INTISARI

Disparitas harga karkas ayam broiler antar wilayah di Provinsi Jawa Barat, DKI Jakarta, dan Banten masih menjadi permasalahan utama yang perlu diatasi. Ketidakmerataan distribusi dan kurang akuratnya informasi pasokan menyebabkan fluktuasi harga dan ketimpangan *supply* dan *demand* pada tiap daerah. Penelitian ini bertujuan untuk merancang dan mengembangkan konsep dari *Supply Chain Control Tower* (SCCT) sebagai solusi pengendalian alokasi distribusi.

Dalam penelitian ini, model optimasi matematis sederhana dikembangkan menggunakan pendekatan *linear programming* yang mengintegrasikan data neraca pasokan surplus dan defisit, serta pemetaan rute distribusi *Origin-Destination* dengan teknologi *Geographic Information System* (GIS). Model bertujuan untuk memberikan rekomendasi alokasi distribusi optimal dari wilayah surplus ke wilayah defisit dengan fokus utama penyeragaman rasio *Supply/demand* S/D antar wilayah dengan tujuan akhir mengurangi perbedaan harga antar wilayah studi. Model optimasi yang dibangun juga mengakomodasi analisis mengenai biaya logistik sebagai bagian dari fungsi tujuan optimasi.

Neraca pangan diketahui bervariasi diakibatkan faktor demografi, budaya, ekonomi, lingkungan, dan kebijakan yang berlaku. Selain itu, diketahui bahwa daerah Jawa Barat menjadi sentra produksi karkas ayam terbesar sementara daerah DKI Jakarta menjadi sentra konsumen terbesar. Berdasarkan optimasi *linier programming* oleh model, dihasilkan rekomendasi alokasi distribusi yang mampu meningkatkan keseragaman rasio S/D secara signifikan, yaitu mendekati angka 1,62 pada setiap wilayah. Didapatkan pula penurunan disparitas harga karkas ayam broiler di seluruh wilayah studi sebesar 62,39%, dimana diketahui disparitas harga tertinggi pada kondisi awal yaitu sebesar Rp 10.166,67 menjadi Rp 3.823,37. Diketahui bahwa dari proyeksi harga akhir, keseluruhan wilayah studi masih masuk dalam kategori harga aman, yang menunjukkan hasil optimasi sesuai dengan peraturan penetapan harga yang berlaku.

Kata kunci: model optimasi, distribusi, karkas ayam, rasio *supply-demand,* disparitas harga

ABSTRACT

The disparity in broiler chicken carcass prices between regions in West Java, Jakarta, and Banten remains a major issue that needs to be addressed. Unequal distribution and inaccurate supply information lead to price fluctuations and imbalances between supply and demand in each region. This research aims to design and develop the Supply Chain Control Tower (SCCT) concept as a solution for controlling distribution allocation.

In this research, a simple mathematical optimization model was developed using a linear programming approach, that integrates surplus and deficit balance data and Origin-Destinatoin (OD) distribution route mapping using Geographic Information System (GIS) technology. The model aims to provide recommendations for optimal distribution allocation from surplus to deficit areas, with a primary focus on standardizing the Supply/Demand (S/D) ratio between regions with the ultimate goal of reducing price differences between the study areas. The optimization model also accommodates logistics cost analysis as part of the optimization objective function.

The food balance is known to vary caused by factors such as demographic, cultural, economic, environmental, and policy. Furthermore, West Java is the largest center of chicken carcass production, while Jakarta as the largest center of consumer. Based on linear programming optimization by the model, distribution allocation recommendations are generated that are able to significantly increase the uniformity of the S/D ratio, which is close to 1,62 in every study area. A 62.39% decrease in broiler carcass price disparity across the study area was also found, with the highest price disparity initially falling from Rp 10,166.67 to Rp 3,823.37. it is know that from the final price projection, the entire study area is still in the safe price category, which shows that the optimization results are in accordance with applicable pricing regulations.

Keywords: Optimization model, Distribution, Chicken Carcasses, supply-demand ratio, price disparities