

In this research created a model to find out optimum allocation of land use planning in West Java with land use planning model for farming, with considering two components mainly, those are production and cost. Using of land use planning analysis is very important in farming to optimizationaltion using of land farming to make clear about farming procedure that will be implemented. The problem of allocation land is more than one objective. The searching method used is Nondominated Sorting Genetic Algorithm (NSGA) to find optimum solution in multiobjective function.

The results of this research show several things. Best total fitness from NSGA and GA is relatively same. Also best fitness, second best fitness, worst fitness, and mean fitness in NSGA shows significant difference, than best fitness, second fitness, worst fitness, and mean fitness in GA that relative same because the elitism of NSGA is more than one, but in GA the elitism save just one best individu.

The conclusion of this research is, for NSGA and GA show the optimum result that relatively same. So the result is NSGA and GA both can be used to make a planning schema that optimum to farming commodities in West Java. Maximal optimum value is in big red chili in Kabupaten Garut with values 8067,39 hectare or around 98,73% from allocation total of big red chili that allowed in Kabupaten Garut and around 37,35% from allocation total of big red chili that allowed in West Java. In this research can be known distribution of certain commodity in all around West Java.

Keywords: NSGA, GA, land use planning, heuristic search, multi objective, selection.