



# New research examines impact of climate change on health effects related to pesticide exposure

According to research by Dr Cliff Zinyemba who recently received his PhD in Public Health from the University of Cape Town (UCT), climate change may lead to an increase in health effects associated with exposure to endocrine disrupting pesticides unless measures are put in place to ban the manufacture, trade and use of these pesticides.



Dr Cliff Zinyemba

His research paper, entitled “Characterising the role of climate change in perpetuating Zimbabwean farmers’ health risks from exposure to endocrine disrupting pesticides”, sought to deepen understanding of the relationship between climate change and human health with a focus on the role of climate change in worsening existing health risks associated with exposure to pesticides belonging to a special class of chemicals called endocrine disrupting chemicals (EDCs).

## Effects of exposure

“EDCs are of great concern for human health because they interfere with the function of hormones. Exposure to endocrine disrupting pesticides during pregnancy may result in babies with a range of physical abnormalities, including some hormone-dependent cancers. Exposure during childhood may interfere with development and growth and result in effects such as anomalies in the male reproductive system which may result in fertility challenges in future. Exposure during adulthood may also result in fertility challenges, hormone dependent cancers, obesity, diabetes and other hormone-related

diseases and conditions,” he shared.

The concern is not only for farmers, but for everyone as with climate change, pesticides may increasingly find their way into our homes and onto our tables as residues in fruits, vegetables, wine, fish, water and other mediums.

Said Zinyemba, “There is a great need, therefore, for society to understand that everyone may be at risk and that climate change has the potential to worsen these risks. Society needs to gradually make conscious decisions to adopt climate-friendly lifestyles as climate change is a health issue. In agriculture, there is a need for governments to assist farmers in transitioning to cheaper and less toxic pesticide alternatives, including promotion of biopesticides and integrated pest management.”

## Long-term health effects

His research also found that the certain long-term health effects associated with exposure to endocrine disrupting pesticides in agriculture, including cognitive impairment, diabetes, obesity and hormone-dependent cancers, may compromise farmers’ climate change adaptive capacity in many ways. This evidence is important for climate change decision-making.

He is currently in the process of converting his PhD research findings into formats that are accessible to policymakers with the assistance of the Faculty of Health Sciences’ Postgraduate Publication Incentive funding. Together with his supervisors as co-authors, he has published one article in *Plos One* and on the day of his graduation, Zinyemba woke up to an email from the editor of the *International Journal of Environmental Research and Public Health* asking for minor corrections.

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