**Determination of DDTs and PCB Residues in fish from provinces around Tonle Sap Lake, Cambodia.**

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**Abstract**

Dichlorodiphenyldichloroethane (DDT) and Polychlorinated Biphenyls (PCBs) are two of the most dangerous Persistent Organic Pollutants (POPs). They were widely used in most countries including Cambodia in agriculture and industry before being banned. Both DDTs and PCBs have the similar characters: persistent, soluble in lipids, bioaccumulate along food chains and spread from one area to another by air, rain and snow. They affect human health in many ways. They can; cause liver and bile cancer, damage reproductive development, disrupt endocrine, immunological and neurological systems.

 In this research, 10 congeners of DDT and PCB (p,p’DDT, p,p’DDE, p,p’DDD, PCB28, PCB52, PCB101 , PCB118, PCB138, PCB153, PCB180) were analyzed in two species of fish popular as food by Cambodians; Giant snakehead, (*ChannaMicropeltes)* and Mekong catfish (*Pangasius Mekongensis),* from 5 provinces around Tonle Sap Lake; Kampong Chhnang, Pursat, Battambong, Kampong Thom and Siem Reap. These are large fish, high in the food chain and eat smaller fish, plants and small organisms in water, so they may have bioaccumulated POPs.

 Results; p,p’DDT, p,p’DDE, and p,p’DDD were detected in *Channa Micropletes* in 4 provinces; Pursat (5.12ng/g ww), Battambong (5.6ng/g ww), Kampong Thom (7ng/g ww) and Siem Reap (1.4ng/g), and were detected in *Pangasius* in Pursat (8.2ng/g ww) and in Battambong (3ng/g ww) provinces. In contrast, all 7 PCB congeners were not detected in these two species in any of the 5 provinces. The concentration of DDTs was lower than the maximum residue limited (MRL) of DDTs in meat as recommended by FAO/WHO, meaning that these two species contain DDTs but at safe levels. So the health risks from DDT and PCB contamination of in these fish are low for Cambodians who consume them.