

Pesticides use and health impacts on farmers in Thailand, Vietnam, and Lao PDR: Protocol for a survey of knowledge, behaviours and blood acetyl cholinesterase concentrations

Vanphanom SYCHAREUN, Sengphachanh PHIMMAVONG, Vansy VILAYVONE, Soudavanh NATHAVONG and Vilakone THONGMALA

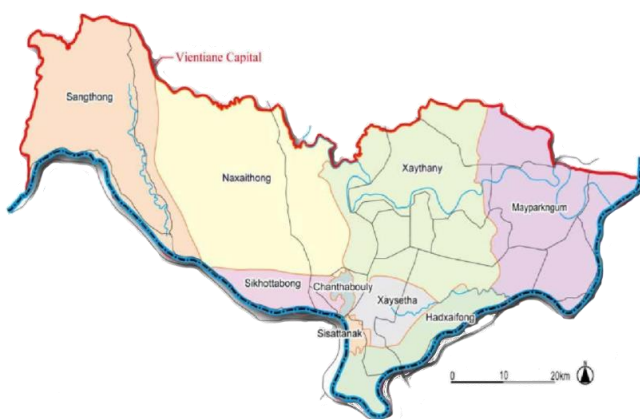


INTRODUCTION

Pesticides use in Southeast Asia has increased steadily, driven by the growth of large-scale commercial farming, as well as a desire to maximise food production in rural subsistence economies. Given that use of chemical pesticides, such as organophosphates and carbamates, has known potential health impacts, there are concerns about the safety of agricultural workers, and a need for a better evidence base to underpin regulation and worker education.

RESEARCH OBJECTIVES

1. To investigate the potential health impacts of pesticides use on agricultural workers.
2. To examine workers' health knowledge regarding pesticides-related risks, the extent of health-protective behaviours, and self-reported ill health.
3. To measure the OPP and Carbamates residue levels found in agricultural workers' bodies.
4. To investigate possible associations between health knowledge, health-protective practices and reports of ill health with blood residue levels.



STUDY SITE

This study, undertaken in 9 districts in Lao PDR, Thailand and Vietnam, will interview agricultural workers to investigate how they use pesticides, their knowledge of risks and self-protective practices, and their self-reported illness symptoms.

METHODOLOGY

In each district researchers will recruit and interview 120 participants engaged in vegetable farming, who have recently used pesticides, making a total of 1080 subjects divided equally between the three study countries. Workers' degree of pesticides exposure will be determined from acetyl cholinesterase concentrations in capillary blood samples collected using field test kits, and these data will be analysed together with the interview findings. Country findings will be compared and contrasted, and general patterns noted. Knowledge gained about risky behaviours, self-protective practices and degree of association with serious pesticides exposure will assist policy makers and inform health improvement programmes.