

*Research Article*

# **Fuzzy Goal Programming Procedure to Bilevel Multiobjective Linear Fractional Programming Problems**

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This paper presents a fuzzy goal programming (FGP) procedure for solving bilevel multiobjective linear fractional programming (BL-MOLFP) problems. It makes an extension work of Moitra and Pal (2002) and Pal et al. (2003). In the proposed procedure, the membership functions for the defined fuzzy goals of the decision makers (DMs) objective functions at both levels as well as the membership functions for vector of fuzzy goals of the decision variables controlled by first-level decision maker are developed first in the model formulation of the problem. Then a fuzzy goal programming model to minimize the group regret of degree of satisfactions of both the decision makers is developed to achieve the highest degree (unity) of each of the defined membership function goals to the extent possible by minimizing their deviational variables and thereby obtaining the most satisfactory solution for both decision makers. The method of variable change on the under- and over-deviational variables of the membership goals associated with the fuzzy goals of the model is introduced to solve the problem efficiently by using linear goal programming (LGP) methodology. Illustrative numerical example is given to demonstrate the procedure.