



Addressing the pesticide safety gap in Uganda; insights from the PHE project

UNACOH

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PHE Uganda Project

Pesticide Use, Health & Environment



"Health for All and By All"

Foreword



Prof. Robert Basaza
UNACOH President

Dear esteemed readers,

as the PHE Uganda Project team winds up implementation of activities in September, 2020, am pleased to foreword the last issue of our very informative semiannual Newsletter on pesticide safety.

This issue of the Newsletter is coming out at a time when the country and in particular the health sector, is gripped by the COVID19 pandemic. Uganda has however so far weathered the COVID 19 pandemic that has paralyzed the entire world, thanks to the Uganda Government robust interventions. Even then, the PHE Uganda Project had to bear a hit, but we soldier on!

In this issue we bring to the fore very pertinent topics like pesticides regulation in Uganda, awareness raising as a strong tool towards effective use and

management of pesticides, occupational health in agriculture, 10 years of DIALOGOS – UNACOH collaboration among others. For the agricultural and health sectors, PHE Uganda project has been a phenomenal or flagship project on agricultural health and safety. So as it comes to a close, we must reflect on the next steps.

As most human exposures occur *due to lack of awareness on the potential risks arising from the usage of these chemicals*, this last Newsletter issue has still had to put this in perspective. As you the reader becomes aware, strive to make many more people aware also.

In this COVID 19 era, "I urge everybody to stay alert, healthy and safe" Have a pleasant reading.

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A word from the **EDITOR**

Victoria Nabankema
Assistant project coordinator
PHE Uganda Project



Dear readers;

I am glad to present to you the 10th issue of the PHE Uganda project Newsletter. This newsletter primarily focuses on general achievements and lessons from the 10 year long journey of PHE project implementation in Uganda.

If we look at the agriculture sector today, it is dominated with use of pesticides and their benefits both on large scale and small scale farms. However; due to the limited guidance on proper pesticide handling and safety at the community level, a number of health and environmental effects have occurred and affected human and animal life.

Fortunately UNACOH through implementation of the PHE Uganda project has contributed to the reduction of effects of pesticides among small scale farmers. This project has been unique in a way that it's 'action research'

oriented. The information generated has been used to promote a positive health culture among farmers regarding pesticide use and influence the government ministries, departments and agencies to take corrective action on pesticide safety.

This newsletter is a one of the platforms through which the PHE Uganda project shares information on pesticide safety with the public. It is important to note that most of the interventions highlighted in our PHE newsletters are mainly addressing the knowledge and attitude barriers but as we conclude our 10 year journey in Uganda; the project encourages readers and concerned stake holders to translate the lessons learnt into action to ensure pesticide safety in the country now and for generations to come.

*God bless you, God bless
Uganda, and God bless
Israel*

Improving OSH in Uganda:

A case of pesticide exposure

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Ag. Executive Director, UNACOH

Pesticide exposure in the community could be inadvertent or intentional. This article focuses on inadvertent exposure which leads to the need of Occupational Health and Safety (OSH) in agriculture. Agriculture is significant because it is the biggest employer of Ugandan population. About 60-70% of population is engaged in agriculture. Secondly, due to the population pressure there is an increased demand for food production, cash crop production and animal rearing for economic gains. Since the crop growing and animal production involves use of pesticides for protection against pests and diseases, potentially 70% of Ugandans are likely to be occupationally exposed to pesticides.

Also the pesticide run off from agricultural activities ends up into the environment particularly water points or in some cases into the food chain and eventually affecting directly or indirectly human and animal life. This is the ramification of the pesticide usage.

Although a lot of agriculture is going on with pesticide usage; the occupational health and safety needs in agriculture are largely not met because there is no agricultural health service in the country. Despite the fact that the Agricultural Chemicals Control Act is available and controls the use of pesticides,



it has been difficult to translate into ground level action. This is because whereas Ministry of Agriculture, Animal Industry and Fisheries administers the law through the Agricultural Chemical Control Board to license chemicals, it's difficult to follow up with how chemicals are used by the farmers. The small scale farmers lack functional literacy in terms of sophisticated matters like use of material safety data sheets on pesticides, their focus is on protecting their animals and crops. The guidance of farmers has been limited not that what needs to be done is not known, but rather who to guide them because the agricultural extension workers are few and the farmers' cooperative system which would have been

useful in organizing them became weak or in some cases nonexistent. This has resulted in a gullible population with no vehicle through which farmers can be educated in their scattered arrangements.

