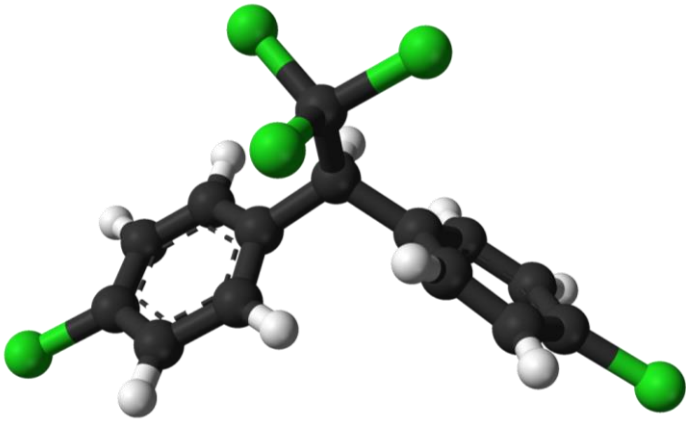

VERIFICATION, CLASSIFICATION AND INVENTORY OF EXISTING STOCKPILES OF PERSISTENT ORGANIC POLLUTANTS (POPS), PESTICIDES AND POLYCHLORINATED BIPHENYLS (PCBS) AND OTHER CHEMICALS TO ENABLE BELIZE TO FULFIL ITS OBLIGATIONS UNDER THE STOCKHOLM CONVENTION ON POPS

FINAL REPORT

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Summary:

We inspected 14 sites identified as possessing stockpiles/quantities of pesticides and other chemicals to inventory and quantify such chemicals. We performed data collection and analysis following FAO guidelines for chemicals inventory taking and data management.

The results indicate that overall the country-wide stockpile consists of ***nearly 24 metric tonnes of DDTs*** at the Western Regional Hospital, plus approximately ***4.3 metric tonnes and nearly 2,000 litres of pesticides***. In addition, there are approximately ***2.2 metric tonnes and 77 L of unknowns, most being unidentified pesticides***. *If unknowns are added (i.e. are treated as pesticides) to the identified pesticides,* ***totals obtained in this study are: 6.4 metric tons and 2,033L of pesticides plus 24 metric tons of DDTs specifically at the MoH site***.

The largest stockpile consists of the 24 metric tons of DDTs at the MoH site at the Western Regional Hospital. The CPBL Barton Creek, Brodies Belmopan , Vector Control Corozal and Fruta Bomba sites possess the largest stockpiles (excluding the DDTs at the MoH site). The CPBL Barton Creek and Vector Control Corozal sites also contained the largest stockpiles of unknowns.

Other than the DDT stockpiles at the Western Regional Hospital there were virtually no pesticides classified as POPs (except for a couple of containers containing under a kg of DDT and aldrin at the PCB storage site in Central Farm). Since the main focus of the *Belize Chemicals Waste and Management Project* is disposal of stockpiles of POPs, funding may not be sufficiently available to DoE to fund the entire disposal of these chemicals. As a result, owners of stockpiles of pesticides will have to recognize this fact and bear the costs to dispose of their stockpiles.

There were also significant quantities of fertilizers and other types of chemicals at some sites. Sites varied considerably in the quality of storage sites, with a few sites being well-designed and organized while the majority need improvement.

We recommend that a reputable company be sought with which to enter into a full-service agreement to export the existing stockpile to a suitable facility abroad for incineration. Depending on funds available to DoE, we recommend that the *polluter pay* concept be applied and owners of the chemicals be responsible to pay for this. We also recommend that although PCBs were not part of this inventory work they be included along with the agrochemicals so that there is a comprehensive disposal

of all existing stockpiles. We further recommend that the Pesticide Control Board establish a mechanism to prevent the future accumulation of stockpiles of pesticides and similar chemicals.

Acronyms and Abbreviations

CGA	Belize Citrus Growers Association
CPBL	Citrus Products of Belize Ltd.
DDT	Dichlorodiphenyltrichloroethane
DOE	Department of the Environment
FAO	Food and Agriculture Organization
GEF	Global Environmental Fund
GOB	Government of Belize
MOH	Ministry of Health
NIP	National Implementation Plan
PCB	Belize Pesticides Control Board
PEG	Project Execution Group
PMU	Project Management Unit
POPs	Persistent Organic Pollutants
PSC	Project Steering Committee
SAICM	Strategic Approach to International Chemicals Management
TOR	Terms of Reference
UNDP	United Nations development Programme
UNEP	United Nations Environment Program
US EPA	US Environmental Protection Agency

Background:

As a signatory to the Stockholm Convention on Persistent Organic Pollutants (POPs), Belize agreed to develop a National Implementation Plan (NIP) detailing plans to deal with these chemicals. As part of the NIP, the country carried out an initial inventory of POPs between 2007 and 2009. Belize has also been actively engaged in projects under the Strategic Approach to International Chemicals Management (SAICM), an international effort aimed at helping countries manage chemicals in a sound way in order to protect health and the environment.

As part of these ongoing efforts, the country is currently executing a project titled *Belize Chemicals Waste and Management Project* which is funded by the UNDP under its GEF program. One of the main goals in the project is to verify, classify and quantify existing stockpiles of POPs and other chemicals. As a result, a request for bids was issued for a consultant to carry out such an exercise.

We were successfully awarded the consultancy and a contract was formally signed between the Department of the Environment (DoE) and Dr. Abel Carrias (Lead Consultant) on October, 30 2015. This Final Report presents the results of the work carried out under the consultancy (deliverables agreed upon). Validation of the report was held on February 16, 2016 and this final report addresses all the recommendations and necessary changes requested by stakeholders.

Deliverables Agreed Upon:

The major deliverables agreed upon for the consultancy were:

1. A Final Report which includes:
    a. An inventory of existing stockpiles of POPs and/or pesticides and unknowns.
    b. Quantification of POPs, pesticides and unknowns in existing stockpiles.
    c. Classification of chemicals in existing stockpiles.
    d. Recommendations on disposal or possible use of chemicals identified in the inventory.
2. Upon completion of the consultancy, deliver a presentation to the PMU, PEG, and key stakeholders to detail the results of the consultancy.

Methodology:

In order to complete the consultancy we took the following approach:

1. The Lead Consultant held an initial meeting with the Project Management Unit (PMU), the Project Steering Committee and DoE personnel. At this meeting we agreed on the scope of the project and obtained initial documents relevant to the consultancy.

2. We met further with DoE personnel to obtain more information (including documents) on existing stockpiles of POPs and pesticides. Developed an initial list of sites possessing stockpiles of pesticides and/or POPs.
3. We contacted key personnel at each of the sites identified as possessing stockpiles of pesticides and/or POPs. Discussions were held to provide details of the objectives of the consultancy, answer questions, and set site visit dates.
4. We carried out a literature search on POPs and pesticides in Belize, with special focus on information on stockpiles (UNEP-FAO, 2015 (Group, 2007) (Avella, E. and Fernandez M., 2006) (Everisto Avella, M. F., Humberto, P., 2008) (Rancharan Juan, 2010)). This was complemented by discussions with authors of previous reports on chemicals management in Belize.
5. We then carried out a comprehensive analysis of all the information obtained and planned site visits.
6. All sites (14 of 14) identified as possessing stockpiles of chemicals were visited. At each site a complete inventory and quantification of all chemicals was completed. Chemicals were divided into pesticides, unknowns, and fertilizers/others. In addition, contaminated containers and other material (e.g. soil) were noted. Photographs were taken of each site as the inventory and quantification was carried out. For this exercise, the Pesticide Form from the FAO Pesticides Stock Management System, approved by the FAO and Stockholm Convention on POPs for inventorying pesticides, was employed after converting to spreadsheet form (Valius, 2012; FAO, 2010). At each site chemicals were sorted out by trade name and the number of units of each was inventoried. Whenever containers were intact with unbroken seals the volumes indicated were accepted, with random confirmation by independent measurement of weights (using a balance) or volumes (using a beaker). In many, if not most, cases we made an initial attempt to repackage chemicals in plastic bags. However, repackaging according to proper guidelines was outside the scope of this consultancy and it should be stressed that prior to any disposal effort many chemicals will have to be repackaged in proper containers.
7. All data generated was input in electronic format using the spreadsheet format employed in #6. In cases where labels were missing or too faded, information regarding active ingredients,

concentrations, etc. Were obtained by internet search. For each site, the total quantities of pesticides, unknowns and fertilizers/others were calculated (in kilograms for solids and litres for liquids).

8. An EXCEL document was prepared with the inventory and quantities at each site (included as Appendix A).
9. A Final Report (this document) was prepared detailing the results of the consultancy, with tables containing the critical inventory information included (i.e. abbreviated versions of the full spreadsheets).

Site Visits and Observations:

Table 1 below provides details of dates of site visits along with some observations regarding storage conditions. These sites were identified prior to the start of the consultancy through the effort of the Pesticide Control Board over several years. These efforts include at least three inventory-taking initiatives for obsolete pesticides involving the Pesticide Control Board.

Table 1. Dates of site visits and some observations regarding storage conditions.

