy and institutional support systems such as provision of appropriate technologies, value chains, input-output marketing systems, better understanding of the hydrogeology and the nature and extent of existing use are required to enable the farmers to fully exploit the potential of groundwater based irrigated agriculture.

## Summary

Using a multi-disciplinary approach, PN65 assessed the extent, potential and socio-economics of SGI in the White Volta Basin. The study used high image resolution to delineate irrigated areas and developed a conceptual numerical model to analyze the sustainability of SGI in the study area. Socio-economic surveys were carried out to determine SGI adoption patterns and coverage. Results from the study show that farmers practicing SGI are generating considerable economic benefits that can be enhanced by addressing issues of appropriate technology, value-chain analysis, and input-output marketing systems. The study also confirmed that the incidence of poverty among households with access to shallow groundwater irrigation is lower as compared to purely rainfed farmers. However, the

hard-labor associated with the digging of wells during the cropping season and refilling them after harvesting remains a major constraint to SGI expansion. PN65 Phase 2 will assess current irrigation practices, test, and recommend alternative SGI technologies that are less labor-intensive and affordable. It will examine factors that lower enterprise profitability and challenges facing farmers and offer recommendations to improve returns on investment in SGI. Opportunities for farm diversification will be explored to enhance productivity. The project will also identify opportunities for outscaling SGI in other areas beyond the initial study sites including identification of extrapolation domains within the Basin that are homogeneous with respect to biophysical and socio-economic variables for out-scaling SGI practices.



RELATIONSHIP BETWEEN IRRIGATION TYPOLOGY AND FOOD SECURITY