



Abstraction of Fresh Water from Rivers, Lakes and Underground Reservoirs

Vincenzo Naddeo*

Department of Civil Engineering, University of Salerno, Fisciano, Italy

*Corresponding Author: Vincenzo Naddeo, Department of Civil Engineering, University of Salerno, Fisciano, Italy, Tel: 39089969333; E-mail: vnaddeo@unisa.it

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Introduction

Freshwater could also be a critical resource for the people of the Asian and Pacific Region. The abstraction of freshwater from rivers, lakes and underground reservoirs is increasing in line with increase, urbanization and economic expansion. The increasing abstraction is causing a growing imbalance between supply and demand that has already led to shortages and depletion of reserves. Moreover, the scarcity of water is being amid deterioration within the standard of obtainable water because of pollution and environmental degradation.

Rivers, lakes and man-made reservoirs are the most sources of surface water abstraction. The Asian and Pacific Region has several important river systems with 400 major rivers in India, 200 in Indonesia, 108 in Japan, 50 in Bangladesh and 20 in Thailand. International rivers within the region include the Mekong which flows through Viet Nam, Lao People's Democratic Republic, Cambodia, Myanmar and Thailand; and thus the Ganges, Brahmaputra and Meghna River Systems which are shared by India, People's Republic of China, Nepal, Bangladesh and Bhutan. The region is additionally endowed with a substantial number of lakes; amongst the foremost important and most utilized are Dongting – hu in People's Republic of China, Tonle Sap in Cambodia, Lake Toba in Indonesia, Kasumigaura in Japan, Laguna de Bay within the Philippines, and Lake Songkhla in

Thailand and Lake Issy Kul in Kyrgyzstan. The event of reservoirs has usually been for irrigation, control and hydropower. There are over 800 major reservoirs within the region with a complete capacity of about 2 000 km³, with thousands of small reservoirs particularly in People's Republic of China, India, Sri Lanka and therefore the Russia.

With the continuing economic expansion, the competition for water and thus the potential for conflicting demands between various sectors are increasing. The control of water competition and thus the resolution of potential conflicts are increasingly being subjected to the assessment of consumption trade-offs on the thought of utilization efficiencies. Similarly, if the goal is to provide jobs, using scarce water in industry is much more productive than using it for irrigation. Since the economics of water use don't favour agriculture, that sector is typically assigned lower priority. However, gain is seldom the primary consideration in water resource management and a spread of political, cultural and social considerations provide sufficient weight to form sure that agriculture or "food security" are given greater priority within the water resource planning of the various of the region's water resources In India, as an example , 114 towns and cities dump raw sewage into the Ganges, whilst the Vrishabavathi River near Bangalore receives substantial amounts of human and industrial waste, which eventually flows into Byramangala Lake, a typical feeding ground for thousands of waterfowl. Erosion is exacerbating the natural process of siltation of water bodies and greater quantities of sediment are accumulating within the rivers, dams and reservoirs of the region. for instance , within the Ganges, Brahmaputra and Huang He basins, erosion is responsible for an annual yield of over 1000 tonnes of sediment per square kilometer of land. The siltation in Pakistan's Tarbela Dam on the Indus accumulates 200 million kiloliter of silt annually filling the reservoir at a rate of two per cent once a year. In Cambodia, heavy siltation of Lake Tonle Sap, resulting from deforestation within the upper catchment, is significantly reducing the lake's depth and this has affected the yield of the lake's fisheries. In Malaysia, the Dungun River in Kuala Terengganu has been polluted by sandy sediments, exacerbated by dredging activities along the river.

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