Site	Date(s) visited	Comments
CGA	4/12/2015	Fairly organized storage of chemicals. Chemicals are stored in an adequate storage facility with proper ventilation and restricted access.
CPBL	4/12/2015	During site visit additional chemicals that had not been reported in previous inventories were identified; this made inventory and quantification much more time-consuming than anticipated
Brodies Belize	9/12/2015	Chemicals in boxes on a pallet; well-organized; no ventilation in storage facility; 3 gallon containers not inventoried because according to Dr. Franklin they contain cleaning material and are not part of the stockpile
Brodies Belmopan	21/11/2015	According to store manager there are no chain of custody records, hence no records of when pesticides were purchased. Existing stock has been there since 1995. Chemicals on pallets in concrete building with no windows, but ventilation openings with fans and two large doors.
Agriculture – Yo Creek	11/12/2015	Chemicals stored in a concrete building, cast roof, one sealed window, wooden door with no lock. Drain inside leading outside; potential for

		leaking chemicals getting into the outside environment via drain.
Triple A	12/12/2015	Chemicals are not stored in a dedicated storage facility and instead are stored alongside other store items including pet feeders and pets.
CPBL Barton Creek	12/12/2015 and 13/12/2015	Several severely degraded drums outside shed; solid (powder mostly) chemicals in flimsy plastic bags that made it difficult to weigh quantities as they kept ripping apart; soil contaminated with chemicals; poor organization resulted in a much longer time to inventory and quantify
Fruta Bomba	12/12/2015 and 15/12/2015	Well-organized inventory based on internal monitoring system of purchase and use; have Primus certification which bans use of certain chemicals (US EPA) even if approved in Belize; this accounts partly for large stockpile even if some are not expired; in-house inventory available for cross-referencing
ADS	13/12/2015	Fairly well-organized; fair amount of unknowns
Circle R	15/12/2015	Chemicals fairly well-organized in containers in pallets; a couple of containers were leaking and had to be placed in new plastic containers (unknowns); in-house inventory available for cross-referencing
PCB – Central Farm	16/12/2015 and 22/12/2015	Chemicals were in small room inside small building; while there was some organization, many of the chemicals were in cardboard containers that had essentially disintegrated, making inventory more difficult; in addition, room was extremely dusty (0.5 – 1 in of dust on shelves) and this made the process more time-consuming since we had to do some cleaning prior to and after removing chemicals from shelves and the extremely dusty environment had to be avoided for some time while dust contaminated with leaking chemicals settled; NOTE: we noticed a significant quantity of chemicals discarded on the ground outside the storage shed; we carried out an inventory of these chemicals although Ms Serrut informed the Lead Consultant that such chemicals do not belong to PCB – something we are not in a position to confirm.
MOH – Belmopan (WRH)	17/12/2015, 18/12/2015 and 22/12/2015	Weights on drums did not match weights taken so all drums had to be weighed. Number of drums (230 did

		not match existing inventory). Some drums have already started deteriorating. After the process of quantifying DDTs in drums was complete we were made aware of additional chemicals not found in any previous inventory stored in a room of a building adjacent to the two steel containers in which DDT-containing drums were located; this necessitated a third visit to inventory and quantify these new chemicals; upon completion of inventory we were informed that there were additional pesticides in a storage room in a nearby building – chemicals not previously declared in inventories
Vector Control Corozal	19/12/2015	Site was originally visited on 13/15/2015 but inventory could not be done due to chemicals in trailer being blocked by a large amount of material; no organization of chemicals
Vector Control San Ignacio	21/12/2015	Site was in considerable disarray and MOH was asked to assist by cleaning up the site prior to the inventory.

ADM Mills was initially identified as a site containing PCBs. However, at the meeting held with the DOE and the PMU and PSC on November 6, 2015 to finalize the scope of the consultancy it was highlighted that the repackaging, verification and inventory of the PCB contaminated oil at this site is not under the scope of work of the verification, classification and inventory consultancy. Belize ADM Mills committed to do the chemical analysis, repackaging and verification of the PCB-contaminated oil at company cost. That chemical analysis, repackaging and verification was to be done independently and simultaneously to this verification, classification and inventory consultancy.

We had anticipated that since stakeholders where stockpiles had been identified were fully aware of the particulars of the consultancy (i.e. that we would carry out an inventory and quantification of chemicals) they would all have well-organized sites. This should have included having an appropriate storage area, having chemicals in proper containers (safe, sturdy) properly labelled, grouping chemicals by type, and having an in-house inventory with quantities available for cross-referencing during the site visits. Few sites would qualify as exhibiting good practices in terms of these parameters.

Sites differed dramatically in their state of organization. Some sites were well-organized while others were not in terms of simply how chemicals were stored. At some sites an attempt had been

made to try to place all samples of the same chemical together, or to place chemicals by type in common boxes or common locations. At other sites there had been no attempt made to organize chemicals. Some sites were clean and well-maintained while other sites were not.

Only 5 out of the 14 sites inventoried had well organized, well-packaged, and labelled chemicals. Additionally, the storage units in which these chemicals were stored were adequate, with proper ventilation, restricted access, and chemicals placed on pallets/platforms. The remaining sites ranged from poor to extremely poor storage conditions. As examples, (i) CPBL Barton Creek had a portion of its chemicals scattered in an open shade exposed to the elements (Figure 1), (ii) Corozal Vector Control storage unit is in very degraded conditions (Figure 2), (iii) a large stockpile of chemicals with some containers full were observed outside the storage unit in which PCB stores its chemicals (Figure 3), and (iv)Triple A Agrochemicals is storing its chemicals together with other store items including pet feed and pets for sale at the store (Figure 4). For those 9 sites, efforts were made to separate (known and unknown), repackage into plastic bags, label and organize the chemicals for ease of access and identification for future disposal.

Figure 1. Exposed chemicals in open area at CPBL Barton Creek.

Figure 2. Degraded conditions of storage shed at Corozal Vector Control

Figure 3. Chemicals found discarded on the ground outside storage shed of PCB (Central Farm).

Figure 4. Chemicals stored together with other store items at Triple A Agrochemicals in Orange Walk.

It should be stressed that a comprehensive, credible and independent inventory of this nature must be done item by item, and this means that the degree of site organization will have a profound effect on the time it will take to complete such an inventory which includes quantification. Even at sites exhibiting some degree of organization we found that the time it took to properly inventory existing stockpiles was longer than anticipated, often because the containers in which chemicals were stored were severely degraded and we had to resort to replacing containers and/or re-bagging. These were tasks that we had not anticipated as part of this consultancy, adding time and expenses (for bags, etc.). We stress that we repackaged simply to improve organization and for health reasons. This means we did not use the type of container that would be required for a repackaging effort aimed at transporting these chemicals (this was not within the scope of this consultancy). At sites with little to no organization this process took much longer. The overall result is that the number of days taken to complete the site visits was more than twice that estimated in the proposal. Refer to appendix 1 for pictures that demonstrate the work carried out to clean storage facilities, and the repackaging efforts done to improve organization of chemicals that permitted inventory and quantification of chemicals in a safe working environment.

Our research prior to carrying out the site visits indicated that the MoH site at the Western Regional Hospital contained the largest stockpile of chemicals, several tons of DDTs. Our research also indicated that the stockpile had previously been inventoried, quantified, packaged and stored in drums by a reputable company. Therefore, our initial strategy was to carry out a random sampling of drums to weigh, check and cross-reference with the existing data generated from that consultancy. However, a random check of 12 drums resulted in 6 having weights significantly different than those recorded on them. As a result, all the drums had to be re-weighed as random sampling would not be appropriate statistically. This required more time than had been anticipated. Our inventory also indicated that there are 230 drums in the two containers, not 209 as stated in the previous inventory. The method of storage (in containers) also meant that manpower had to be used to move drums as a forklift could not be used. Thus, the expenses associated with this site (as well as a couple more) were higher than anticipated. In addition, one of the drums showed evidence of considerable degradation since last sealed (Figure 5). Additionally, three drums exhibit a single superficial hole in them, indicating signs of initial degradation of these drums. In the case shown in figure 5, water has seeped into the drum and the DDT inside should be repackaged as soon as possible to prevent overflow of liquid chemical from inside the drums. All indications from a previous report indicate that the DDT at the WRH site is stored in UN-certified drums ready to ship abroad (UNDP-GEF, 2013). Unfortunately, this is only circumstantial evidence given that the report of the prior consultancy that did the repackaging of DDT is not available for reference.

While completing of our inventory and quantification of the DDT stockpile we were informed by the MoH personnel present that there was an additional stockpile of non-DDT pesticides in a room in an adjacent building. This does not appear in any previous inventory. We carried out an inventory of this additional stockpile, which also added time to the exercise.

Upon completion of the inventory on the premises of the Western Regional Hospital we were further informed that there is quite likely an additional stockpile of unused chemicals in Ladyville. We did not inventory that stockpile as the information was received too late

Figure 5. Example of degraded condition of a drum at MoH Belmopan.

The chemical stockpile belonging to the Pesticide Control Board (PCB) shares a storage facility with the Ministry of Agriculture. The storage unit is located in the compounds of the Ministry of Agriculture at Central Farm. The PCB owns the largest number of different chemicals of all sites inventoried. A stockpile of chemicals was found scattered outside the storage unit on the ground. According to Ms. Miriam Serrut these chemicals belong to the Ministry of Agriculture and/or the Taiwanese Agriculture Mission. We inventoried and quantified this stockpile. Additionally, half of the storage unit contain obsolete chemicals belonging to the Ministry of Agriculture. These were not inventoried as requested by the manager of the Chemicals Project Management unit. However, for the purpose of records the chemical stockpile includes a range of pesticides, such as Lazo 48 EC, Atrazine 500 SW, and Dursban WT etc.

Results

Overall Quantities

Tables 2-17 summarise the inventory of pesticides determined in this study. Table 2 presents a summary of totals of pesticides and unknowns (in kilograms for solids and litres for liquids) at each site and overall total for the country. Tables 3 – 17 provide more details per site for pesticides – identity of pesticides identified and quantities of each, active ingredients, type of pesticide, toxicity, etc.

