

## **ABSTRACT**

This paper addresses budget allocation to counties, where the objective is to design a proper mathematical formula maximize for allocating national budget to Counties proper to facilitate proper development of Counties in Kenya. This problem is characterized by having several factors such as population, poverty index of counties, a large action branching factor (number of allocation options) and state monetary stability, and the need to reason about numeric resources. Together these characteristics render most existing statistical planning techniques ineffective. The main contribution of this paper is to design and evaluate the problem based on a mathematical formula. Thus, we develop a new approach for computing a model based on mathematical programming software and finally come up with a computer algorithm. The data collected will be analyzed using the newly developed software