

## ASSESSING THE ORGANOCHLORINE PESTICIDES LOADING OF OKUMESI RIVER EBEDEI UNO FOR CAGE AQUACULTURE IN SCHOOLS; A TOOL FOR LIFELONG LEARNING IN NIGERIA

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### **ABSTRACT**

*A country's economic growth, development and sustainability is predicated on its educational system. Lifelong learning has been recognized as a pathway for youth's empowerment, strong economy and good living standards hence its adoption in many economies. Aquaculture is a lifelong learning that requires good quality water for its implementation and that underpins this study. The focus of this study therefore is the determination of the organochlorine pesticides content of Okumesi River Ebedei Uno for its suitability for Cage aquaculture in schools. The study design is ex-post facto, three research questions were answered and a hypothesis tested. To accomplish this, Okumesi River was mapped out into five research blocks and from each of the research blocks, water samples were collected from 5 spots, bulked, a composite drawn, fixed with  $HNO_3$  and stored in ice cooled boxes for analysis. The analytical standards adopted were Steindwandter and Shufter 1978, USEPA 3570 and APHA and the analytical instrument deployed for determination is Agilent 6100 series single quadrupole LC/MS. The analyses revealed thus: endrin aldehyde is  $2.39 \pm 0.24 \mu\text{g/l}$ ; endosulfansulphate;  $1.41 \pm 0.08 \mu\text{g/l}$ , Pp DDT  $2.72 \pm 0.61 \mu\text{g/l}$ ; endrin ketone;  $1.42 \pm 0.06 \mu\text{g/l}$  and methoxychlor;  $0.69 \pm 0.24 \mu\text{g/l}$ . The results of the organochlorine pesticides investigated were subjected to test of significance with ANOVA with denominator 20 and numerator 4 at 0.05 level of significance. The F ratio calculated value is 5.74 while F-ratio critical is 2.87, thus rejecting  $H_0$ . The study recommends that aquaculture should not be deployed in Okumesi River at its present organochlorine pollution status, the source of the pollutants should be identified and plugged and remediation and decontamination be carried out in Okumesi River Ebedei Uno for youths lifelong learning in cage aquaculture.*

**KEYWORDS:** *Lifelong Learning, Cage Aquaculture, Pollution, Bioaccumulation, Remediation*