Table 2. Summary of quantities of pesticides and unknowns per site and overall.

SITE	PESTICIDE TOTAL (SOLIDS, kg)[a]	PESTICIDE TOTAL (LIQUIDS, L)[a]	UNKNOWNS TOTAL (SOLIDS)[b]	UNKNOWNS TOTAL (LIQUIDS)[b]
Circle R	107	296		
CPBL	53	420	0.4	1
Triple A	72	70	2.5	2.5
CPBL Barton Creek	1135		1179[c]	
Agric – Yo Creek		148		18.9
Brodies Belize	141	185		
Fruta Bomba	104	477	24.3	
ADS	39	55	0.3	
PCB	236	269	37.5	33
Brodies Belmopan	1128	28		
CGA	1	8		21.2
Vector Control (CZL)	620		772.8	
Vector Control (San Ignacio)	221		13.9	
MoH (DDT)	23,930			
MoH (others)	403		108.8	
TOTAL	**23,930 (MoH DDT) + 4260 (others)**	**1956**	**2139.5**	**76.6**

[a]Values rounded to the nearest kg and L;[b]Values rounded to nearest tenth of kg or L;[c]does not include:1 55-gal drum severely degraded and full of unknown liquid + 1 55-gal drum approx. ¼ full of cupravit packages all deteriorated and liquefied + 2 55-gal drums ½ filled with unknowns in powder form.

Table 2 above shows that, ***in addition to the nearly 24 metric tonnes of DDTs*** at the Western Regional Hospital, there are a total of approximately ***4.3 metric tonnes and nearly 2,000 litres of pesticides*** that must be disposed of in Belize. In addition, there are approximately ***2.2 metric tonnes and 77 L of unknowns***. We stress that most unknowns were in fact pesticides whose identify we could not independently verify due to the degraded nature of containers and labels, although in all likelihood some fertilizers and other types of chemicals are included. ***If unknowns are treated as pesticides,***

totals obtained in this study are: 6.4 metric tons and 2,033L of pesticides plus 24 metric tons of DDTs specifically at the MoH site.

Table 2 shows that Triple A, ADS, and CGA contain the smallest quantities of pesticides. On the other hand, CPBL (both locations), Brodies Belmopan and Vector Control Corozal contain the largest stockpiles. The CPBL Barton Creek and Vector Control Corozal also contain the largest stockpiles of unknowns. Fruta Bomba, PCB and MoH (Western Regional Hospital) are also sites that contain significant quantities of pesticides.

Inventory by Site

Tables 3-17 summarizes the inventories by site, including active ingredients. In a few cases (less than 6) we were unable to determine the active ingredients. This is most likely because those pesticides are no longer manufactured so information on them is not available.

Table 3 shows that Circle R Farms has a total of **108 kg and 297 L of identified pesticides**. There were 34 distinct products identified, of which the majority were insecticides (19), followed by herbicides (9) fungicides (5) and a bactericide (1). These 34 products represent 28 distinct active ingredients, which include several pyrethroids, carbamates, and organophosphates.

Table 4 shows that CPBL Pomona has a total of **53 kg and 420 L of identified pesticides**. There were 13 distinct products identified, including 6 insecticides, 2 fungicides, 2 herbicides, 1 plant regulator and two uncategorized. The 13 products represent 10 distinct active ingredients including pyrethroids, organophosphates, carbamates and triazines.

Table 5 shows that Triple A Farms has a fairly small quantity **72 kg and 70 L of identified pesticides**. There were 25 distinct products identified, including 13 insecticides, 8 herbicides, and 6 fungicides. These products represent 27 distinct active ingredients including pyrethroids, carbamates, and aniline derivatives.

Table 6 shows that CPBL Barton Creek has a stockpile of **1135kg of identified pesticides**. There were 10 distinct products identified, including 10 fungicides and 6 insecticides. These products represent mostly carbamates and organophosphates. It should also be highlighted that a significant fraction of the soil in the open-air shed that contained pesticides was visibly contaminated with pesticides. Approximately half the surface area of a shed approximately 15ft x 30ft was visibly

contaminated. We did not do a thorough investigation on how deep the contamination was. We suggest that this be determined and the soil that is contaminated should be collected and stored in suitable containers (e.g. plastic drums) for disposal. In all likelihood the soil is contaminated with a mixture of various pesticides.

Table 7 shows that the Agriculture – Yo Creek has **148 L of identified pesticides**. This stockpile consisted of one product, the insecticide Futur, an insecticide with thiodicarb as the active ingredient.

Table 8 shows that Brodies Belize has **142 kg and 186 L of identified pesticides**. There were 12 distinct products identified, including 6 insecticides, 3 herbicides and 2 fungicides. These products represent 13 distinct active ingredients including organophosphates, triazines and pyrethroids.

Table 9 shows that Fruta Bomba has **104 kg and 477 L of identified pesticides**. There were 27 distinct products identified, including 13 insecticides, 8 fungicides, and 5 herbicides. These products represent 22 distinct active ingredients including pyrethroids and carbamates.

Table 10 shows that ADS has a small quantity of **40 kg and 56 L of identified pesticides**. There were 17 distinct products identified, including 8 insecticides, 5 herbicides and 3 fungicides. These products represent 14 distinct active ingredients, which include triazines, heteroamides, neonicotinoids and others.

Table 11 shows that the Brodies Belmopan site has a significant stockpile of **1129 kg and 28 L of identified pesticides**. This stockpile is made up of just 3 distinct products, 2 insecticides and 1 fungicide. These products represent 2 carbamates and one organophosphate. The majority of the stockpile at this site is make up by one product (Temik), of which there is over one metric ton.

Table 12 shows that CGA has **1 kg and 8 L of identified pesticides**. This small stockpile consists of 2 distinct products, one herbicide and one fungicide, containing 3 distinct active ingredients, two carboxylic acid derivatives and one carbamate.

Table 13 shows that the Vector Control Corozal site has a significant stockpile of **620 kg of identified pesticides**. This stockpile is made up of just 3 distinct products, 2 insecticides and 1 larvicide. The three pesticides contain two active ingredients, one pyrethroid and one organophosphate.

Table 14 shows that the Vector Control San Ignacio site has a stockpile of **221 kg of identified pesticides**. The stockpile is made up of 5 distinct products, all insecticides. The 5 distinct products contain 4 active ingredients, two pyrethroids, one organophosphate and one bacterial organisms.

Table 15 shows that the Ministry of Health site at the Western Regional Hospital has a stockpile of **403 kg of non-DDT identified pesticides**. This stockpile consists of 3 distinct products (all insecticides) containing two active ingredients a pyrethroid and an organophosphate. Of the stockpile, 375 kg is made up of the pyrethroids.

Table 16 shows that the same Ministry of Health site at the Western Regional Hospital has a stockpile of **24 metric tons of DDTs plus 150 kg consisting of recovered spilled DDT and DDT-contaminated packaging material**.

Table 17 shows that the Pesticide Control Board (PCB) site has a stockpile of **236 kg and 270 L of identified pesticides**. Although not possessing the largest stockpile, the PCB site has the most variety in terms of distinct products and active ingredients. The stockpile consisted of over 100 distinct products and nearly 100 active ingredients (over one-half of which are insecticides).

Active Ingredients

Table 18 provides a list of the active ingredients identified in this study. Of particular interest are those that are clearly persistent organic pollutants (POPs) and therefore included in the Stockholm Convention on Persistent Organic Pollutants. As a signatory to that treaty, Belize is under obligation to dispose of any stockpiles in these chemicals.

Unknowns

At some locations there were considerable quantities of chemicals that could not be identified due to the degraded nature of the containers, especially labels. In fact, at CPBL Barton Creek and Vector Control Corozal the quantities of unknowns were larger than the quantities of identified pesticides. At the MoH site (Western Regional Hospital) the quantity of unknown chemicals was significant relative to the quantity of identified pesticides. The vast majority of what we have classified as unknowns are pesticides whose identity we could not independently ascertain. That is, the owners felt certain of the identity and the types of containers supports their assertions but the containers and/or labels were too degraded to identify them. In a very limited number of cases pesticides and fertilizers were stored together and it is possible that a small fraction of what we have classified as unknowns may be

fertilizers. This situation points out to the need for owners of pesticides and fertilizers to practice good management of these chemicals.

Although we are aware of the fact that it is more costly to dispose of unknown chemicals than known ones, since we know for a fact that the overwhelming majority of unknowns are in fact pesticides, **it is our recommendation that unknowns be treated as pesticides and be included for disposal with pesticides**.

The caveat to this recommendation is that it depends on (i) if a disposal company can be found willing to accept unknowns and (ii) the cost of disposing of unknowns is not prohibitive. If these two conditions cannot be met then it is our recommendation that **unknowns first be tested to ascertain their identity, with the cost borne by the owners of the chemicals**. It is only fair that the *polluter pays* principle be applied. We suggest to owners that it is in their interest to take advantage of the subsidized cost to dispose of these chemicals while the Department of the Environment is able to fund the some of the disposal costs. The alternative is that owners should pay for the total costs of disposal (testing of unknowns, repackaging, pickup, transportation abroad, and costs of final disposal).

