

Submission from Paul Melsom 15 July 2013

Comments and suggestions on Bills Committee on Pesticides (Amendment bill) 2013 follow up actions. Reference paper LC Paper No. CB (2)1375/12-13(01)

First I would like to direct the pesticide committee to the website for the United Nations Convention on the Rights of a Child (http://www.unicef.org.uk/Documents/Publication-pdfs/UNCRC_PRESS200910web.pdf) which should be addressed as part of the pesticide safety measures. Priority should be given for safe-guarding the health of children from the risks that can come from pesticide exposure in the short and the long term. At the moment there is little or no protection from pesticides used in schools or anywhere for that matter. I suggest that particular attention should be given to Article 3 (3.), Article 19 (2, 3.) and Article 24 (C) of the United Nations Convention on the Rights of a Child.

My comments on the follow up actions on page 4 of this document are:-

1/ There are no timelines on many of the points raised.

2/ The content of the proposed pesticide changes seem far too vague. I sincerely hope that details and more meaningful content can be incorporated into the final bill.

Although some aspects of the debate on the Pesticide Amendment Bill 2013 have been encouraging such as the contact with the Education Bureau, I still however find it alarming that through these last few months of debating the Pesticide Amendment bill there appears to be little movement in the way of any new immediate safety measures introduced into schools.

Both the Agriculture, Fisheries and Conservation Department (AFCD) and the Food Environmental and Hygiene Department (FEHD) already have risk assessments and guidelines for the use pesticides. However, these should be backed up with mandatory transparency and enforcement with appropriate penalties if they are not adhered to. In my experience the safe use of pesticides, especially when used within schools needs to have adequate laws to enforce the very practices which they outline in their risk assessments and guidelines. As I have stated, the current risk assessments and guidelines in their present form are completely meaningless as these are quite easily flouted. The current weak legislation leaves children and the public completely vulnerable to the exposure from pesticides wherever they maybe. This is an infringement on each and everyone's right to health by being exposed to dangerous chemicals that may be applied or sprayed by third persons anywhere and at any time. I have included various suggested additions for the pesticide risk assessments and guidelines below in the following sections.

The follow up actions in this latest paper on the pesticide amendment bill also states that it will discuss various measures with stakeholders. Who are these stakeholders? Do they include the Health Bureau, Education Bureau and various experts from the universities in health related areas for pesticide exposure in the short and long terms i.e. do they include experts in toxicology and dermal intake of

pesticide toxins in particular ? The U.K. has had the health and safety executive (HSE) for some years with as many as 9 Doctors and 6 professors in various medical fields including toxicological specialists on their pesticide committee.

a/ Safety measures

For the present FEHD Risk Assessment for pesticides, there needs to be far more comprehensive instructions and non-compliance should be enforceable with appropriate penalties.

FEHD Risk Assessment website

(http://www.fehd.gov.hk/english/safefood/library/pest_control/pest_control.html#2.1.1.1)

The FEHD pesticide Risk assessment 1.3.1 states **‘Unnecessarily using pesticides may increase the hazards to humans, animals and the environment. Consider other effective pest control measures before resorting to the use of pesticide. If no alternative is practicable, avoid causing damage to the environment or hazards to human and animal health when using pesticides’** and it also states in one of its key points that **‘The pesticide that poses least risk to humans, animals and the environment’**. In my experience I have found that many times the opposite has occurred and the most hazardous pesticide has been used in the first instance. In reality these guidelines are quite useless and children as well as the public can be exposed to more dangerous pesticides than they need to be and without any enforcement measures guidelines can always be flouted. Again I call for enforcement with penalties to be made law so that pesticide use is given the respect it deserves as children as well as the general public’s health should not be put at risk. (**Also please see the AFCD pesticide guidelines taken from their mosquito spraying booklet at the bottom of this document with my comments.)

1. As pesticide applications especially in places like schools can potentially lead to very serious health risks in the long term it would seem appropriate that the Health Bureau, Education Bureau, universities and independent experts be active in determining safeguards for these toxic chemicals especially where children are concerned.
2. Enforcement for Codes of practice for pesticide application should include –stricter regulation, monitoring enforcement with stiff penalties for pesticides used in and around schools.
3. Pre-notification of the pesticide to be used and notification sent to the govt. so they can double check the standard the chemical in question. Much tighter controls are required i.e. Pesticide applicators have too freer scope in schools using dangerous and harmful pesticides where mistakes or deliberate changes to the original pesticides can be made at any time without any monitoring, regulation or checking on site. This is unfairly exposing children and staff to these toxic chemicals and potentially leaving them extremely vulnerable to unknown pesticides that have been pre-sprayed without their knowledge (as well as the parents knowledge where spraying has occurred in schools) risking poisoning from dermal intake from pesticides or much worse.