Secondly; the health sector could have been gathering some of the people who are affected so that they could be an entry point for education, but the health management information system has not been capturing pesticide poisoning.

Apart from the UNACOH project which has attempted to deal with this, the exact number of people who have been pesticide poisoned may never be known and therefore the problem could just be swept under the carpet.

Ministry of Health has an environmental health program which is basically environmental sanitation and public health but ignores pesticide safety except the Indoor residual spraying program.

Ministry of Gender Labor and Social Development (MGLSD) has an OSH department, but no OSH program for agriculture. The PHE project seems to be the only project that has gone its way to reduce pesticide exposure among small scale farmers.

Despite the pesticide exposure being a

known problem and laws put in place, **lack of enough situation analysis** of what is required to be done has been the main barrier to improvement of OSH in agriculture. Fortunately UNACOH over the past 10 years has tried to do the situation analysis through working with MAAIF, district agricultural officers and farmers' associations. The PHE project has shown that the knowledge barriers could be overcome but action barriers may be difficult unless the government officials take the bull by its horn and try to electrify the situation. Since agro processing is one of the key elements the agriculture sector is focusing on according to NDP III, the issue of agricultural health and pesticide safety in particular needs to be considered

seriously to meet the standards for supplying products in the country and beyond. This will improve the health and safety of people and increase economic gains by marketing products that are safe from pesticides. The trade barriers due to pesticide exposure on agricultural products is an opportunity to utilize and enhance OSH for agricultural workers because we can't sell un healthy foods to other countries but also Ugandans deserve better quality and safe food.

UNACOH has been engaging the leaders at various levels but needs to do more. There is need to increase awareness among farmers on pesticide safety and the government to facilitate the farmers to protect themselves

once they have understood the need for that protection. We must target the farmers to have the knowledge, promote their positive attitude and lastly make sure they use pesticides correctly.

MOGLSD needs to have a program, MOH needs to include pesticide poisoning in HMIS and educate people, Ministry of Education needs to main stream pesticide safety in the training institutions in agriculture, health and others where agriculture is concerned. The lessons learnt from PHE should be mainstreamed as much as possible particularly in the NDP III because as we industrialize agriculture, we need to protect the people.

Awareness raising on pesticide safety

Although pesticides are hazardous in nature, they are vital in increasing agricultural productivity. Their increased use in the past two decades is quite worrisome given the nature in which they are applied especially in the developing countries, where pesticides applicators apply them with minimal use of personal Protective equipment (PPEs). Given the current National Development Plan (NDP) III (2020-2025) aiming at up-scaling peasantry into modern agriculture, pesticides use remain a crucial raw material to achieve agricultural productivity and thus there needs to be a better way of using them with minimal health effect.

Pesticides use Health and Environment (PHE) project has in the past 10 years struggled to reduce the negative effects of pesticides through promoting sound pesticides management mainly through Integrated Pest Management (IPM) strategy.

The initial phase of the project concentrated its efforts on knowledge awareness partially in the two districts of Wakiso and Pallisa, mainly at the sub county level. Raising awareness for pesticides safety in phase one objectively targeted mainly the farmers virtually through their respective extension workers in-charge of advising them, but importantly also the health care workers to manage and report cases of acute pesticide poisoning.

The project design focused on raising awareness about pesticides safety with modes of communication being physical and practical hands-on trainings on PPE use. This

Experiences from UNACOH

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was meant to ensure that the trainees transfer their knowledge to practice. However, in the due course of the project, a gap was noticed that most of the trained farmers could not access the PPEs thus the project supported them with new high quality PPEs to close the gap in affordability, knowledge and practice. This has further been achieved in phase 3 through offering PPEs through the DFA at a subsidized price.

The second phase of the project still concentrated on raising awareness among more beneficiaries. In this phase, about 250 Village Health Teams (VHTs), 50 Public Spray Men (PHSM) also known as domestic fumigators, 50 agro-dealers, 38 health educators and inspectors, plus an increment to the already existing groups of farmers (totaling to 500 farmers), extension workers (totaling to 40) and health care workers (totaling to 60) were sensitised.

To ensure sustainability of the knowledge awareness campaign, the project integrated the safety promotion campaign by training other concerned district officers i.e. the Health



Educators, Health Inspectors and VHTs who sensitize the farmers in the community.

