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Sustainable Development of Research Capacity in West Africa based on the GLOWA Volta Project

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The Sustainable Development of Research Capacity (SDRC) in West Africa is an 18 month project, funded by the German Ministry of Education and Research, to strengthen the research capacity, give access to data and models, and to support the establishment of the newly formed Volta Basin Authority. The SDRC project largely builds on the results and models developed in the framework of the GLOWA Volta Project (GVP), a nine-year, interdisciplinary research project (May 2000 - May 2009). The GVP's central objectives were to analyze the physical and socio-economic determinants of the hydrological cycle in the Volta Basin in the face of global change, and to develop scientifically sound decision support resources. Another major achievement of GVP was the extensive capacity building. Of the 81 participating students (57 Ph.D.'s), 44 originated from West Africa, and 85% of the West African graduates returned to their home countries.

The SDRC makes use of the wide range of research results and decision support tools developed in the course of the GVP. It is based on three columns: I. knowledge transfer and strengthening of human capacity, which focus on a training on the modeling of the onset of the rainy season, hydrological, economic, and hydro-economic modeling, and training of geospatial database managers; II. strengthening of infrastructural research capacity through the support of a research instrumentation network through the operation and transfer of a weather station network, a network of tele-transmitted stream gauges; and III. the transfer of a publicly accessible online Geoportal for the dissemination of various geospatial data and research results.

At the center of the SDRC effort is the strengthening of the Volta Basin Authority, a river basin authority with a transnational mandate, especially through the transfer of the Geoportal, and the associated training and promotion efforts. The Geoportal is an effort to overcome the data scarcity previously observed in the Volta Basin, and represents the first comprehensive, publicly accessible data- and meta-database for the Volta Basin. The Geoportal can be used to search for data, for interactive mapping or the download of ready-made maps, and to publish and share new data and research results. Local institutions are actively involved in acquiring data for the Geoportal, and trained in its operation. For the contributing institutions, the ability to manage data access and use rights (publicly available, available to defined user groups, available upon request) is of great importance. It allows them to publish the existence of their data and facilitate access to it without sacrificing their ownership rights. The Geoportal can be accessed at http://131.220.109.6/Geoportal