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ABSTRACT

System Design of Transport Among Regional Division of Perum BULOG

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Food is one of the most basic human rights. Rice is still a major commodity support national food security. Perum BULOG as an organizer of staple food logistics business. Perum BULOG make distributing supplies through transport activities of the Regional Division (Divre) in charge of the warehouses in areas of surplus rice production to Divre warehouses in areas of deficit. This research aims to design a transportation system among Divre. Specific objectives: (1) analyze the existing transportation routes, the amount of inventory carried and the magnitude of transportation costs among Divre, (2) determine the transportation routes and the amount of supplies that are transported among Divre that can provide a minimum cost, and (3) establish transportation operating system among Divre based optimization results.

Research method used for designing the system: system design activities through certain stages to address existing problems. This type of research is a case study that includes research, investigation and examination of in-depth and comprehensive detail of everything from the object being studied. For research purposes can be achieved then one of the optimization model is used in the Transportation Model of Linear Programming.

From the calculations with optimization models showed that the total cost of transport between the Divre for the year 2010 amounting to Rp. 359.965.300.000,-. If the cost of transport among the Divre in 2010 with the optimization model are compared with the costs have been calculated with the method currently used is Rp. 377.426.890.772,- then the cost optimization model based on calculations with a lower amount of Rp. 17.461.590.772 -. This shows that the optimization model, the calculation of the budget plan for transportation costs can be counted among the Divre even lower and result in a combination of transportation routes among the Divre of optimum yield minimum total cost for the case of transportation planning among Divre Perum BULOG in 2010.

The use of linear programming to transportation among the Divre Perum BULOG has resulted in the optimization of inventories, which are transported, route and transport costs among the Divre. Optimization model is not only carried out on ideal conditions but also to the possibility of changes through the post-optimization analysis. Transportation operating system among the Divre is divided into several system. The system consists of Planning System, Support System, Evaluation System and Integrated System. The four systems are interconnected with each other with the ultimate goal is the implementation of transport among the Divre. This system is much supported by the use of linear programming to obtain the minimum transportation cost.

Keywords : Rice, Perum BULOG, logistic management, transport, linear programming, transportation model and system design.