In addition, the project team developed IEC materials for sensitizing the farmers on safe pesticides handling. Among the IEC materials were 5 booklets with various topical issues that included introduction to pesticides, Pesticides and the environment safety, pesticides and human safety, pesticides application equipment, and Integrated Pest Management. Also booklets for other beneficiaries were developed and these included, 1 school booklet for educating primary school children on pesticides safety; Health care workers guide on management of acute pesticide poisoning, a guide for Village health team members and for public health spray men. Other IEC material included posters, flip charts, flyers and a newsletter that was produced bi-annually.

Radio talk shows were also conducted to raise awareness with programs featuring

trained farmers to sensitize the community on pesticides safety basing from their experience and lessons learnt on the Project. Listenership to the talk shows was boosted through use of SMS reminders.

The project in Phase 3 expanded to more than 17 districts with the District Farmers Association serving as entry points for raising awareness. The project first gathered information on presence of pesticides residues in food and water for use to initiate awareness raising in these districts and influence some policy implementation changes. Studies were conducted on pesticides residues in water and food. The project disseminated research findings of the above studies at district and sub county level, gathering comments and way forward on mitigating the problem which for a long time had not be given attention. As in phase 2, District Pesticide Committees(DPC) were formed per district to carry on the awareness raising and capacity building to reduce pesticides exposures in

the communities. These DPCs sit quarterly and report to the project team from which it received assistance.

A total of 72 DPCs have been held in phase 3, putting emphasis on community awareness raising through radio talk shows, organizing food safety workshops and disseminating research findings.

Lessons learnt

Evidence based research has been an important element in raising awareness and advocating for safe pesticide use. Working with grass root organizations especially well established DFAs has made raising awareness among large number of farmers easier since a data base for mobilizing the farmers for any meeting is readily available now.

Radio talk shows are important for massive sensitization but need to be done concurrently with SMS reminders, and continuous radio impact evaluation.

Improving Regulation Of Pesticides In Uganda:

UNACOH's take

Atuhaire Aggrey

Project Coordinator PHE Project

Pesticides are intrinsically toxic. It is because of this attribute that they play an important role in increasing agricultural production and safeguarding public health by controlling pests, vectors and diseases. However, pesticides pose adverse effects for humans and the environment. Governments all over the world therefore have a responsibility to offer a conducive legal and institutional environment so as to sustain pesticides' benefits while protecting human health and the environment.

In Uganda, the Ministry of Agriculture Animal Industry and Fisheries (MAAIF) and National Drug Authority (NDA) are the government institutions primarily charged with regulating importation, trade in and use of crop-related and veterinary-related pesticides respectively. The Agricultural Chemicals Control Act, 2006 establishes an Agricultural Chemicals Board (ACB) which is advised by an Agricultural Chemicals Control Technical Committee (ACCTC), under the Department of Crop Inspection and Certification,



MAAIF. Through the National Drug Policy and Authority Statute, NDA, an autonomous body affiliated to the Ministry of Health was established in 1993. More still, other relevant government institutions such as Uganda Revenue Authority (URA), Uganda National Bureau of Standards (UNBS), National Environment Management Authority (NEMA), National Agriculture Research Organisation (NARO) and Academia supplement the

mandate of MAAIF and NDA. As a global player, the Government of Uganda is also a Signatory to a number of international pesticide control instruments such as the Basel, Rotterdam, and Stockholm convention.

With the aforementioned legal and institutional framework in place, the Government of Uganda has realized commendable work on this front. For instance, due to a better streamlined trade system, conservative estimates by the Food and Agriculture Organization (FAO) show that Uganda's total pesticide import value increased from US \$ 3.3 to 66.9 million (~ 20 fold) between 1990 and 2017. Along this, is a growing number of pesticide importing companies (currently standing at more than 40) directly employing hundreds of Uganda's citizens and sustaining a network of pesticide retailers across the country. With support from the Stockholm Convention Secretariat, steps have been taken to protect the health of Ugandans and the environment from Persistent Organic

Pollutants (POPs) as evidenced by the current 10-year (2016-2025) second National Implementation Plan on POPs.

