

Water pollution and Green GDP in India

Topic: Environmental input-output modeling II

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Traditionally, India has been well endowed with large freshwater reserves, but the increasing population and overexploitation of surface and groundwater over the past few decades has resulted in water scarcity in some regions. Wastewater is increasing significantly and in the absence of proper measures for treatment and management, the existing freshwater reserves are being polluted. Furthermore, India has an inadequate treatment of infrastructure. Only 26.8% of domestic and 60% of industrial wastewater is treated in India. Environmental deterioration due to water pollution generation has adverse effect on human welfare of a country. The need to account for the environment and the economy in an integrated way arises because of the crucial functions of the environment in economic performance and in the generation of human welfare. In order to cope with this, the UN Statistical Division published a System of National Accounts Handbook in 1993 to provide a conceptual basis for the implementation of a System for Integrated Environmental and Economic Accounting (SEEA) and Environmentally Adjusted Domestic Product shortly EDP (Green GDP) that illustrates the interrelationships between the natural environment and the economy. Very recently a Report prepared by an expert group convened by the National Statistical organisation, ministry of statistics and programme implementation, Government of India (2013) provide an outline of what would ideally be needed for a comprehensive set of national accounts. Towards that end, an attempt has been made in this paper to measure the EDP as well as welfare loss for India due to water pollution using SEEA framework for the year 2006-7. The Input-output table of 2006-7 has been used to prepare the SEEA framework. Three categories of adjustments to the national accounts have been proposed to reflect the cost and benefits of human activity on the environment- a) depletion of natural capital b) environmental degradation, and c) defensive expenditure. The defensive expenditure in the current study is the cost of waste water treatment while damages to crops are the loss of agricultural output due to soil erosion and land degradation (replacement of soil nutrient cost and sedimentation cost). Health data used to estimate the health impacts of inadequate water supply, sanitation and hygiene. The loss in terms of NDP ranges from 3.56% to 3.91% respectively according to different estimates. These NDP losses are calculated only for water resource, if other natural resources are accounted for then the situation is expected to be worse. Hence there is a need for further research in this field.