4. I would suggest the following list of procedures be used **as the comprehensive records** (also see bottom of the page **AFCD mosquito booklet) which should be kept in schools for any pesticide used for a period of 5 years.

(1) Comprehensive records for Pesticide applications kept in a book form and made available to everyone in the front of the school reception. To include the following details:-

A 7 Day notice of intention to spray or apply pesticides should be sent to all the parents of children at the school, all staff in the school and students and visitors should be made aware of pesticide applications i.e. for after school activities. There should be mandatory comprehensive and easily accessible transparency of all pesticide use in schools. There should be no secrets of pesticide use in schools or anywhere whatsoever. Hidden information about pesticide use should be outlawed with penalties.

(I) The commercial name of the pesticide that will be sprayed (additional to inclusion of the active ingredient/s and the type of group of pesticides i.e. Organophosphates, pyrethroids etc.)

(II) The date and time when the pesticides will be sprayed or applied.

(III) The method of application of the pesticide i.e. back pack sprayer, Ultra Low Volume (ULV) spray, dust, pellets, traps, etc.

*(IV) The active life of the pesticide after application.

*(V) The half-life of the pesticide or combined half-life if microencapsulated pesticides are used.

(VI) The dilution rate of the pesticide that is actually used, along with the calculation so that it can be checked.

(VII) A map with the exact areas where the pesticide will be applied (i.e. carpets, skirting boards, drains etc.)

(VIII) The pesticide applicator should apply pesticide in accordance with weather conditions for outside spraying and refrain from spraying if conditions are not within the guidelines i.e. wind conditions over a certain speed.

(IV)A specific first-aid information sheet on the pesticide to be applied should be forwarded to the school safety officer and be readily available for pre and post spraying.

(X) Emergency medical hotline number for poisonings, including the Hong Kong Poisons 24 hour hotline.

(XI) Pest control applicator should notify the school if there are any pesticide spills (no matter how small) or accidents involving pesticides whilst on the premises.

(XII) The pest control applicator must have a pest license to spray and carry a copy of his Pest Control Certificate. N.B. (This should be renewed with an exam including dilution calculations every 2 years).

N.B. for * Most members of the general public think that pesticides vanish soon after they are sprayed but in fact they are still active hours or in some cases many hours after they have been applied and can still be absorbed either dermally or orally through children's fingers in their mouths which can contribute to health effects which may only show up years later or in future decades. These detrimental effects on their health a long time after pesticides are used emphasizes the importance of highlighting and increasing people's awareness of the active life and half-life periods (some of which can be a month or more) of these pesticides. Additionally, with routine pesticide spraying in some schools which amounts to several times a year both inside the school and within the school grounds, the accumulated exposure through repeated contact of these pesticides will add to the bioaccumulation of these chemicals in children, staff and regular visitors (the fetus of pregnant women may be the most vulnerable to these chemicals). Imagine the total school life of a child from kindergarten to the end of secondary school which could be 15 or 16 years in total, then consider the various pesticides that those children come into contact with over that time period, which can add up to a considerable mixture or cocktail of chemicals and which can include the pyrethroids, Organophosphates etc.; it is especially alarming as the health effects from these mixtures of various pesticides are unknown. Additionally it should be noted that some pesticide breakdown products are more toxic than the original sprayed/applied pesticides themselves.

(2) Before pesticide application by spraying or other means, the area must be cordoned-off according to the specific pesticide directions whilst the spraying is being carried out and the cordoned-off area should remain for the length of the active life of the pesticide and half-life.

(3) In addition, clearly detailed signage should be displayed and be clearly visible with the essential important details of the relevant pesticide used.

(4) The pesticide operator must wear the correct safety equipment and make sure the area to be sprayed with pesticide is clear of anyone.

(5) If there are any doubts about the pesticide being used or the professionalism of the operator then the pesticide procedure should be suspended until the situation or the pesticide itself is determined safe or otherwise.

(6) The pest control company must have a pesticide license.