Albeit the progress made, regulation of use and trade in pesticides in the country falls short in notable areas, including but not limited to; poorly coordinated safe use trainings and agrodealer licensing procedure, limited citizen awareness of the existing regulatory framework, uncoordinated institutions/regulators, insufficient human resources to convincingly enforce the regulations, failure to build capacity of relevant local government departments and to decentralize some regulatory functions, and rather slow process of passing regulations to operationalize the Laws/Acts. These few noted, among the many gaps, result into among others, undesirable outcomes such as; unprecedented trade of counterfeit/fake products, myriad of illegal traders, loss of government revenue, food contamination with unsafe levels of pesticide concentration, environmental pollution, crop and animal loss.

As a means toward better pesticide regulation in Uganda, UNACOH, in its limited mandate as an NGO, has employed some of the following efforts:

- a) Informing regulators and the public of existing gaps, through documentation studies on;
 - » Food contamination (e.g. a study by UNACOH in collaboration with DGAL and UNFFE in 2018 among tomatoes farmers and markets in 18 districts of Uganda showed that about 8 different pesticides were detected in the food, with Malathion and Mancozeb in notably high concentration levels)
 - » Environmental pollution (e.g. a 2018 UNACOH study among 86 community water sources in 17 districts pinned conventional farming as a key environmental polluter, with the detected number of pesticides increasing by almost 4-fold (7 to 25) between the start and end of

the March-June, 2018 cropping season, with worryingly high levels of Glyphosate, Dichlorvos, Chlorfenviphos, Aldicarb and Atrazine in both surface and ground drinking water).

- » Illegal trade (e.g. a recent survey conducted in 2020 by UNACOH among 300+ agrodealers in 14 districts revealed that more than 90% were operating without a MAAIF license, as required by the law),
- » Registration of acute pesticide poisoning by collaborating with district biostaticians.
- » Limited Knowledge, Attitudes and Practices among farmers, agrodealers, and extension workers

- b) UNACOH staff contributing towards training of regulators by serving as technical resource persons and developing a training manual on responsible pesticide use that was adopted by MAAIF, Crop Protection Department
- c) Bringing together different national stakeholders to discuss pesticide regulation gaps and potential remedies, through an adhoc National Project Steering Committee for the Pesticide use, Health and Environment Project
- d) Supporting up to 14 Local Governments to institute adhoc district pesticide committees to spearhead pesticide safety promotion in their respective districts.
- e) Creating awareness among Local Government staff in about 15 districts in the four main regions of the country
- f) Piloting a scheme for registration and reporting of Acute Pesticide Poisoning in community health facilities through a collaboration with Local Government Health Departments of Wakiso, Pallisa and Kayunga Districts.

Although its work has significantly shed light and informed the country's regulators of gaping regulatory flaws, UNACOH continues to recommend among others, the following:

- i) The Agricultural Chemicals Board under MAAIF and NDA should build the capacity and delegate/decentralize some of their powers, especially the inspection function to the relevant Local Government Departments. With proper oversight and coordination, this will go a long way in bridging the evident disconnect between the central and local government in regulation of these chemicals
- ii) Operationalization of the Agricultural Chemicals Control Act, 2006 by passing and enforcing its attendant regulations on Pesticide Registration, Spraying Equipment and Personal Protection Equipment.
- iii) Establishment of an agency/ authority to play the overall coordination role of bringing different institutions/regulators together
- iv) Strengthening the pesticide registration process to look beyond testing for product efficacy but take into account generation of relevant data on human and environmental safety
- v) Inter-ministerial/agency deliberate dedication of resources to create public awareness on responsible pesticide handling and use
- vi) MAAIF dedicating more efforts to research into and promotion of Integrated Pest Management as an approach to curtail overreliance on pesticides.
- vii) Strengthening systems to effectively apprehend and penalize illicit traders

Addressing acute pesticide poisoning in Uganda:

Management and reporting of cases.

Victoria Nabankema

Assistant Project Coordinator, PHE Project.



Pesticides are significant chemicals that are extensively used both in agriculture and public health to control pests and diseases. However; they result in severe acute poisonings when poorly handled. Although Cases of acute pesticide poisoning (APP) account for significant morbidity and mortality in Uganda; (study done by UNACOH showed the prevalence of pesticide poisoning to be at 28.8 %.); they are inadequately managed since they mimic other illnesses and are often poorly managed, registered and reported in the health management information system.

The existing challenges such as lack of standardized case definitions (the existing one in Uganda Clinical Guidelines concentrates on mainly one class of pesticides); insufficient regulation of agro dealers, less law enforcement, lack of surveillance systems for poisoning, lack of training in management of cases and handling pesticides, inadequate access to information systems, further contribute to the high prevalence of acute pesticide poisonings in Uganda.