Usability

One of the tasks we were asked to address in carrying out the inventory and quantification exercise was to determine whether any chemicals in the existing stockpiles are still usable. Initially we attempted to examine chemicals item by item to determine if each seemed usable based on its condition. This became too time-consuming, however. We realized after the first couple of site visits that this would add too much time to the work. More importantly, this information is not significant enough to merit the time taken to obtain it. Consider that in every single case where information on expiration date was available the chemical had already exceeded this date. Usability is not simply a factor of whether the chemical "looks" good. It is also necessary to have a deeper understanding of the nature of the chemical to know how far beyond the expiration date a chemical can still exert its chemical effects. Since in the majority of cases expiration dates were unavailable it is difficult to really know if a given chemical is still usable. FAO guidelines specifically call for sampling in the case of unknowns or visibly deteriorated chemicals to determine usability. This was beyond the scope and funding available for this consultancy.

Usability is of course related to whether the pesticide is obsolete. The relationship is not necessarily a positive one, however. For example, while a pesticide may look perfectly usable (i.e. it does not look degraded or deteriorated), it may still be obsolete because since it has been in storage regulations have changed and it is now prohibited; or despite looking usable the pesticide may have undergone chemical changes due to storage conditions which have affected its properties. Normally, unless stated otherwise, pesticides have a shelf life of two years after their date of release during which the manufacturer guarantees their quality as long as they are stored as per instructions. Past studies have, however, shown that the pesticides studied were still usable up to 5 or 7 years after storage. It must be remembered, however, that the opposite can happen – pesticides become obsolete (not usable) before their expected shelf life due to improper storage conditions.

Another important consideration centres on the importance of the overall goals of the Belize Chemicals and Waste Management Project under which this consultancy was funded. To our knowledge this represents the first time that there has been a comprehensive effort aiming at the proper disposal and environmentally sound management of chemicals and waste, including POPs, and the reduction of releases of unintentional POPs into Belize's environment. The project priority is the disposal of existing stockpiles of POPs in the country. It is our recommendation that **this involve disposal of *all* chemicals in the current stockpile to allow the country a "fresh start" with regards to chemicals management**. The caveat to this recommendation is that this recommendation is dependent on the funds available to the Department of the Environment. **If these funds are sufficient, then we stand by this recommendation. If not, our recommendation is that, based on the *polluter pays* concept, owners of these chemicals should bear the costs of disposal**. The strategy should then be to ensure that mechanisms are put in place to ***prevent*** the future accumulation of stockpiles of pesticides as well as any chemicals.

Fertilizers, adjuvants, growth promoters, and other non-agricultural chemicals

Significant amounts of fertilizers, adjuvants, growth promotors and non-agricultural chemicals were observed in various sites visited. Sites with notable stockpiles of non-agricultural chemicals include CPBL Stann Creek (industrial chemicals), CPBL Barton Creek (fertilizers, adjuvants, growth promoters), and Fruta Bomba (fertilizers, adjuvants, growth promotors, growth regulators, laboratory chemicals). Note that Fruta Bomba is willing to donate usable laboratory chemicals to schools interested. Also, some of these chemicals have toxic labels. Those that have a toxic label were also included in the inventory.

Although this consultancy required us to inventory and quantify POPs and pesticides only, we have included fertilizers and other chemicals in the inventory of each site. The spreadsheets generated for each site (Appendix A) shows identities and quantities of these chemicals at each site.

Evaluation of Data

FAO guidelines suggest that chemicals should be divided into four categories:

1) Obsolete chemicals that require disposal.
    a. These include pesticides and other chemicals which have been banned or have visibly degraded.
2) Chemicals that should be tested further to determine usability.
    a. These include unknowns and chemicals that visibly do not seem degraded but for which there is no information on expiration date.
3) Chemicals that are still usable.
    a. These include those chemicals that have not degraded visibly, are still within manufacturers's shelf life guidelines, and are still permitted for use in the country.
4) Chemicals that may be come usable again after reformulation.

In is our considered opinion that the quantities of chemicals do not warrant this approach. Instead, as stated previously, we recommend that ***all*** chemicals inventoried and quantified in this study be slated for disposal and ***preventative*** policies/mechanisms be set up to prevent accumulation of stockpiles in the future. **Depending on funding available to DoE, we recommend that the *polluter pays* concept and owners of the chemicals bear the cost of disposal (including repackaging, transportation, and if needed testing of unknowns).**

Disposal of Stockpile

Preferred methods to dispose of stockpiles of pesticides include: Large-scale fixed incineration, small-scale fixed incineration, mobile incineration, and use of a cement kiln. All of these methods are not available in Belize or would be cost-prohibitive considering the quantities of chemicals. The most viable option is to hire a reputable company to dispose of the overall stockpile outside of Belize. We recommend that due diligence is used to identify a company that agrees to a full-service arrangement to

dispose of the stockpile. This is critical because generally the owner of the waste remains responsible for the waste until the waste has been accepted at the incineration site. If for any reason the waste is rejected by the incinerator the owner is responsible for transporting back to the country of origin. On the other hand, a full-service company becomes responsible for inspecting the stockpile, repackaging to accepted international standards, transportation according to accepted standards, and ensuring that the stockpile is accepted at the incineration site.

In some cases chemicals may be subjected to chemical treatment to convert functional groups to less toxic ones and which are safer to store, transport and dispose. This is impractical in Belize due to lack of suitable laboratory conditions for a process which can be difficult and dangerous, requires specialized scientific skills and equipment. In addition, chemical treatment does not affect the organic solvents used in the formulation processes and the solvents must still be disposed of in an appropriate manner (note that chemical treatment in general produces larger quantities of waste that is less toxic but still has to be disposed of). In short, there is no advantage in subjecting the stockpiles of chemicals to chemical treatment.

We must be clear that our recommendation that the entire stockpile in the country be subjected to disposal must factor in the issue of disposal of unknowns. There are some companies that will agree to dispose of unknowns, but at a higher cost than knowns. There are many companies, however, who will not accept unknowns for final disposal, in which case unknowns must be tested to confirm their identity. If testing is necessary, clearly the owners of the chemicals must bear the costs.

Polychlorinated Biphenyls (PCBs)

Although we were not required to inventory and quantify PCBs at the ADMsite, it is important that these chemicals be included in any comprehensive, country-wide chemicals disposal initiative. ADM should be required to have its stockpile of PCBs properly stored for disposal. This stockpile should be included along with the agrochemicals stockpile inventoried in this consultancy in any contract for disposal.

Recommendations

Major recommendations resulting from this consultancy are:

1) ***All*** pesticides inventoried and quantified in this study should be considered obsolete and slated for disposal. While this is our recommendation, we do recognize financial limitations may prevent this. Therefore, if all pesticides cannot be disposed, we recommend that DoE and PCB partner to look at each site on a case by case basis, and if agreement can be reached on which chemicals are still within shelf life, these be donated to recipients suitably identified.

2) Prior to any disposal effort, many chemicals will have to be repackaged in proper containers according to proper guidelines.

3) Chemicals that could not be identified due to degraded containers and missing/unreadable labels should be treated as pesticides for the reasons detailed previously.

4) Contaminated material such as containers and bags (see Appendix A - spreadsheets with complete inventories at each site) should be disposed of in the same manner as pesticides.

5) A suitable company should be identified with which to enter into a full-service agreement to dispose of the stockpile by exporting it to another country where the chemicals may be incinerated in a suitable incinerator. Given that chemical owners have been promised of such an exercise multiple times in the past, this activity should be performed as soon as possible to avoid chemical owners losing their trust in relevant authorities and deciding to dispose or use obsolete chemicals without proper authorization.

6) Depending on funding available to DoE, we recommend that the *polluter pays* concept and owners of the chemicals bear the cost of disposal (including repackaging, transportation, and if needed testing of unknowns).

7) If unknowns are to be subjected for disposal, the unknowns are to be tested to verify its respective composition and be properly identify the chemical.

8) The PCB should set up a mechanism to prevent the future accumulation of stockpiles of pesticides. This mechanism should include: (i) ensuring that at the time of importation or

reformulation, the importer and reformulator must provide PCB with expiration dates; (ii) monitoring expiration dates by PCB with updates from importer/reformulator to keep track of fate of pesticides imported/reformulated; (iii) site visits by PCB to major users/importers/reformulators of pesticides to ensure stockpiles of expired chemicals are not accumulated; (iv) placing financial burden for disposal on the user/importer/reformulator. We wish to be clear that ultimately it is the owners of chemicals who are responsible for ensuring that they do not accumulate stockpiles. The PCB's function should be to facilitate this but the ultimate responsibility can only rest with owners.

9) Set up a mechanism in which PCB can serve as the intermediary whereby large importers can donate pesticides (as well as fertilizers, etc.) that they will not use to be used by approved entities (i.e. government agriculture projects, agriculture schools, etc.).

10) Storage sites by recognized major users of pesticides must be approved and periodically inspected by PCB.

11) Upon discussion with various stakeholders that own and handle chemical stockpiles, it is clear that several of them can benefit from proper training in various aspects of chemicals handling and management including but not limited to: (i) chemicals handling safety; (ii) proper personal protection for handling chemicals; (iIi) proper storage of chemicals; (iv) environmental impacts associated with release of chemicals into the environment; (v) penalties prescribed under pertinent legislation for unauthorized disposal of chemicals, etc. We recommend that PCB set up a system requiring that all major users (e.g. large farms, reformulators) receive certification on pesticide management which must be periodically renewed (much along the way universities in developed countries require that all persons working in research laboratories be certified to handle hazardous chemicals yearly). This would be a good complement to ongoing efforts to educate farmers in general.

12) We recommend that ADM inventory its stockpile of PCBs and have them stored properly with a view to disposal. We recommend that the PCBs be included with the agrochemicals stockpile inventoried in this consultancy for a comprehensive disposal of all chemicals in Belize

Table 3. Pesticide inventory for Circle R Farms.

