

A Non-Parametric Analysis of District Disaster Management Authorities in Punjab, Pakistan

Authors : Zahid Hussain

Abstract : Provincial Disaster Management Authority (PDMA) Punjab was established under NDM Act 2010 and now working under Senior Member Board of Revenue, deals with the whole spectrum of disasters including preparedness, mitigation, early warning, response, relief, rescue, recovery and rehabilitation. The District Disaster Management Authorities (DDMA) are acting as implementing arms of PDMA in the districts to respond any disaster. DDMA's role is very important in disaster mitigation, response and recovery as they are the first responder and closest tier to the community. Keeping in view the significant role of DDMA, technical and human resource capacity are need to be checked. For calculating the technical efficiencies of District Disaster Management Authority (DDMA) in Punjab, three inputs like number of labour, the number of transportation and number of equipment, two outputs like relief assistance and the number of rescue and 25 districts as decision making unit have been selected. For this purpose, 8 years secondary data from 2005 to 2012 has been used. Data Envelopment Analysis technique has been applied. DEA estimates the relative efficiency of peer entities or entities performing the similar tasks. The findings show that all decision making unit (DMU) (districts) are inefficient on technological and scale efficiency scale while technically efficient on pure and total factor productivity efficiency scale. All DMU are found technically inefficient only in the year 2006. Labour and equipment were not efficiently used in the year 2005, 2007, 2008, 2009 and 2012. Furthermore, only three years 2006, 2010 and 2011 show that districts could not efficiently use transportation in a disaster situation. This study suggests that all districts should curtail labour, transportation and equipment to be efficient. Similarly, overall all districts are not required to achieve number of rescue and relief assistant, these should be reduced.

Keywords : DEA, DMU, PDMA, DDMA

Conference Title : ICEBIS 2017 : International Conference on Economics and Business Information Sciences

Conference Location : London, United Kingdom

Conference Dates : July 24-25, 2017