

## Intisari

Ketahanan pangan menjadi isu strategis di banyak negara, salah satunya Indonesia. *Food Estate* (FE) merupakan salah satu program untuk menjaga ketahanan pangan nasional. Humbang Hasundutan merupakan kabupaten yang berada di Provinsi Sumatera Utara yang menjadi lokasi FE khusus untuk komoditas hortikultura seperti bawang merah dan cabai merah. Tujuan Program FE antara lain meningkatkan produksi pangan, kesejahteraan masyarakat dan mempercepat pemerataan pembangunan. Ketercapaian tujuan-tujuan tersebut bisa diketahui melalui perbandingan usahatani FE dan non-FE secara ekonomi dan keberlanjutan usahatani. Penelitian ini memiliki beberapa tujuan yaitu membandingkan ekonomi usahatani bawang merah dan cabai merah usahatani FE dan non-FE serta faktor-faktor yang mempengaruhi produksi usahatani, membandingkan skala ekonomi usahatani bawang merah dan cabai merah usahatani FE dan non-FE, membandingkan efisiensi teknis dan efisiensi ekonomi bawang merah dan cabai merah usahatani FE dan non-FE, menentukan keunggulan kompetitif dan komparatif komoditas bawang merah dan cabai merah di Kabupaten Humbang Hasundutan, membandingkan tingkat keberlanjutan usahatani bawang merah dan cabai merah FE dan non-FE dari aspek ekonomi, sosial, lingkungan, kelembagaan, teknologi, pemasaran dan budaya, serta membandingkan tingkat persepsi petani terhadap pertanian berkelanjutan untuk usahatani bawang merah dan cabai merah FE dan non-FE. Penelitian ini menggunakan studi komparasi sebagai metode dasar penelitian dengan menggunakan data primer. Alat analisis yang digunakan yaitu penerimaan, pendapatan, keuntungan, produktivitas, indeks gini rasio, fungsi produksi *Cobb-Douglas*, efisiensi teknis dan ekonomi, *Policy Analysis Matrix*, *Multidimensional Scaling* dan korelasi *Rank Spearman*. Hasil penelitian menunjukkan bahwa ekonomi usahatani FE dan non-FE tidak terdapat banyak perbedaan, skala ekonomi usahatani FE dan non-FE berada pada *increasing return to scale*, terdapat perbedaan signifikan antara efisiensi teknis usahatani FE dan non-FE tetapi keduanya belum mampu mencapai efisiensi ekonomi dan alokatif, Kabupaten Humbang Hasundutan memiliki keunggulan kompetitif dan komparatif untuk komoditas bawang merah dan cabai merah, tingkat keberlanjutan usahatani FE dan non-FE tidak banyak berbedanya dan berada pada level moderat, serta persepsi petani terhadap pertanian berkelanjutan hanya berhubungan nyata dengan sumber informasi dalam keputusan implementasi pertanian berkelanjutan untuk usahatani FE dan non-FE.

**Kata kunci:** *Food Estate*, Keberlanjutan, Usahatani, *Multidimensional Scaling*

## Abstract

The issue of food security represents a significant strategic challenge for many countries, including Indonesia. The Food Estate (FE) is one of the programs designed to ensure the Nation's food security. Humbang Hasundutan is a district in North Sumatra Province that has been designated as a special FE location for the cultivation of horticultural commodities, including shallots and red chilies. The objective of the FE Program is to increase food production, enhance community welfare, and accelerate equitable development. The evaluation of the success of these objectives can be conducted through a comparative analysis of the economic indicators and sustainability of FE and non-FE farms. This study has several objectives. These include a comparison of the economics of shallot and red chili farms in the FE and non-FE, as well as an investigation of the factors affecting farm production. Additionally, the study will compare the economies of scale of shallot and red chili farms in the FE and non-FE, and will also compare the technical and economic efficiency of shallot and red chili farms in the FE and non-FE. Furthermore, the study will determine the competitive advantages of shallot and red chili commodities in Humbang Hasundutan Regency. This study aims to identify the comparative advantages of shallot and red chili commodities in Humbang Hasundutan Regency. It will also compare the level of sustainability of FE and non-FE shallot and red chili farms from economic, social, environmental, institutional, technological, marketing, and cultural aspects. Finally, it will compare the level of farmers' perceptions of sustainable agriculture for FE and non-FE shallot and red chili farms. This research is based on a comparative study, which employs primary data as the fundamental research method. The analytical tools employed included revenue, income, profit, productivity, the Gini ratio index, the Cobb-Douglas production function, technical and economic efficiency, the Policy Analysis Matrix, multidimensional scaling, and the Rank Spearman correlation. The results demonstrated that the economic performance of FE and non-FE farms exhibited minimal divergence. The economies of scale for FE and non-FE farms exhibited increasing returns to scale. However, there were notable discrepancies in the technical efficiency of FE and non-FE farms, with both groups failing to achieve economic and allocative efficiency. The research indicates that the competitive and comparative advantages of the shallot and red chili commodities in Hasundutan Regency are significant. Furthermore, the sustainability levels of FE and non-FE farms are similar and moderate. Additionally, the farmers' perceptions of sustainable agriculture are only significantly related to the information sources used in the implementation of sustainable agriculture decisions for FE and non-FE farms.

**Keywords:** Food Estate, Sustainability, Farming, Multidimensional Scaling