

## Genetic Algorithm Optimization of Multiple Resources for Multi-Projects

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**Abstract :** Optimization of resources is very important in all fields, as in construction management. Project managers have to face problems regarding management of cost, time and available resources of single projects and more problems arise when managing multiple projects. Most of the studies focused on optimization of resources for a single project, but, this paper will discuss the design and modeling of multiple resources optimization for multiple projects using Genetic Algorithm. Most of the companies in construction industry optimize the resources for single projects only, but with the presence of several mega projects in several developing countries running at the same time, there is a need for a model to enhance the efficiency of available resources and decreases the fluctuation as much as possible. The proposed model calculates the cost of each resource, tries to minimize the cost of extra resources as much as possible and generates the schedule of each project within a selected program.

**Keywords :** construction management, genetic algorithm, multiple projects, multiple resources, optimization

**Conference Title :** ICCM 2017 : International Conference on Construction Management

**Conference Location :** Venice, Italy

**Conference Dates :** April 13-14, 2017