ABSTRACT

SAPTANA. Production Efficiency and Farmers’ Behavior on Productivity Risk of Red Chili in the Central Java Province (ARIOF DARYANTO as Chairman, HENY K. DARYANTO and KUNTJORO as Members of the Advisory Committee).

Red chili is considered to have high economic-value. Some of main problems in red chili farm business in the Central Java Province are the decrease of harvested area, low yield, fluctuating production, and unstable selling price. This study aims to analyze technical, allocative, and economic efficiencies, and farmers’ behavior that deals with the risks of yield and selling price. The model that used to estimate productivity, productivity risk, and inefficiency function of the translog production functions frontier model with error heroscedastic. Average value of technical efficiency (TE) of large cayenne pepper and red chilli pepper are 0.84 and 0.93, respectively. The estimation results of allocative efficiency (AE) of farm large cayenne pepper and red chilli pepper are 0.61 and 0.61, respectively. The estimation results of economic efficiency (EE) of large cayenne pepper and red chilli pepper 0.51 and 0.57, respectively. Several socio-economic factors that affect the decrease of technical inefficiency of red chili are: (1) ratio of farm size of large red chili farming to total land area, (2) ratio of income from red chili farming to the total income of the households, (3) total household income, (4) formal education of household head, and (5) experience of household head in red chilli pepper farming. The large cayenne pepper farmers’ behavior on yield is risk neutral, while their behavior on selling price was risk averse. The farmers behavior of red chili pepper on the risk of yield was risk neutral, but the farmers’ behavior on selling price was risk takers. Policy implications to improve the efficiency of production and encourage farmers to become risk takers as the following: (1) at the available technology, the efforts focused on increasing TE which target farmer groups with low to moderate TE, (2) optimizing the use of production inputs, (3) agricultural extension especially red chili commodity must be truly innovative and specific-location, (4) the transformation of factor-driven to investment-driven, and then to farm innovation-driven, and (5) institutional strengthening of farmer groups, build institutional partnerships business, and develop agricultural insurance.

Key words: technical efficiency, allocative efficiency, productivity risk, stochastic frontier, large cayenne pepper, red chili peppers