

## **Assessing efficiency of private shrimp seed producers in selected hatcheries of Peninsular Malaysia**

### **ABSTRACT**

This study aims at estimating technical, allocative and cost efficiency of shrimp/prawn seed producers of Malaysia and determining costs and return in shrimp/prawn seed production. Data collected from 19 hatcheries (comprising 10 brackishwater shrimp hatcheries and 9 freshwater prawn hatcheries) from the states of Penang, Perak, Terengganu and Selangor were used in the study. Data Envelopment Analysis was applied to estimate efficiency scores of the hatcheries. Besides, cost, return and profitability of hatcheries was examined using farm management procedure. The TECRS (overall technical efficiency) was found to be 0.582 for brackishwater shrimp hatcheries and 0.692 for freshwater prawn hatcheries. Pure technical efficiency (TEVRS) averaged 0.907 for shrimp hatcheries and 0.918 for prawn hatcheries indicating that inefficiencies to the level of 9-10 percent do exist. Allocative efficiency (AE) and cost efficiencies (CE) were 0.78 and 0.70 for brackishwater shrimp hatchery and 0.79 and 0.73 for freshwater prawn hatcheries suggesting that the realized level of spawn/fry could be produced by the hatcheries by spending 21-22 percent less on inputs.

**Keyword:** Cost benefit ratio; Data envelopment analysis; Shrimp and prawn hatchery