

Spatio-temporal Variation in Pesticide Residue Occurrences in Surface Waters found in the Mau-Mara Ecosystem, Kenya

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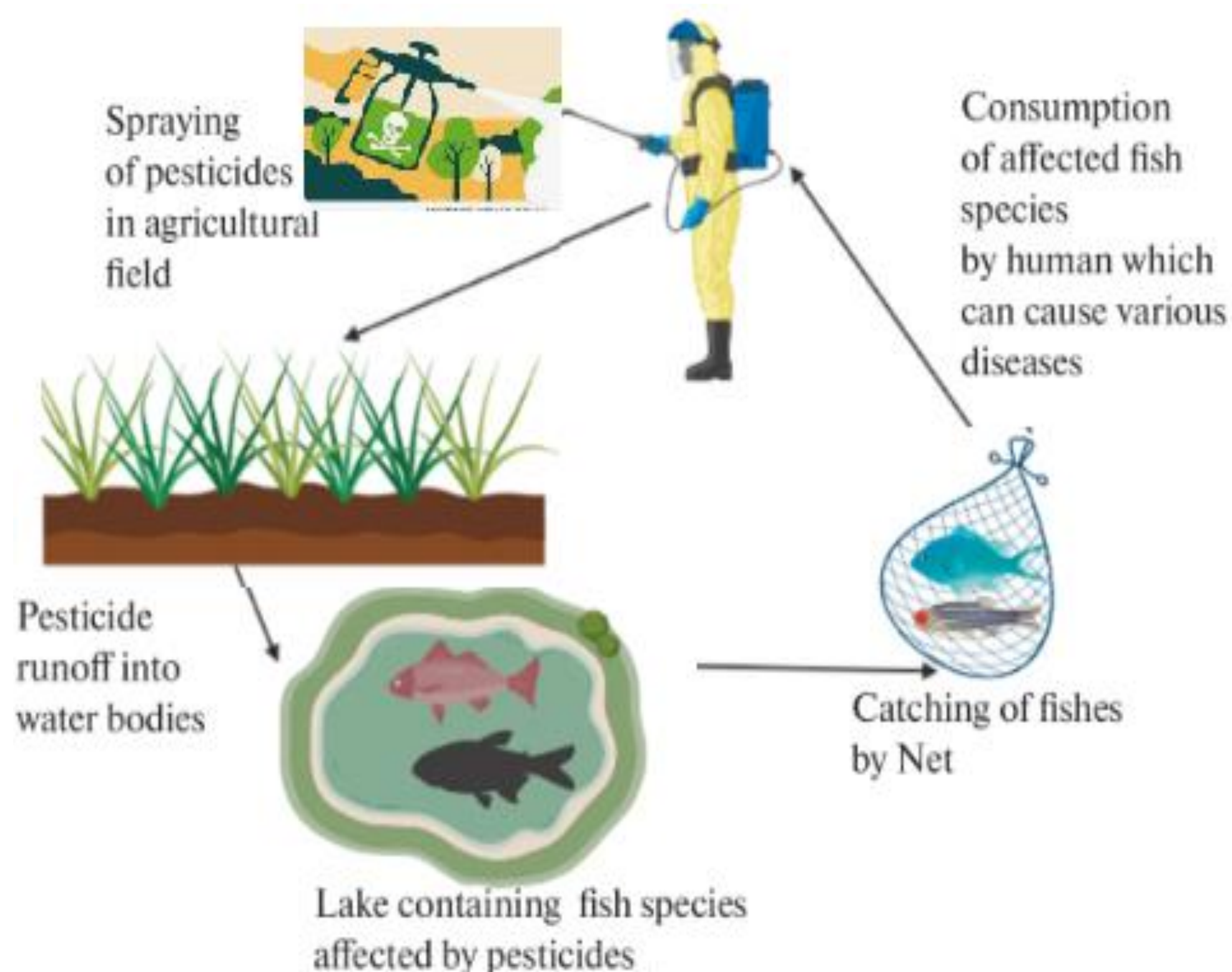


The East-African School for Young Researchers on Advanced Machine Learning Techniques (EASY-ML)

Background

At least 1.1 billion people lack access to safe drinking water (Osiemo et al., 2019).