(7) The school health and safety officer must be around during the whole period that the pesticide application is being done. All procedures must be checked including the pesticide bottle, the calculation for the pesticide, etc.

b/ Promotion and publicity

1. Permethrin and its derivatives which are widely used as pest control for mosquitoes and other pest control insects should be reviewed to determine if they are safe to use in schools and domestic premises. According to Pesticide Action Network (PAN) Europe, Permethrin is banned in the EU market. <http://www.pan-europe.info/Archive/Banned%20and%20authorised.htm>

2. AFCD and FEHD Pesticide information Websites

At present AFCD and FEHD

(http://www.fehd.gov.hk/english/safefood/library/pest_control/pest_control.html#2.1.1.1) pesticide websites do not offer easy to use information for members of the public, schools or even for the pest control profession. On the FEHD site, the information is just a long list of simplistic information, which is of little use to anyone if they need quality or emergency information for any pesticide incident. When I have asked these government departments for information on treatment for dermal contact from an organophosphate which is a neurotoxin, they have simply referred me to look on the internet. It would be useful to completely overhaul these websites to have far more relevant safety information on pesticides and put this information on their websites instead of the present arrangement, where there are PDF information files that can be difficult to locate and are not as easily accessible as is a professional easy-to-use website. The Hong Kong Observatory has one of the best government websites and this could be used as an example of what can be achieved by the AFCD and FEHD in terms of producing a good informational website.

c/Registration and use of pesticides

1. Integrated pest management (IPM) –The emphasis should be on natural methods for pest control and removing the habitats of pests as well as their food sources depending on the pest to be controlled. Grants and subsidies should be made available as a way to help to speed up Integrated Pest Management along with IPM workshops. Natural safe pest control methods and natural biorepellants should be encouraged with detailed leaflets supplied with this information.
2. Paraquat dichloride is better known as and is sold mostly as Gramoxone in Hong Kong.
3. As Diazinon and Paraquat dichloride are coming off the pesticide register, then for safety reasons they should be immediately suspended from being used in schools, as at present they can still be used in small kindergartens and even inside classrooms.
4. Can a time-line be set for the next round of reviews? i.e. in 3 months' time?
5. As there is no restriction for the use of the potentially high health risk 'organophosphate group' of pesticides which are recommended for use for mosquito or for other pest control, it is suggested that they should be rigorously researched and scrutinized for their potential health risks on children. As all the chemicals in the list below already have restrictions of their use either in the European Union or the USA then they should be suspended until they are certified as a zero risk to children's health. They include the following organophosphate pesticides which can be still be used in schools and even in classrooms.
 - (A) Malathion WITHDRAWN FROM THE EU MARKET WITH "ESSENTIAL USE" DEROGATIONS
 - (B) Chlorpyrifos was banned in the U.S. in 2001 for home use because exposure put children's developing nervous systems at risk.
 - (C) Temephos WITHDRAWN FROM THE EU MARKET WITH "ESSENTIAL USE" DEROGATIONS

(D) Diazinon (Although it is proposed that it comes off the H.K. register of pesticides, it can still be used in schools and in classrooms in Hong Kong until its deregistered).

Please take a look at this report by Pesticide Action Network North America PDF

A generation in jeopardy.

How pesticides are undermining our children's health and intelligence.

See Table 1, Page 3 Pesticides and childhood Health harms (the insecticides on this can be used in classrooms and playgrounds in Hong Kong)

<http://kresge.org/sites/default/files/Pesticides-childrens-health.pdf>

Additionally

(E) Microencapsulated pesticide Demand CS (Active ingredient Lambda-cyhalothrin) belongs to the group of pyrethroid pesticides which should also be investigated as it can be around in classrooms for long periods. As these are microscopic capsules containing the pesticide which lie in wait for unsuspecting cockroaches these can also break on the skin of children and be inhaled by children.

d/ Others.

1. It is welcomed that the government are going to increase promotional and publicity efforts about pesticides. However, these measures do not go far enough and may only reach a fraction of the people they should reach.
2. The government has acknowledged that they need to consider a study regarding the long term impact of pesticides on the health of pesticide applicators but as well as this a study of the long term health of the public and children that are exposed to these pesticides needs to be undertaken urgently.
3. I would suggest that there needs to be a dramatically quicker response time for members of the public when they dial the Government helpline 1823. When a call is made and there is potentially a health risk issue where pesticides are being used then the government departments should take these incidents far more seriously than they presently do and respond immediately whilst the pesticide spraying incident is taking place or as soon as possible. I have been witness to responses after ringing 1823 for the government to respond several days and sometimes well over a week to these spraying incidents which is not responsible especially if children are at risk from these pesticides.
4. Pesticides should be used as the last resort and not be used in schools.
5. At present all users of pesticides in schools need training including caretakers, cleaners, gardeners, contractors, sub-contractors. The Government should devise a course and certification for health and safety officers, caretakers etc. which should incorporate some of the important fundamentals for safe use of pesticides and chemicals used in schools. Also, the course should include alternative safe practices for pest control i.e. IPM and reducing pests habitat.

