

Development of Sustainable Aquaculture as a Model of Satoumi and GAPURA to Improve Productivity of Marginal Brackishwater Pond in the Northern Coastal Area of Karawang, West Java, Indonesia

Suhendar I Sachoemar¹ and **Tetsuo Yanagi²**

¹Agency for the Assessment and Application of Technology (BPPT), Jakarta, INDONESIA

²Research Institute for Applied Mechanics (RIAM), Kyushu University

A sustainable model of aquaculture by applying an integrated multi tropic aquaculture using Tilapia, Giant Black Tiger Prawn, seaweed Gracillaria and Green muscle was developed to improve the productivity of the marginal brackishwater pond in the northern coastal area of Karawang, West Java. This program was designed to implement the Sato Umi and Indonesian Gapura concept to recommend an appropriate model for sustainable coastal management. The 4 (fourth) treatment of the experimental pond with 3 replications was designed to understand the productivity performance as well as their ecosystem stability (water quality). The result shows that the productivity of pond containing 4 commodities i.e. Tilapia, Giant Black Tiger Prawn, seaweed Gracillaria and Green muscle was the most productive and their water quality was stable (DIN=1.21; DIP=0.15; Sulfide=0.02; Iron=0.39), followed by pond containing Tilapia, Giant Black Tiger Prawn and seaweed Gracillaria with water quality (DIN=2.09; DIP=0.74; Sulfide=0.03; Iron=0.53), Tilapia and Giant Black Tiger pond with water quality (DIN=2.15; DIP=0.21; Sulfide=0.03; Iron=0.21), and Tilapia only pond with water quality (DIN=1.09; DIP=0.33; Sulfide=0.03; Iron=0.12).

To recover the marginal pond in the northern coastal area of Karawang, an integrated sustainable aquaculture model by using multi tropic aquaculture was recommended to be developed within this area to improve their productivity and minimize the organic waste as used in an intensive aquaculture through bio recycle system.

Contact Information: Suhendar I Sachoemar, Agency for the Assessment and Application of Technology (BPPT), BPPT II Bld, 16 Fl. JL. M.H. Thamrin No. 8, Jakarta 10340 INDONESIA, Phone: 62-21-3169561, Email: suhendarsachoemar@yahoo.com