Marginalized communities are worse affected and consume waters direct from rivers – leading to infectious diseases Increased chemical applications near riparian lands have all led to introduction of pollutants in water bodies (Ahmad et al., 2104)



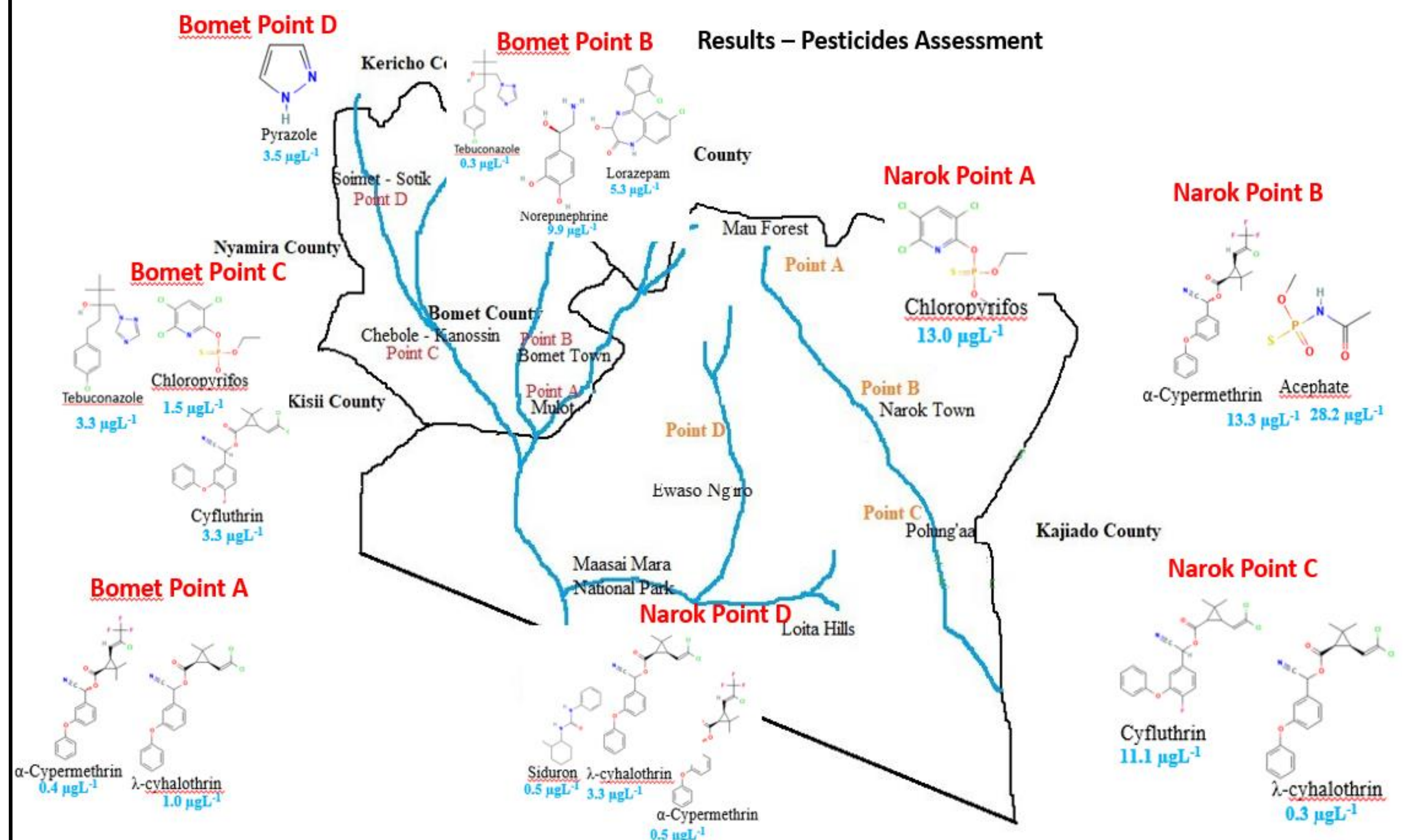
- Pesticide pollution is attributed to causing cancer, cardiovascular diseases, kidney, lung and CNS diseases (Ba et al., 2015)



