Maria Luisa Baiño-Salingay et al., Trends in Green chem 2018, Volume 4
DOI: 10.21767/2471-9889-C2-011

Banned and restricted organic pesticides still used in farms in Northern Mindanao, Philippines

Maria Luisa Baiño-Salingay[1, 2, 3], **Oliva Canencia**[3], **Jeroen Rijke**[1, 4], **Assela Pathirana**[1] and **Chris Zevenbergen**[1]
[1]IHE-Delft Institute for Water Education, Netherlands
[2]Technical University of Delft, Netherlands
[3]University of Science and Technology of Southern Philippines, Philippines
[4]Van Hall Larenstein University of Applied Sciences, Netherlands

This study assessed pesticide contaminations using passive samplers in two river systems in Northern Mindanao, Philippines. The two river systems are downstream of Mt. Kitanglad watershed (~3000 m elevation). The river water transverse along farms and plantations are mostly utilized by agro-industrial productions. The agricultural surface runoffs then drain towards the Cagayan de Oro River. Study was conducted last August to September 2017, almost two months after the rainy season starts. Analytical instruments used were HPLC and GC-MS MS. Results showed low concentrations of banned pesticides in these two river systems. These concentrations maybe considered insignificant to some, as income from agribusiness is considered more important. But it is worth looking into. It is necessary to educate and make the farmers aware that these organic pesticides were banned for almost two decades. These were banned because these were proven to persist, bio-accumulate and have adverse effect to human and the environment. The government should look into the ethical issues of using banned pesticides. Is using these banned organic pesticides worth the risk to human health and environmental degradation? It should be noted that agriculture contributed to 9.5% of the country's Gross Domestic Product (GDP) as compared to other sectors, service (57%) and industry (33.5%). It is recommended to conduct further study on pesticide assessment during or right after the dry season as this is the time farmers apply pesticides. Responsible government agencies should monitor pesticides application in farms and residues in agricultural surface run off. It is highly recommended to strictly implement existing environmental laws and policies.

Figure : Framework of the study.

Recent Publications

1. Salingay M L B, Pathirana A, Rijke J, Steen P van der, Zevenbergen C, Nguyen Q and Vinh K Q (2017) Water quality assessment in selected surface waters in Can-Tho City, Vietnam. Journal of Engineering and Applied Sciences 12(18):4555-4561.
2. Salingay M L B, Pathirana A, Rijke J, Steen P van der, Zevenbergen C, Nguyen Q and Vinh K Q (2017) Microbiological assessment of surface waters and health awareness of four vulnerable communities in Can Tho City, Vietnam. Journal of Engineering and Applied Sciences 12(10):2644-2650.
3. Nguyen H Q, Radhakrishnan M, Huynh T T N, Baino Salingay M L, Ho L P, Steen P V and Pathirana A (2017) Water quality dynamics of urban water bodies during flooding in Can Tho City, Vietnam. Water 9(4):260.

Biography

Maria Luisa Baiño-Salingay is a Filipino PhD Research Fellow of IHE Delft, Institute for Water Education and Technical University of Delft (TU Delft) in Delft, The Netherlands. Her PhD studies are funded by Netherlands Fellowship Programme (NFP) and Schlumberger Foundation Faculty for the Future. She is an Associate Professor II in Chemistry in University of Science and Technology of Southern Philippines. She obtained BS Chemistry degree in Xavier University, Ateneo de Cagayan as University Academic Scholar and Pilipinas KAO (Kao Global Chemicals, Japan). She is Registered/licensed Chemist and a trained Chemical Safety and Security Officer of the US Department of State. She earned her MS Physical Sciences major in Chemistry, minor in Physics at USTP. She also earned MSc Water Management, specialize in Water Quality at UNESCO-IHE, The Netherlands, funded academically by NFP and research by PRoACC2.

m.salingay@un-ihe.org