



**ANALYSING PRODUCTION RISK AND EFFICIENCY  
FOR THE INTENSIVE WHITE-LEG SHRIMP AQUACULTURE  
IN NINH THUAN PROVINCE, VIETNAM**

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**ABSTRACT**

*The study employs the stochastic production frontier function to investigate the production risk and efficiency for the intensive white-leg shrimp aquaculture in Ninh Thuan, Vietnam. The result shows that that feed is found to be a risk-increasing input, whilst chemicals/drugs and electricity are revealed to be risk-reducing inputs. It means that an average risk-averse shrimp producer is expected to use less feed and more chemicals/drug and electricity compared to a risk-neutral producer. It is, however, revealed that the use more feed and chemicals/drug; and less electricity, farm size and labour significantly increases the production efficiency of shrimp farmers. Furthermore, the elasticity of feed is highest among the inputs in the frontier mean function while there is an evidence of excessive use of chemicals/drugs in this aquaculture. Policies on assurance for aquaculture and management of chemicals/drugs may be important for this intensive white-leg shrimp farming.*

**Keywords:** aquaculture, production risk; production efficiency; white-leg shrimp.

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