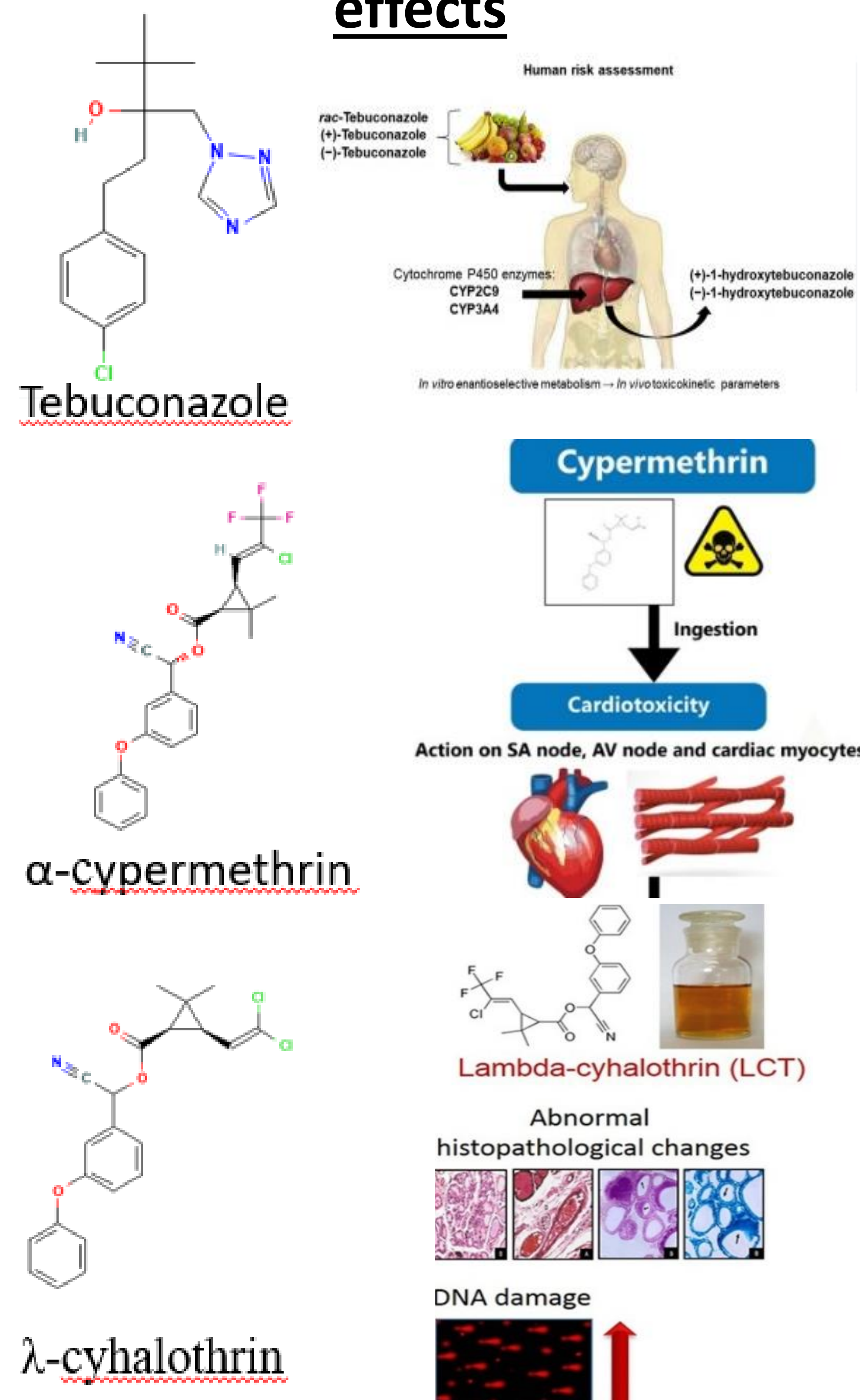
Specific Objectives

To assess the types and levels of pesticide residues in surface waters of the Mau-Mara Ecosystem, Kenya

Results



Most detected residues & their effects



Outstanding Question

How safe are the surface waters consumed by people and animals in the Mau-Mara Ecosystem, Kenya?

Expertise I can offer collaborators

Spatial and temporal analysis of pesticides and polycyclic aromatic hydrocarbon (PAHs) pollutants in water

Expertise I seek from collaborators

1. Simulation studies on a longitudinal and open ecosystem using ML techniques
2. Modelling studies and design of reactors

Reference

Chaka, B., Osano, Omwoyo, W., A.M., Forbes, P.B.C. Seasonal variation in pesticide residue occurrences in surface waters found in Narok and Bomet Counties, Kenya. Environ Monit Assess 195, 1050 (2023). <https://doi.org/10.1007/s10661-023-11629-4>

Acknowledgments