



Mapping Irrigation Potential in the Upper East Region of Ghana

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The Upper East Region together with the other two regions in Northern Ghana (Upper West and Northern Region) is seen as the locus of perennial food deficit (GPRS, 2003). Despite, the provision of over 200 small scale dams and various mechanisms aimed at poverty alleviation, the region is still plagued with poverty and yearly food shortages. To achieve food security and alleviate poverty in the region however, modernization of agriculture through irrigation is deemed inevitable. While it is true that considerable potential still exists for future expansion of irrigation, it cannot be refuted that water is becoming scarcer in the regions where the need for irrigation is most important, hence mapping the irrigation potential of the region will be the first step toward ensuring sound planning and sustainability of the irrigation developments.

In this study, an attempt has been made to map out the irrigation potential of the Upper East Region. The river basin approach was used in assessing the irrigation potential. The catchments drained by The White Volta river, Red volta river, River Sissili and River Kulpawn were considered in the assessment. The irrigation potential for the sub basins was computed by combining information on gross irrigation water requirements for the selected cash crops, area of soil suitable for irrigation and available water resources. The capacity of 80%, 70%, 60% and 50% time of exceedance flow of the available surface water resources in the respective sub basins was estimated. The area that can be irrigated with this flow was computed with selected cropping pattern. Combining the results of the potential irrigable areas and the land use map of the respective sub basins, an irrigation potential map has been generated showing potential sites in the upper east region that can be brought under irrigation.

Keywords: Irrigation potential, irrigation water requirement, land evaluation, dependable flow