Commercial Name	Active Ingredient	AI conc	Primary/sec Chem Hazard	Physical form	Container type	Container material	Seal intact?	Size	Unit	# of cont or units	TOTAL QUANTITIES	PESTICIDE TYPE
Cypersul 25 EC	cypermethrin	25%	mod hazardous	liquid	bottle	plastic	no	1	L	1	1L	insecticide
Vertimec 1.8 EC	abamectin	1.80%	mod hazardous	liquid	bottle	plastic	yes	1	L	72	72L	insecticide
Sencor	metribuzin	70%	slightly toxic	powder	sack	plastic	y=3, n=1	20	kg	4	80kg	herbicide
Delta M 2-5%	deltametrin	2.50%	toxic	liquid	bottle	plastic	yes	1	L	30	30L	insecticide
Semevin 35 FS	thiodicarb	35%	mod toxic	liquid	bottle	plastic	yes	500	mL	13	6.5L	insecticide
Nudvin 90 SP	methomyl	90%	highly toxic	powder	packets	Al	yes	100	gr	9	0.9kg	insecticide
Vydate L	Oxamyl	24%	extremely toxic	liquid	bottle	plastic	yes	500	mL	*1*	*0.5l*	*insecticide*
Bravo 72 SC	chlorothalonil	72%	mod toxic	liquid	bottle	plastic	yes	1	L	4	4L	fungicide
Neem X 04	azadirachtin	0.40%	slightly toxic	liquid	bottle	plastic	yes	1	L	3	3L	insecticide
Acaristop 50 SC	clofentezine	50%	slightly toxic	liquid	bottle	plastic	yes	100	mL	5	0.5L	insecticide
Pegasus 50 SC	diafenthurion	50%	mod hazardous	liquid	bottle	plastic	yes	1	L	6	6L	insecticide
Baytroid 2,5 EC	cyfluthrin	2.50%	mod hazardous	liquid	bottle	plastic	yes	1	L	1	1L	insecticide
Tamaron 60 SL	methamidophos	60%	highly toxic	liquid	bottle	plastic	no	1	L	5	3.51L	insecticide
Actara 25 WG	thiamethoxam	25%			bag	plastic	yes	500	gr	15	7.15kg	insecticide
Kendo 2.5 EL	λ-cyhalothrin	2.50%	mod hazardous	liquid	bottle	plastic	yes	1	L	15	15L	insecticide
Larvin 37,5 SC	thiodicarb	37.50%	highly toxic	liquid	bottle	plastic	yes	1	L	9	9L	insecticide
Flex 25 SL	fomesafen	25%	slightly toxic	liquid	bottle	plastic	no	500	mL	1	0.25L	herbicide
NewMectin 1.8 CE	abamectin	1.80%	slightly toxic	liquid	bottle	plastic	no	1	L	2	2L	insecticide
Lannate 21.6 SL	methomyl	21.60%	highly toxic	liquid	bottle	plastic	yes	1	L	3	2.5L	insecticide
Sulban 48 EC	chlorpyrifos	48%	highly toxic	liquid	bottle	plastic	yes	1	L	2	2L	insecticide
Insection	malathion	4%	slightly toxic	powder	bag	plastic	no	2	lbs	12	10.9 kg	insecticide
Insection	malathion		slightly toxic	liquid	bottle	plastic	no	1	L	1	0.5L	insecticide
Lazo 48EC	Alachlor	15%	mod dangerous	liquid	bottle	plastic	no	1	qt	12	11.4L	herbicide
Ronstar 38 EC	oxadiazon	38%	hazardous	liquid	bottle	plastic	yes	1	L	3	20.6L	herbicide
Reglone 20 SL	diquat	20%	mod toxic	liquid	gallon	plastic	yes	5	L	1	5L	herbicide
Diuron 80 SC	Diuron	80%	slightly toxic	liquid	bottle	plastic	yes	1	gal	2	7.6L	herbicide
Prowl 45,5 CS	pendimethalin	45.50%	slightly toxic	liquid	bottle	plastic	yes	9.46	L	1	9.5L	herbicide
Aura 20 EC	profoxydim	20%	slightly toxic	liquid	bottle	plastic	yes	1	L	1	1L	herbicide
Rimaxone	paraquat	20%	mod hazardous	liquid	bottle	plastic	no	18.6	L	1	18.6L	herbicide
Knight 72 SC	chlorothalonil	72%	mod toxic	liquid	bottle	plastic	yes	1	L	39	39L	fungicide
Sico 25 EC	difeconazole	25%	slightly toxic	liquid	bottle	plastic	yes	1	L	30	30L	fungicide
Amistar	azoxystrobin	80%	slightly toxic	powder	bottle	plastic	no	5	lb	1	2.2KG	fungicide
Cycosin 50 SC	thiophamate me	50%	slightly toxic	liquid	bottle	plastic	yes	1	L	2	2L	fungicide
Agrimycin 16,5 WD	streptomycin, terramycin	15;1.5%	rel non-toxic	hardened powder	can	metal	yes	1000	gr	6	6kg	bactericide

TOTAL		**296.48L + 107.15kg**	

Table 4. Pesticide inventory for CPBL.

Commercial Name	Active Ingredient	AI conc	Primary/sec Chem Hazard	Physical form	Container type	Container material	Seal intact?	Size	Unit	%Full	Condition of containers	# of cont or units	TOTAL QUANTITIES	PESTICIDE TYPE
Carbaryl 4L	carbaryl	43.4%	mod-very toxic	liquid	gallon	plastic	no	2.5	gal	3=100, 1=80	3=intact, 1=poor (solidified liq)	4	36L	insecticide
Folar 46 SC	terbutylazine + glyphosate	34, 12%	toxic	liquid	gallon	plastic	no	2	L	100	intact	2	4L	herbicide
Ethrel 480 SL	Ethephon	40.0%	slightly toxic	liquid	gallon	plastic	no				varied	2	7.3l	plant growth regulator
Procron	monocrotophos	60.0%	highly toxic	thick liq	bottle	plastic		1	L	100		5	304L	insecticide
Ametryne 500 G/L	Ametryn	50.0%	slightly toxic	liquid	gallon	plastic	no	2.5	gal	100	good	5	45L	herbicide
Zendunn 800 SC				liq, solid. liq	gallon	plastic	no	5	gal	100	good	2	18.6L + 17.3 kg	
Vapam	dithiocarbamate	42.0%	highly toxic	liquid	gallon	plastic	no	1	gal	100	intact	1	3.8L	insecticide
Talstar 10 EC	bifenthrin	10.0%	toxic	liquid	bottle	plastic	no	1	L	<100	intact	1	0.4L	insecticide
Choice OT #41766	salts of propionic, hydroxycarboxylic, polyacrylic acids; $(NH_4)_2SO_4$; PO_4^{3-} ester			liquid	bottle	plastic		250	mL	100	intact	1	0.25L	
Phyton	copper sulphate		highly toxic	liquid	bottle	plastic		1	L				1L	fungicide
Manzate	Ethylenebis-dithiocarbamate	75.0%	low toxicity	solid	bags	paper					v. poor (1 destroyed)	2	2.7kg	fungicide
Mix of Talstar + Bidemil + Blitz	bifenthrin + deltamethrin		toxic	sol + liq mix	bottles	plastic							33.2kg	
TOTAL													**420L + 53.2 kg**	

Table 5. Pesticide inventory for Triple A Farms.

Commercial name	Active Ingredient	AI conc	Primary/sec Chem Hazard	Physical form	Container type	Container material	Seal intact?	Size	Unit	%Full	Condition of containers	# of cont or Units	TOTAL QUANTITIES	PESTICIDE TYPE
Durex 80 WP	diuron	80%	slightly toxic										2kg	herbicide
Sencor 70 WP	metribuzin	70%	slightly toxic	powder	bags	plastic	yes	50	gr	100	good, dirty	9	0.45kg	herbicide
Actara 25 WG	thiamexotham	25%	very toxic	granular	bags	Al	yes	150	gr	100	good	1	0.15kg	insecticide
Lannate 90 SP	methomyl	90%	highly toxic	powder	box	cardboard	no	100	gr	100	good	84	8.4kg	insecticide
Derby 75 WG	Florasulam, flumetsulam	75%	slight-mod toxic	granular	bottle	plastic	yes	250	gr	100	intact	6	1.5kg	herbicide
Sunmethalin 50EC	pendimethalin	50%	slightly toxic	liquid	bottle	plastic	yes	1	L	100	intact	1	1L	insecticide
Neem X	azadirachtin		slightly toxic	liquid	bottle	plastic	yes	500	mL	100		1	0.5L	insecticide
DilIgent 72 WP	metalaxyl + mancozeb	8 + 64%	slightly toxic	powder	bags	Al	yes	1	kg	100	intact	1	1kg	fungicide
Lubaflua 15 EC	fluazifop p-methyl	15%	slightly toxic	liquid	bottle	plastic	yes	1	L	100	intact	43	43L	herbicide
NewBt 6-4WP	bac thuringensis vr kurstakey	6.4%	slightly toxic	powder	bags	plastic/Al	yes	250	gr	100	intact	6	1.5kg	insecticide
Positron Duo 69 WP	propineb + iprovalicarb	60+9%	slightly toxic	powder	bags	Al	yes	750	gr	100	good	3	2.25kg	fungicide
Sunomyl 50 WP	benomyl	50%	slightly toxic	powder	bags	Al	yes	500	gr	100	good	15	7.5kg	fungicide
Amigan 65 WG	ametryne + terbutrine	40+25%	slightly toxic	granular	bags	plastic	no	1	kg	100	torn bag	1	1kg	herbicide
Nikosam 75 WG	nicosulfuron	75%	slightly toxic	granular	bags	Al	no	40	gr	<100	most bags torn	19	0.76kg	herbicide
Dual Gold 96 EC	s-metolachlor	96%	slightly toxic	liquid	bottle	plastic	yes	1	L	100	good	4	4L	herbicide
Sultron 725	elemental S	52%	slightly toxic	liquid	bottle	plastic	yes	1	L	100	good	2	2L	fungicide
Acaristop 50 SC	clofentezine	50%	slightly toxic	liquid	bottle	plastic	yes	100	mL	100	good	2	0.2L	insecticide
Accent 75 WG	nicosulfuron	75%	slightly toxic	powder	bags	Al	yes	36	gr	100	good: (6), torn (3)	9	0.324kg	herbicide
Atom 2.5 EC	deltamethrin	2.5%	mod hazardous	liquid	bottle	plastic	yes	250	mL	100	good	34	8.5L	insecticide
Atom 2.5 EC	deltamethrin	2.5%	mod hazardous	liquid	bottle	plastic	yes	1	L	100	intact	7	7L	insecticide
Caracolex 5.95 RB	metaldehyde + methiocarb + methomyl	5.95%	slightly toxic	granules	bags	Al	yes	400	gr	100	deteriorated	11	4.4kg	molluscicide
Carbaryl 80 WP	carbaryl	80%	mod toxic	powder	bags	Al	yes	450	gr	100	intact	4	1.8kg	insecticide
Sagol	copper oleate	22%	slightly toxic	liquid	bottle	plastic	yes	1	L	100	good	*1*	1L	fungicide

