Int. J. Agricult. Stat. Sci., Vol. 7, No. 1, pp. 317-326, 2011 *ISSN : 0973-1903*

FUZZY PROGRAMMING FOR MULTI-OBJECTIVE TRANSPORTATION AND INVENTORY MANAGEMENT PROBLEM WITH RETAILER STORAGE

Latpate Raosaheb* and V. H. Bajaj[1]

Department of Statistics and Centre for Advanced Studies, University of Pune, Pune - 411 007, India.
[1]Department of Statistics, Dr. B. A. M. University, Aurangabad – 431 004, India.
E-mail: rvl@stats.unipune.ac.in

Abstract

In this study, we consider a supply chain in which customers place an order to retailers for fulfilling his demand. Then retailers place the order to supplier and receive the material at retailer's store. Customers pick up the material from retailers store. In each stage, there is uncertainty at demand from customers, transportation cost and inventory holding cost; hence we propose possibility programming approach. In a real decision problems usually several objectives are considered that have parameters which are often given by the decision maker in an imprecise way. It is possible to handle these kinds of problems through multiple criteria models in terms of possibility theory. This concept is based on soft preference and indifference relationships and on canonical representation of fuzzy numbers by means of their α-cuts. We formulate Fuzzy Multi-objective Transportation and Inventory Linear Programming model (FMOTILP). Also, we use global criteria method for solution.

Key words : Supply chain, Fuzzy, Transportation and Inventory problem.