Geophysical Research Abstracts
Vol. 12, EGU2010-3107, 2010
EGU General Assembly 2010


# River Basin Water Assessment and Balance in fast developing areas in Viet Nam

Van Chin Le (1) and Roberto Ranzi (2)

(1) Water Resources University, Hanoi, Viet Nam,chin_ctn@wru.edu.vn, (2) Universita' di Brescia, DICATA-Dipartimento di Ingegneria Civile, Architettura, Territorio e Ambiente, Brescia, Italy (ranzi@ing.unibs.it, +39 030 3711312)

Uneven precipitation in space and time together with mismanagement and lack of knowledge about quantity and quality of water resources, have caused water shortages for water supply to large cities and irrigation areas in many regions of Viet Nam in the dry season. The rainy season (from June to October) counts for 80% of the total annual rainfall, while the water volume of dry season (from November to May of the following year) accounts for 20% only. Lack of sufficient water volumes occurs in some areas where the pressure of a fast increasing population (1.3% per year on average in the last decade in Viet Nam), intensive agricultural and industrial uses is one of the major problems facing sustainable development. For those areas an accurate water assessment and balance at the riverbasin scale is needed to manage the exploitation and appropriate use of water resources and plan future development. The paper describes the preliminary phase of the pilot development of the river basin water balance for the Day River Basin in the Red River delta in Viet Nam. The Day river basin includes a 7,897 $km^2$ area in the south-western part of the Red River in Viet Nam.
The total population in the Day river basin exceeds 8 millions inhabitants, including the Hanoi capital, Nam Dinh and other large towns. Agricultural land covered 390,294 ha in 2000 and this area is going to be increased by 14,000 ha in 2010 due to land reclamation and expansion toward the sea. Agricultural uses exploit about 90% of surface water resources in the Day river basin but have to compete with industrial and civil needs in the recent years. At the background of the brief characterization of the Day River Basin, we concentrate on the application of a water balance model integrated by an assessment of water quality after consumptive uses for civil, agricultural and industrial needs to assist water management in the basin. In addition, future development scenarios are taken into account, considering less water-demanding crops, water treatment and recycling and other 'best water management' practices.