N.B. Many school teachers are taking First-Aid courses so why not a Health and Safety course on pesticides?

6. Hazardous pesticides that include the organophosphate group of pesticides can be bought in shops selling pesticides by anyone and used by anyone in the schools which can include caretakers, care-taking staff and in fact any staff. These pesticides can be sprayed at any time with user probably not aware of the hazards or health risks associated with these pesticides. There should be a requirement for strict regulation of use of these pesticides in schools.
7. Pest control aerosol can sprays containing the pesticide Permethrin and other pesticides are sold in supermarkets and these sprays are used in school classrooms. The use and continued use of these aerosol can pest control sprays especially in enclosed areas like classrooms, as they may be causing potential health problems for the children and staff.
8. The use of Rodenticides in schools should be banned.
9. Does the government have enough qualified and technically competent staff able to research all the new data related to health and safety of pesticide use? Do they need to recruit more staff and university graduates for this as well as employ international toxicology experts?
10. The Hong Kong Poisons hotline should be updated on the latest research on dermal intake of pesticides and treatment for such.
11. Do Hong Kong Hospitals and their Emergency and Accident departments have sufficient knowledge on toxicological information from pesticide exposure? Do these same departments have sufficient research data on the short term and long term effects from exposure to different pesticides which includes bioaccumulation, long term effects from exposure to mixtures of pesticide and also effects from some pesticides where in some instances their breakdown products are more toxic than in their original form?
12. The long term impact of pesticides on the health of children and the general public should be thoroughly researched with much more funding made available.
13. Does the government possess the facilities to investigate pesticides that may have been sprayed after the event? E.g. Can they determine the original pesticide for say Diazinon from its half-life two weeks after it has been sprayed?
14. Do any Hong Kong hospitals possess tests for the enzyme cholinesterase if someone comes into contact with any of the organophosphate pesticides on their skin? If so which hospitals possess this test?
15. Is there a designated centre for the safe disposal of unused pesticides in Hong Kong? If so this should be advertised to the public.

****Reference to the AFCD 'Pesticides Used for Outdoor Mosquitoes Control booklet' (Page 13 application and purchase section).**

The AFCD points in their booklet are numbered 1 to 7 and I have commented on each one with an (A) for my answer.

1/Choose the least hazardous pesticides that can have an effective treatment

(A) In my experience, sometimes the pesticides that have the most health risks associated with them have been used first and not the least effective or safest treatment used first.

2/Allow only those with proper training to handle pesticides

(A)The pesticide applicators do not have to have a license to spray unlike in the U.K. They can make serious mistakes with their arithmetic and application methods especially in schools.

3/Take all the necessary safety procedures and precautionary measures before, during and after each application.

(A) These are rarely and sometimes never checked in the schools by anyone and the health and safety officers in the school are usually teachers who have no training in pesticides/chemicals.

4/Mix and dilute the required pesticides in a precise manner.

(A) Again the mixing of the pesticides is never checked, the maths of the operator may be poor and pesticides applied can easily be 10 times the recommended concentration. The pesticide itself is also never checked and could be another pesticide especially if one runs out on site. The pest applicator may use a much higher concentration (than the recommended dilution rate) of pesticide to get a good kill rate of pests which may mean repeat business. **Amazingly there is no regulation or monitoring for this dilution of pesticides being used in schools which can increase the health risks several fold.**

5/Post warning signs with all concerned information in appropriate areas.

(A) I have very rarely seen 'warning signs' posted though I have known pesticides have been used in the schools. I have known Diazinon to have been sprayed and the next morning children play and pregnant women sit on seats unaware that this particularly dangerous pesticide is still present and active in their surroundings.

6/Notify the client and/or through the client to affected parties the scheduled application well in advance and provide them with information on the spray activities and all necessary safety measures.

(A)Pesticides which are used in the confines of a school pose a potential health risk and parents who are responsible for the safety of their children (under 16) should be informed that these chemicals are being used around their children. In my experience parents are rarely if ever notified of pesticide spraying in schools. Additionally, some pest control aerosol spray cans contain several pesticides and some contain Permethrin which needs to be assessed for its safety within the classroom especially if it is used on a regular basis for killing insects.

7/Maintain comprehensive records of all pesticide application for a period of at least two years.

(A) In the past, I have asked to see these comprehensive records from the FEHD for spraying for mosquitoes on the boundary of my son's school but I have been told that I cannot have access to these records which I find disconcerting. In fact, comprehensive records of pesticide spraying appear not be readily available anywhere and these should be made freely available and accessible to parents and staff in schools.