

## **SOME RISK FACTORS THAT COULD INDUCE THE OCCURRENCE OF WHITE SPOT DISEASE IN *PENAEUS MONODON* CULTURED IN THE NORTH WESTERN PROVINCE, SRI LANKA: RESULTS OF A RETROSPECTIVE STUDY**

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Repeated occurrence of white spot disease caused by Systemic Ectodermal and Mesodermal Baculo Virus has been recorded among cultured shrimp, *Penaeus monodon* in the North Western province causing severe damage to the export oriented shrimp farming industry of the country. In the present study 403 farms were visited from April 1997 to July 1999 to collect information regarding the status of farms, management activities and occurrence of white spot disease in shrimp, cultured in the North Western province. Data collected from the retrospective study were analysed statistically by estimating Relative Risk (RR) and their 95% confidence limits to measure significant associations between the disease occurrence and hypothetical farm level risk factors.

Seventy five percent of visited farms had been affected by the white spot disease. The risk of occurrence of the disease was significantly higher in the farms that had Chilaw estuary, Dutch canal from Daduru-Oya to Pullichakulama and Mi-Oya estuary as their water source (RR, 1.23 to 1.34) while the risk of occurrence of white spot disease was significantly lower in the farms situated in hyper saline areas (RR, 0.53 to 0.81). The risk of occurrence of the disease was significantly higher in juvenile shrimp, less than 15 g in weight (RR, 2.12) and less than 60 days in age (RR, 1.35) and when the water was pumped directly from the main sources without storing (RR, 1.37). Salinity was the only water quality parameter measured by the majority of farmers and salinity less than 20 g l<sup>-1</sup> during the cycle had a positive significant association (RR, 1.69) with the occurrence of white spot disease. The study revealed that direct use of water to shrimp grow-out ponds and salinity less than 20 g l<sup>-1</sup> were significant risk factors that had induced the occurrence of white spot disease in the area.