

UNIVERSITI TEKNOLOGI MARA

**HEAVY METALS BY-PRODUCTS IN
WATER & FISH FROM SABAK
BERNAM PADDY FIELD,
SELANGOR**

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Project submitted in fulfilment of the requirements for
the degree of
**Bachelor in Environmental Health and Safety
(Hons.)**

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DECLARATION BY STUDENT

Project entitled “Heavy Metals by-products in Water & Fish from Sabak Bernam Paddy Field, Selangor” is a presentation of my original research work. Whenever contributions of others are involved, every effort is made to indicate this clearly, with due reference to literature, and acknowledgement of collaborative research and discussions. The project was done under the guidance of Project Supervisor, PM Rodziah Ismail. It has been submitted to the Faculty of Health Sciences in partial fulfilment of the requirement for the Degree of Bachelor in Environmental Health and Safety (Hons).

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ABSTRACT

Nowadays, pesticides are widely used in agricultural production especially in paddy field to prevent or control pests, diseases, weeds and other plant pathogens in an effort to reduce or eliminate yield losses and maintain high produce quality. A variety of modern agricultural inputs has been introduced, namely plough and harvester, pesticides, fertilizers and lime. However, this modern agricultural input has affected the environment and living things especially those which have been blended from various chemical substance. Other than that, the pesticide residues can contaminate the paddy fish and give bad potential health implications to consumers. The pesticide residues found in the paddy fish samples were aldrin, chlordane, and DDT. The residues can accumulate to alarming levels in human subjects, particularly when contaminated fish are consumed frequently and in great quantities by Malaysian farmer. Therefore, a study on heavy metals by-products in water and aquatic organisms were carried out in Sungai Besar Paddy fields, Sabak Bernam, Selangor. The study was conducted through the determination of Match-up by-products residue concentrations in water and paddy fishes collected from the selected study area. A total of 30 samples of each water and fish were collected from 'Sawah' and 'Tali air' for this study. As the result, the study of water quality and fish obtained from Sabak Bernam paddy field had shown various chemical found in the water body and fish. The hazard index calculated showed a high possibility of health effect might occurs over period of time due to high concentration of Aluminium and Lead. The contamination of fish was due to contamination of water based on the chemical parameters analyses carried out. The fish eventually bio accumulated the heavy metals over time and thus increase the risk of human exposure to this heavy metals elements through oral ingestion.

Keywords: *Pesticides, residue concentrations, water quality, hazard index, health effect*