Acaramic 1.8 EC	abamectin	1.8%	Rap dangerous	liquid	bottle	plastic	yes	1	L	100	intact	1	1L	insecticide
Acaramic 1.8 EC	abamectin	1.8%	Rap dangerous	liquid	bottle	plastic	yes	250	mL	100	intact	7	1.75L	insecticide
Vondozep 80WP	mancozeb	80%	slightly toxic	powder	bags	plastic	yes	2	lb	100	good	38	33.8kg	fungicide
ACE 20 SP	acetamidrid	20%	highly toxic	powder	bags	Al	yes	500; 100	gr	100; 100	good; good	10; 2	5.2kg	insecticide
TOTAL													**72kg + 70L**	

Table 6. Pesticide inventory for CPBL Barton Creek.

Commercial name	Active Ingredient	AI Conc	Primary/sec Chem Hazard	Physical form	Container type	Container material	Seal intact?	Size	Unit	%Full	Condition of containers	# of cont or Units	TOTAL QUANTITIES	PESTICIDE TYPE
Temik 15 G	aldicarb	15%	extremely toxic	powder, not solidified	bag	paper	some	5	kg	100	surface damage	2	10kg	insecticide
Temik	aldicarb		extremely toxic		bag	paper							17kg	insecticide
Vifolatan 50 HP	captafol		slightly toxic										364kg	fungicide
Vifolatan 50 HP	captafol	50%	slightly toxic	white powder (not solidified)	bags	paper w plastic liner inside	no	25	kg	<100	damaged	9	205kg	fungicide
Vifolatan 50 HP	captafol		slightly toxic	white powder (not solidified)	bags	paper						2	75kg	fungicide
Vifolatan 50 HP	captafol	50%	slightly toxic	white powder (not solidified)	bags	paper	no	25	kg	100	intact	2	50kg	fungicide
mix of Disyston & Temik	disulfuton + aldicarb	15+ 15%	extremely toxic		bags							2	57.8kg	insecticide
Aliette 80 WP	fostyl-Al	80%	slightly toxic	powder (solidified)	bags	Al	no	1	kg	35=100; 3 not	deteriorated	38	37.5kg	insecticide
Disyston 10 GR	disulfuton	10%	extremely toxic	granule	bags	plastic	1=y, 1=n	25	kg	100	1 intact, 1 deteriorated	2	50kg	insecticide
Benlate 80 WP	thiophanate methyl	50%	slightly toxic	powder	box	cardboard	yes	1	kg	100	35 intact, 19-surface damaged	54	54kg	fungicide
Manzate 80 WP	mancozeb	80%	slightly toxic	powder	bag	Al	yes	1	kg	100	32 intact, 1 w/hole	33	33kg	fungicide
Manzate 200 WP	mancozeb	80%	slightly toxic	solidified powder	bags	paper	no					3	82.7kg	fungicide
Captan 50 W	captan	48.9%	slightly toxic	white powder (not solidified)	bags	paper	no	5	lbs	<100	damaged		30.9kg	fungicide
Insection 4 DP	malathion		mod toxic		bags	paper							21.3kg	insecticide
Antracol 70 WP	propineb	70%	slightly toxic	solid powder	bags	nylon	yes	908	gr	100	intact	7	6.4kg	fungicide
Bravo (in drum)	chlorothalonil	40%	slightly toxic		gallons	plastic							40kg	fungicide
TOTAL													**1134.6kg**	

Table 7. Pesticide inventory for Agriculture Dept. – Yo Creek.

Commercial name	Active Ingredient	AI conc	Primary/sec Chem Hazard	Physical form	Container type	Container material	Seal intact	Size	Unit	%Full	Condition of containers	# of cont or Units	TOTAL QUANTITIES	PESTICIDE TYPE
Futur 300	thiodicarb	30%	mod toxic	solidified	bottle	plastic	yes	1	L	100	intact, label deteriorated	88	88 L	insecticide
Futur 300	thiodicarb	30%	mod toxic	solidified	bottle	plastic	yes	5	L	100		12	60 L	insecticide
TOTALS													**148 L**	

Table 8. Pesticide inventory for Brodies Belize.

Commercial name	Active Ingredient	AI conc	Primary/sec Chem Hazard	Physical form	Container type	Container material	Seal intact?	Size	Unit	%Full	Condition of containers	# of cont or units	TOTAL QUANTITIES	PESTICIDE TYPE
Actellic 50 EC	Tech methyl primiphos	50%	slightly toxic	Liquid,settled solids)	bottle	plastic	yes	1	L	100	surface dirty, intact	108	108 L	insecticide
Sagaz 1.0% EC	λ-cyhalothrin	1%	slightly toxic	liquid	bottle	plastic	yes	1	L	100	surface dirty	18	18 L	insecticide
Aliette WDG	Al tris(o-ethyl) phosphonate	80%	slightly toxic	WDG solidified	bags	paper	no	5	lb	<100	damaged	4	7.4 kg	fungicide
Fusilade 11	butylfluazipop	12.5%	slightly toxic	liquid	bottle	plastic	yes	1	L	100	intact	5	5 L	herbicide
Tamaron	methamidophos		highly toxic		bottle		no	1	L	2=100, 2<100		4	2.6 L	insecticide
Tamaron 600 SL	methamidophos		highly toxic	liquid	bottle	plastic	yes	1	L	100	intact	5	5 L	insecticide
Tamaron 600 SL	methamidophos		highly toxic	liquid	bottle	plastic	yes	1	L	100	intact	5	5 L	insecticide
Folar 46 SC	terbutylzine + glyphosate	34, 12%	highly toxic	liquid	gallon	plastic	yes	5	L	100	good	4	4 L	herbicide
Gesapax 80 WG	amethryne	80%	highly toxic	WG	bags	plastic	yes	2	lb	100	10 good	11	9.8 kg	herbicide
Folidol M-2D	methyl parathion	2%	highly toxic	dry powder	bags	plastic	yes	1	lb	2=100, 1=open	2 intact, 1 open	3	1.2 kg	insecticide
P.I.	pyrethrin + PBO	0.5, 4%	highly toxic	liquid	gallon	plastic	yes	1	gal	100	good	9	34 L	insecticide
Actellic	pirimiphos me	2%	slightly toxic	powder	packets	plastic	yes	100	g	100	fair to good	367	36.7 kg	insecticide
Dexol	diazinon	5%	toxic	granular	bags	Al	39 intact, 5 torn	4	lbs	100	Poor outside, Al seal inside	44	78.2 kg	insecticide
Antracol 70 WP	propineb	70%	slightly toxic	solidified	bags	plastic	yes	2	lb	100	deteriorated	9	8 kg	fungicide
Karate 8.3 EC	λ-cyhalothrin	8.33%	mod toxic	liquid	bottle	plastic	yes	1	L	100	good	3	3 L	insecticide
TOTAL													**184.6 L +**	

													141.3 kg	

Table 9. Pesticide inventory for Fruta Bomba.

