

Sectors reconstruction simulation of Wenchuan earthquake in China based on input-output model

Topic: Input-Output analysis of disasters 2

Author: Ning Li

Co-Authors: Jidong Wu, Wei Xie

About catastrophe mitigation strategies, a decision of industrial sector recovery capacity in disaster-affected area needs to be determined. Such a decision was usually based on economic losses simulation, because of contingency of catastrophe during the overproduction and reconstruction period. This paper measured productive capacity, ripple effects and key adaptive behaviors under different sectors for 2008 Wenchuan Earthquake in China using adaptive regional input-output (ARIO) model. They are household sector, manufacture sectors and utilities and public services sectors. The results show that the industrial sectors easiest to be suffered loss were household sectors which provide important housing service to people and manufacture sectors. These sectors service were significantly compromised by earthquake damages, and should be taken into account firstly in the disaster mitigation system. Under the same overproduction level, the most obvious recovery variation occurred in public services sector. It is a nice elicitation that increasing the production capacity in these sectors of intermediate consumption would be beneficial to reduce disaster loss obviously. The utilities also have priority to be support in productive structural for decreasing reconstruction period. Therefore, industrial sectors reconstruction simulation should be useful for an aid design of disaster reduction strategies.