Although majority of the pesticide

poisonings are manageable in lower level health facilities with limited resources, a large number of cases remains unreported due to inadequate information and awareness at community level.

Uganda National Association of Community and Occupational Health (UNACOH) has made efforts through the Pesticide Use, Health and Environment Project (PHE) to improve on management of acute pesticide poisoning at lower level health facilities in the country. The project has achieved this by extending prevention, registration, reporting, diagnosis and treatment of pesticide poisoning at lower level health facilities.

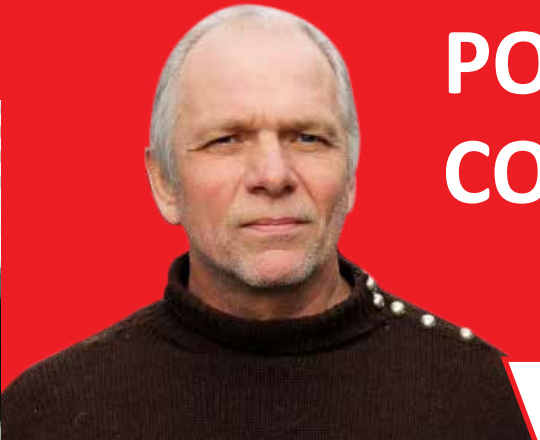
Through the project; over 100 health care workers from over 60 health facilities have been trained in management of acute pesticide poisoning. In addition, a health care workers guide and 2 flip charts and posters on management of acute pesticide poisoning have been developed and distributed to over 100 health facilities. These are being used as reference by health care workers in management of acute pesticide poisoning.

In addition; a standardized tool for registration of cases of acute pesticide poisoning has been developed and used to collect data on acute pesticide poisoning. For the last 7 years, about 463 cases of acute pesticide poisoning have been managed in 3 districts of Wakiso, Pallisa and Kayunga.

Despite the undeniable progress made towards improving management of acute pesticide poisoning in the few districts; health care workers are still challenged with late reporting of cases at facilities with no pesticide containers to help in diagnosis, limited knowledge on diagnosis and limited medical supplies to manage the cases.

We therefore encourage Ministry of health to resuscitate surveillance for acute pesticide poisoning by mainstreaming proper registration and reporting of cases in the health management information system but also, consider mainstreaming management of poisoning topics in continuous medical education programs and massively sensitize communities on prevention of pesticide poisoning.

PREVENTION OF PESTICIDE POISONING IN DEVELOPING COUNTRIES:



Dr. Erik Jørs /Board of Dialogos

Reflections on a 10 years collaboration between UNACOH and Dialogos/Denmark – hip hip hurray!

The collaboration started after initial meetings between Dr. Deogratias and myself in Kampala in 2008. I knew Deogratias from a course in Stockholm in 1991 and suddenly the chance of working together came up. Dialogos had good experience from Bolivia on prevention of pesticide poisonings and Deogratias confirmed the same problem seemed to be increasing in Africa and Uganda as well. More pesticides were used and more Ugandan farmers were poisoned although no exact statistics existed.

After a pilot study, a project proposal was elaborated and funded through CISU and the Danish Foreign Aid, and we have now managed to work for ten years within this field. The interest and collaboration on this matter have been very satisfactory. We have managed to collaborate with local farmer's organization, pesticide dealers, local politicians, Ministries of Agriculture/Health/

Environment/Labour and Makerere University just to mention a few. Also international partners have been around from WHO, ICOH and Switzerland. This collaboration has resulted in significant output on knowledge about what is going on in Uganda. Through practical experience with farmers and scientific studies published in local and international papers and presented on many conferences we have all learned a lot.

UNACOH and the 'Pesticide, Health and Environment project' has gained visibility and influence to advocate for sustainable solutions. The project collaboration has turned into a learning tool were local farmers, health care workers, students, politicians, ourselves and others have got a far better insight into pesticide poisonings and possibilities for prevention than what previously existed.

I am grateful for the hospitality

always shown us when visiting and working on the PHE project from the staff and Ugandans in general, my Danish students have always had a great experience. Mutual understanding is vital for peaceful coexistence and collaboration between different nationalities now and in the future.

That is why Dialogos and I will do our best to follow up the good results from the first ten years aiming at future collaboration for another 10 years to come.

Congratulations

to the PHE project and Uganda, let us keep up the good spirit!