Commercial name	**Active Ingredient**	**AI conc**	**Primary/sec Chem Hazard**	**Physical form**	**Container type**	**Container material**	**Seal Intact?**	**Size**	**%Full**	**Condition of containers**	**# of cont or Units**	**TOTAL QUANTITIES**	**PESTICIDE TYPE**
Phyton 6,6 SL	metallic Cu	7%	slightly toxic	liquid	bottle	plastic	yes	500 mL	100	intact	1	0.5 L	fungicide
Gemelos	paraquat + diuron	27.6+10%	highly toxic	liquid	bottle	plastic	yes	0.9 L	100	intact	1	0.9 L	herbicide
Polfax	paraquat + diuron	25+8.86%	highly toxic	liquid	bottle	plastic	yes	900 mL	100	intact	1	0.9 L	herbicide
Sultron	elemental S		slightly toxic	liquid	gallons + bottles	plastic	no	20, 50, 3 L	100	good	25	441 L	fungicide
Treflen FHP	trifluralin	44.6%	mod toxic	liquid	bottle	plastic	no	1 L	100	good	1	1L	herbicide
Bravo	chlorothalonil		mod toxic	powder	bag	plastic	no	13 lbs			1	5.8 kg	fungicide
Flint 50 WG	trifloxystrobin	50%	slightly toxic	powder	packets	Al	yes	100 gr	100	fair	13	3.9 kg	fungicide
Bankit 25 SC	azoxystrobin	25%	slightly toxic	liquid	gallon	plastic	yes	20 L		fair	1	20 L	fungicide
Sunquil				powder	bag	plastic	no	4.5 lbs		poor	1	2 kg	
Trimax	imidacloprid		mod toxic	solid	bag	plastic	yes	3.8 lbs	100	very poor	1	1.7 kg	insecticide
Rescate	acetamiprid		slightly toxic		bag	Al					1	0.4 kg	insecticide
Confidor	imidacloprid		mod toxic		bag	Al					1	1.4 kg	insecticide
Plural 20 OD	imidacloprid	20%	slightly toxic	liquid	bottle	plastic	yes	100 mL	100	poor	5	0.5 L	insecticide
Acaramik 1.8 EC	abamectin	1.8%	mod toxic	liquid	bottle	plastic	yes	1 L	100	poor	3	3 L	insecticide
Lannate	methomyl	90%	mod - highly toxic	liquid	bottle	plastic	no	1 L		poor	1	0.25L	insecticide
Lannate	methomyl	90%	highly toxic	powder	packets	Al	yes	100, 800 gr	100	fair	13	2 kg	insecticide
Actara 25 WG	thiamethoxam	25%	very toxic	granules	bags	Al	yes	500 gr	100	fair	4	2 kg	insecticide
Montana 2F	imidacloprid	22%	mod toxic	liquid	gallon	plastic	yes	1 gal	100	poor	1	3.8 L	insecticide
Goal Tender 48 SC	oxyfluorfen	48%	slightly - mod toxic	liquid	bottle	plastic	no	100 mL		fair	1	0.1 L	herbicide
Frontier 2X	Dimethenamid-P	63.9%	slightly toxic	liquid	bottle	plastic	no	0.5 L		fair	1	0.5 L	herbicide
Oportune 25 SC	buprofezin	25%	mod toxic	liquid	bottle	plastic	no	1 L	100	fair	3	2 L	insecticide
Decis 2.5 EC	deltamethrin	2.5%	highly toxic	liquid	bottle	plastic	yes	1 L	100	good	1	1 L	insecticide
Metonate 40 PS	methomyl	40%	highly toxic	powder	bag	plastic		1 lb	100	bad	2	1.7 kg	insecticide
Helmethrin 25 WP	permethrin	25%	mod toxic	powder	bucket	plastic	yes	1 kg	100	fair	1	1 kg	insecticide
Caracolex 5.95 RB	Methaldehyde +Methiocarb +Methomyl	6%	slightly toxic	granules	bags	plastic	no				4	71.7 kg	insecticide

Benomilo Promyl 50 PH	benomyl	50%	slightly toxic	powder	bags	plastic	yes	1 kg	100	fair	9	9 kg	fungicide
Vondozeb	mancozeb		slightly toxic	powder	bags	plastic	yes	1 kg	100	poor	1	1 kg	fungicide
Previcur 72 SL	propamocarb hydrochloride	72%	slightly toxic	liquid	bottle	plastic	no	1 L	100	poor	1	1 L	fungicide
TOTAL												**476.5 L + 103.6 kg**	

Table 10. Pesticide inventory for ADS.

Commercial	**Active**	**AI**	**Primary/sec**	**Physical**	**Containe**	**Containe**	**Seal**	**Size**	**Uni**	**%Ful**	**Condition**	**# of cont**	**TOTAL**	**PESTICIDE**
name	**Ingredient**	**conc**	**Chem Hazard**	**form**	**type**	**material**	**intact?**				**of containers**	**or units**	**QUANTITIE S**	**TYPE**
Diuron 48 SC	Diuron	48%	slightly toxic	liquid	bottle	plastic	no	1	gal	100	intact; dirty	11	41.6 L	herbicide
Gaucho 70 WS	imidacloprid	70%	slightly toxic	powder	bottle in pouch	plastic	no	12	gr	100	intact	8	.096 kg	insecticide / fungicide
Cycosin 50 SC	benzimidazol	50%	slightly toxic	liquid	bottle	plastic	no	1, 5	L	100	intact	1, 1	6 L	fungicide
Ametryne 500 F	ametryn	50%	slightly toxic	liquid	bottle	plastic	no	1	L	100	intact;label semi-readable	5	5 L	herbicide
Fucilade 2000	fluazifop-p-butyl	13%	slightly toxic	liquid	botle	plastic	no	1	L	100	intact;label mostly unreadable	2	2 L	herbicide
Karmex	diuron	80%	slightly toxic		bag	Al		1	lb			6	2.7 kg	herbicide
Actellic	pirimiphos mehyl	2%	slightly toxic	powder	bag	plastic	yes	100	gr	100	fair	95.5	9.55 kg	insecticide
Mirex S 0.3 GB	sulfluramid	0.3%	slightly toxic	granules (hardened)	packets	plastic	yes	500	gr	100	fair to poor	12	6 kg	insecticide
Blitz 0-003 GR	florasulam	0.003 %	slightly toxic	granular	packets	Al	yes	500	gr	100	fair to poor	8	4 kg	herbicide
Antracol 70 WP	propineb	79%	slightly toxic	granular	bags	plastic	yes	400	gr	100	fair	4	1.6 kg	fungicide
Vondozeb 80 PM	mancozeb	80%	slightly toxic	powder	bags	plastic	yes	2	lbs	100	fair	10	8.9 kg	fungicide
Diuron 80 WP	Diuron	80%	slightly toxic	powder	bags	plastic	yes	1	lb	some	4 fair, 2 torn	6	2.3 kg	herbicide
Karate 2.5 WP	lambda-cyhlothrin	25%	mod hazardous	powder	packets	plastic	yes	30	gr	100	poor	8	.24 kg	insecticide
Larvo 2X WP	Bacillus thuringensis	6.4%	slightly toxic	powder	cans	metal	yes	250	gr	100	fair	12	3 kg	insecticide

Dipel 2X	Bacillus thuringiensis subsp. kurstaki	32000 IU/mg	slightly toxic	powder	cans	metal	yes	1	lb		fair, no label	2	0.9 kg	insecticide
Bayticol AI 3	flumethrin	3%	mod toxic	liquid	bottle	glas	yes	100	mL	100	poor	1	0.1 L	insecticide
Dursban	chlorpyrifos	44%	highly toxic	liquid	bottle	plastic	no	500	mL	100	poor	1	0.5 L	insecticide
TOTAL													**55.2 L + 39.3 kg**	

Table 11. Pesticide inventory for Brodies Belmopan.

Commercial	**Active**	**AI**	**Primary/sec**	**Physical**	**Container**	**Container**	**Seal**	**Size**	**Unit**	**%Full**	**Condition**	**# of cont**	**TOTAL**	**PESTICIDE**
name	**Ingredient**	**conc**	**Chem Hazard**	**form**	**type**	**material**	**intact?**				**of containers**	**or Units**	**QUANTITIES**	**TYPE**
Antracol 70 WP	propineb	70%W/W	slightly Toxic	solidified	Bag	Plastic	Yes	0.454	kg	100	Undamaged	123 units	55.8 kg	fungicide
Actellic 50	pirimifos-methyl	50% W/V	toxic	liquid (separated)	Bottle	Plastic	Yes	1	L	100	Undamaged	28	28 L	insecticide
Temik 15 GR	aldicarb	15g/Kg	toxic	granules	Bag	Aluminium	Yes	1.325	kg	100	Surface damage no leaking	814	1072.4 kg	insecticide
TOTAL													**1128.2 kg + 28 L**	

Table 12. Pesticide inventory for CGA.

Commercial name	AI	AI conc	Primary/sec Chem Hazard	Physical form	Container type	Container material	Seal intact?	Size	Unit	%Full	Condition of containers	# of cont or Units	TOTAL QUANTITIES	PESTICIDE TYPE
PESTICIDES														
Tordon	picloram and 2-4D	30, 7.5%	mod hazardous	liquid (pumpable)	Bottle	plastic	yes	1	L	100	intact	8	8 L	herbicide
Helcozeb 80 WP	mancozeb	80%	slightly toxic	powder	bag	Al	yes	1	kg	100	intact	*1*	1 kg	fungicide
TOTAL													**8 L + 1 kg**	

Table 13. Pesticide inventory for Vector Control Corozal.

Commercial name	AI	AI conc	Primary/sec Chem Hazard	Physical form	Container type	Container material	Seal intact?	Size	Unit	%Full	Condition of containers	# of cont or Units	TOTAL QUANTITIES	PESTICIDE TYPE
K-othrine PM 50 WP	deltamethrin	5%	mod toxic		pouches	plastic								
K-othrine 5 WP	deltamethrin	5%	mod toxic		pouches	plastic	yes	100	gr	100	intact; good	200	20 kg	insecticide
Zell deltamethrin 5% WP	deltamethrin	5%	mod toxic	white powder	drum	cardboard		28 & 11	kg		very deteriorated	10	263 kg	insecticide
Temophos larvicide 1% wp	temophos	1%	slightly toxic	powder	box	cardboard					very deteriorated	18	209.2 kg	larvicide
Temophos 1 GR	temophos		slightly toxic		bags	paper		25.5	kg			5	127.5 kg	larvicide
TOTAL													**619.7 kg**	

Table 14. Pesticide inventory for Vector Control San Ignacio.

