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## PESTICIDE SAFE USE UNIT

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When the chief editor asked me to write a short note on the Pesticide Safe Use Unit for the editorial, I indicated to him that this would have to be a very casual article due to the very casual nature of the unit. He has agreed, so here I am, trying to describe the Pesticide Safe Use Unit, its rationale, history, and approaches which are based on my personal perception.

Pesticide Safe Use Unit is a problem oriented research unit. It is based on the rationale that education is not an end to itself but rather it is the process where learning is accomplished through a process of inquiry. Therefore, in short, it is a fundamental belief that research is the key to the learning process of all involved, including instructors like us or our own students.

Chemical pesticide hazards have long been a problem of large magnitude in Thailand. Statistics which are derived from the public health official report system only, indicate that there are still some seven thousand cases of acute poisonings among farmers in Thailand today. Chronic and special toxicological effects such as teratogenicity, mutagenicity or carcinogenicity are potential health risks. Inadequate control of Pesticides storage, use, and disposal in Thailand are also well-known contributors to environmental quality deterioration, accidental threat to public health and residue in food. Pesticide problems in Thailand are very complex and require multidisciplinary approaches to tackle. They are also, naturally, very challenging to academia, since being in touch with the real world situation will help researchers to understand the problems of how to apply the knowledge appropriately and effectively.

The magnitude of the problem and the multidisciplinary nature of the problem support the idea of multidisciplinary team research. Multidisciplinary team research offers many benefits such as sharing of resources, namely, accumulated literature, technical know how and expertise in various fields. It also provides the critical mass needed for effective research environment. When researchers who are compatible work together, I personally think it gives synergistic effects.

In 1987, there was a conference held by USAID at Pattaya on Integrated Pest Management and Pesticide Problems in Southeast Asia. I attended the conference and we were encouraged to write a research proposal that would use multidisciplinary research approach including psychology especially in attitude change, mass communication and toxicology to tackle pesticide problems in Thailand. Our group included Associate Professors Thanawadee Bunleu, Thiraporn Uwanno, Professor Somwang Pitiyanuwat and myself. We were interested and working on various aspects of this potential project. We felt the need to form a semi-official research group to meet regularly and to write up a research proposal to get fundings to support our research. Here, we ran into unexpected obstacles. In trying to find an office, we were asked questions that we did not care or even think about before. Finally we went to the Dean of the Faculty of the Pharmaceutical Sciences, at that time (Associate Professor Boonard Saisorn). Thanks to his enthusiasm and vision, we were offered an office and some seed money to initiate this project.

It was named PESTICIDE SAFE USE UNIT.

Up to now, our projects have been supported by various donors such as International Development Research Center and the Thailand Development Research Institute. The research approaches are

### 1. Hazard Assessments

Different aspects of assessments have been tried by our researchers. The projects include Exposure Assessments in Rain Tree Spraying Trials, Exposure Assessments of Tangerine Agriculturists, Biomonitoring by Using Cholinesterases in Farmers, and Ecological Impact Assessments.

### 2. Measures to Mitigate Pesticide Hazards

Reduction of exposure *via* various means, namely, regulatory measures, protective clothings, reduction of pesticide wastes. The projects include Reduction of Pesticide Hazards in Formulating Plants in Thailand, Alternative Strategies for Pesticide Packaging Materials.

### 3. Long Term Measures

Training and education aspects include education packages for agricultural extension called Strategy for Safe and Efficient Use of Pesticides, Evaluation of the Training projects for Pesticide Dealers and Studies on Knowledge, Attitude and Practice of farmers of various crops. We also accumulate and share data with the faculty of Pharmaceutical Sciences on Pesticide data base.

Along the way we have undertaken inquiries with our students, undergraduates and postgraduates. Many researchers are involved in different areas of research. Sometimes they come and go as the project requires. Sometimes they come to sit at the unit just to get information. New researchers in Chulalongkorn University are always welcome. We rarely have board meetings but frequently we have researcher meetings when projects call for them. There are many contributions that researchers from Pesticide Safe Use Unit have offered. We are a part of the network of International Development Research Center Pesticide Information Exchange in Asia. Our researchers have participated in many expert groups on Pesticide issues for various ministries in Thailand, sometimes at the policy level. We have worked for international organizations such as F.A.O and the Pacific Rim Basin Consortium on Hazardous Waste Research. We wrote country reports on the Pesticide situation for the International Development Research Center. We have exchanged information with many pesticide research groups through scientific meeting and personal contacts.

I do not think that chemical Pesticide hazards problems in Thailand can be eliminated in a near future. Maybe, all of us involved will not live long enough to see it happen. But I still thing that a multidisciplinary team approach is very much needed in an area of research like this. It does not have to include buildings with permanent staffs and infrastructure. It does need, however, lots of open-minded attitude, some determinations and above all, people who like asking a lot of questions.

December 16, 1992