

CHALLENGES FOR ABANDONED SHRIMP PONDS IN CHILAW (SRI LANKA)

Quisthoudt Katrien¹, Diana Di Nitto¹, Farid Dahdouh-Guebas^{1,2} and Nico Koedam¹

¹ Algemene Plantkunde en Natuurbeheer, Vrije Universiteit Brussel - VUB, Pleinlaan 2, 1050 Brussel, Belgium
E-mail: kquistho@vub.ac.be

² Laboratoire de Complexité et Dynamique des Systèmes Tropicaux, Université Libre de Bruxelles - ULB, Avenue F.D. Roosevelt 50, 1050 Brussel, Belgium

Since the 1970s, there has been an exponential increase in the number of shrimp farms in tropical coastal areas. Shrimp pond construction took place on a wide scale at the expense of mangroves. Through the outbreak of diseases and a fluctuating export trade, many farms were abandoned only 5 to 10 years after construction. In this study we focus on the challenges for the abandoned shrimp farms in Chilaw Lagoon (Sri Lanka).

A land-use change analysis - based on remote sensing and fieldwork - in Chilaw Lagoon showed that the mangrove area declined with 57% due to the construction of shrimp ponds. In August 2006, 75% of the shrimp farms were abandoned. There is reportedly less fish in the lagoon. Together with better management practices in the shrimp farms, re-conversion of the abandoned ponds to mangroves will encounter the mangrove loss, increase the sustainability of shrimp farming and to restore part of the lagoon fish stock because of the ecosystem functions that mangroves fulfill.

Because the abandoned shrimp ponds are excluded from the brackish lagoon, terrestrial vegetation is encroaching. On the field, we saw that mangrove vegetation is not spontaneously recovering. The first management practice to make mangrove restoration possible is to breach the dykes to reintegrate ponds in the hydrology of the brackish lagoon system. As a result of our study, we could define the most suitable ponds for mangrove restoration.