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Pre-evaluation of Valuation Effects of TGP on River Ecosystem Services

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The accurate valuation of effects of hydraulic engineering on river ecosystem services is very important to Environmental Impact Assessment(EIA)of hydraulic engineering and the reserve river ecosystem services.On the basis of the effects features, an index system for the assessment of effects of the Three Gorges Project(TGP)on river ecosystem services has been established.The six positive effects and five negative effects were pre-evaluated when TGP was finished.The result indicated that flood control and hydropower generation were the main functions,with annual values being 106.84×108yuan(RMB)and 211.70×108yuan, respectively.Tourism,harmful gas emission reduction and navigation channel improvement were importance functions of TGP,too.Their annual values were 74.50×108yuan,79.44×108yuan,and 14.64×108yuan.The annual values of the six positive effects were 489.70×108yuan.The reservoir contamination,reservoir sedimentation and reservoir flowage by TGP were the main negative effects,and the annual losses were 24.06×108yuan,7.22×108yuan and 6.27×108yuan separately.At the same time,the effects of TGP on biological factors and occupation of river ecosystem were also negative effects,which couldn't be ignored and the annual losses were 0.27×108yuan and 0.01×108yuan respectively.The annual losses of the five negative effects totalled 37.83×108yuan.The researches show that EIA of the large hydraulic engineering was not only done on single factor evaluation, but more attention was also given to effects of engineering on river ecosystem health and river ecosystem services.

【Key Words】 : **TGP river ecosystem ecosystem services pre-evaluation of valuation effects**

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