Commercial name	AI	AI conc	AI conc Unit	Primary/sec Chem Hazard	Physical form	Container type	Container material	Seal intact?	Size	Unit	%Full	Condition of containers	# of cont or Units	TOTAL QUANTITIES	PESTICIDE TYPE
PESTICIDES															
Larfafos, Temefos	Temephos	1.0	1%	slightly toxic	granules	bag	paper	yes				intact	8	117.6 kg	insecticide/ larvicide
Temephos LQ 1% G	Temephos	1.0	1%	slightly toxic	granules	bag	paper	yes	25	kg	100	intact	3	75 kg	insecticide/larvicide
Deltamethrin 2.5 WP	Deltamethrin	3	3%	mod toxic	powder	bags	Al						3	2.6 kg	insecticide
Pilarquim Kendo 2.5 EC	λ-cyhalothrin	3	3%	mod hazardous	liquid	bottles	plastic	yes	1	L	100	intact	5	5 L	insecticide
Aquabac 200 G	Bacillus thuringensis sp Israelensis	3	3%	slightly toxic		bag	plastic	no	40	lb		open bag	1	14.5 kg	insecticide
Biodel 5% PH	deltamethrin	5	5%	mod toxic	powder	bags	Al	yes	100	gr	100	intact	62	6.2 kg	insecticide
TOTALS														**220.9 kg**	

Table 15. Pesticide inventory for Ministry of Health (Western Regional Hospital) – non DDT.

Commercial name	Active Ingredient	AI conc Unit	Primary/sec Chem Hazard	Physical form	Container type	Container material	Seal intact?	Size	Unit	%Full	Condition of containers	# of cont or Units	TOTAL QUANTITIES	PESTICIDE TYPE
PESTICIDES														
Temophos	temophos	1%	slightly toxic		drum	Cardboard							27.5 kg	insecticide/larvicide
Deltamix 5% PH	deltamethrin	5%	mod toxic	powder	drum	cardboard	yes	25	kg	100	intact	11	275 kg	insecticide
Deltamethrin 5 WP	deltamethrin	5%	mod toxic		drum	tin		25	kg		intact	4	100 kg	insecticide
TOTAL													**402.5 kg**	

Table 16. Pesticide inventory for Ministry of Health (Western Regional Hospital) – DDT.

Number of Drums	Total weight (kg)	Comments
225	23,930	DDTs
5	150	Contaminated packaging material plus spilled DDTs

Table 17. Pesticide inventory for PCB.

Commercial name	AI	AI conc	Primary/sec Chem Hazard	Physical form	Container Type	Container material	Seal intact?	Size	Unit	%Full	Condition of containers	# of cont or Units	TOTAL QUANTITIES	PESTICIDE TYPE
Reslin Premium	s-bioallethrin + permethrin		irritant	liquid	Cans	Al	yes	1	L	100	good	69	69 L	insecticide
Difolatan	captafol	39%	slightly toxic	liquid	gallon	plastic	8=y, 1=n	5	qt	100	fair	9	42.6 L	fungicide
Kil A Mite	malathion + lindane	15,34,2%	slightly toxic	liquid	bottle	glass	y	4	fl oz	100	poor	9	1.1 L	insecticide
Negasunt polvo	coumafos + propoxur +prontalbin	3,2,5%	slightly toxic	powder	bottle	plastic	yes	100	gr	100	fair	13	1.3 kg	insecticide
Citanin L	levamisol HCl	884mg	slightly toxic	powder	packets	paper	yes	7.5	gr	100	fair	7	0.0525 kg	insecticide
Asuntol liquido	cuomaphos	20%	highly toxic	liquid	Can	metal	yes	100	mL	100	poor	3	0.3 L	insecticide
Asuntol	cuomaphos	25%	highly toxic	liquid	bottle	glass		100	mL	100	poor	48	12.8 L	
Don Fosfone	zinc phosphate	80%	highly toxic	powder	bottle	plastic	yes	100	gr	100	good	1	0.1 kg	rat poison
Piojex	propoxur	2%	toxic	powder	packets	paper	yes	100	gr	100	good	65	6.5 kg	insecticide
Thiodan 35 EC	endosulfan	35%	highly toxic	liquid	Can	metal	yes			100	good	2	1.45 L	insecticide
Thiodan 35 EC	endosulfan	33%	highly toxic	liquid	bottle	plastic	no				good	2	2 L	insecticide
Thiodan 35 EC	endosulfan	35%	highly toxic	liquid	bottle	plastic	yes	500	mL	100	good	3	2 L	insecticide
Endosulfan 35 EC	endosulfan	34.5%	highly toxic	liquid	Can	metal	yes				fair	4	3.5 L	insecticide
Thiodan 35 EC	endosulfan	33%	highly toxic	liquid	bottle	plastic	yes	1	L	100	fair	7	7 L	insecticide
Rampart	Mono & di K salts of phosphorous acid			liquid	Jug	plastic	no	1	gal	100	good	2	7.6 L	
Baygon	propoxur, cyfluthrin, DDUP	1,0.015,1%	toxic	liquid	Can	metal	yes	1	L	100	fair to poor	1	1 L	insecticide
DDT	DDT		mod toxic	powder	Bag in bottle	Plastic + glass						1	0.1 kg	insecticide
Aldrin	aldrin		highly toxic	powder	bottle	Glass							0.09 kg	insecticide
Techmann Insecticide Chalk	deltamethrin + cypermethrin		mod toxic		box	Cardboard								insecticide
Antracol 70 WP	propineb	70%	slightly toxic	powder	bag	Plastic	yes					19	**16.4 kg**	fungicide
Assure	Quizalofop P-Ethyl	9.5%	slightly toxic	liquid	bottle	Plastic	no	1	L		leaking	1	**1 L**	herbicide
Tambo 44 EC	profenophos + cypermethrin	37.4,3.7%	mod toxic	liquid	bottle	Plastic	no	100	mL		leaking	1	0.1 L	insecticide
Curater GR 3%	carbofuran	3%	highly toxic	granular powder	bag	Paper	yes	1	kg	100	intact	41	41 kg	insecticide
A 5596 B	pyroquilon				bag	Al							1 kg	insecticide

Fongoren														
Princep 80 W	simazine	80%	slightly toxic	powder	bags	paper	no	5	lb	100	poor	15	33.3 kg	herbicide
Phostoxin	AlP	56%	highly toxic	pellets	bottle	Al	yes	1000	gr	100	poor	15	15 kg	insecticide
Verimex	Levamisole HCl		slightly toxic		ampules	glass		100	mL			6	0.6 L	anti-helmntic

Table 17. Pesticide inventory for Pesticide Control Board. (cont).

Commercial name	**AI**	**AI conc**	**Primary/sec Chem Hazard**	**Physical form**	**Container type**	**Container material**	**Seal intact?**	**Size**	**Unit**	**%Full**	**Condition of containers**	**# of cont or Units**	**TOTAL QUANTITIES**	**PESTICIDE TYPE**
Volaton	phoxim		mod toxic		gallon	plastic								insecticide
Rat & Mouse Bait Blocks	diphacinone	0.005%	highly toxic	blocks	bucket	plastic	yes	4	lb	100	good	1	1.8 kg	rodenticide
Professional Rat Killer-D	diphacinone	0.005%	highly toxic		can	metal	yes	3	lb	100	rusty	4	5.3 kg	
Terro Ant Killer	borax	5.4%	not toxic	liquid	tubes	plastic	yes	1	fl oz	100	good	12	0.4 L	insecticide
Mosquito Beater WSP	Bacillus thuringensis	1,7%	slightly toxic	granular	pouches	plastic	yes	0.2	oz	100	poor	24	0.14 L	insecticide
Bug Free Back Yard	tetramethrin + phenanthrin	0.3+ 0.2%	slightly toxic	liquid/ sprayable	can	metal	yes	16	oz	100	fair	3	1.4 kg	insecticide
Mosquito Coil	pyrethrum		slightly toxic		box	Cardboard						3		insecticide
Moi Killer	chrysanthemum (pyrethrum)	0.3%	slightly toxic		box	Cardboard								insecticide
Fooj King Mosquito Coil	Delta-allethrin				box	Cardboard								insecticide
Black Mosquito Coil	Pyrethrin	0.25%	slightly toxic		box	Cardboard								insecticide
Autan	Icaridin	0.03%	slightly toxic											insecticide
H4 Tonba														
Tian Hong Mosquito Mat	pyrethroids		slightly toxic											insecticide
Bayer Sano y Lindo	propoxur	25%	toxic	liquid	bottle	metal	yes	240	mL	100	fair	18	4.3 L	insecticide
Hog Mange Cure	toxaphene, lindane	45+ 1.96%	highly toxic	liquid	bottle	glass	4=y, 2=n	1	qt	100	v. poor	7	6.6 L	insecticide
Lindane Borer & Leaf Minor Spray	lindane	20%	mod toxic	liquid	bottle	plastic	yes	8	fl oz	100	fair	14	3.1 L	antiparisitic
Dog & Cat Flea Powder	tetrachlorvinphos	3%	mod toxic	powder	bottle	plastic	no	5	oz		fair	8	1.2 kg	insecticide
Wonder Miraculous Insecticide Chalk	Deltamethrin+ Cypermethrin				boxes	cardboard								insecticide
Ortho Brush B Gon Brush Killer	Triolopy	5%		liquid	bottle	plastic	yes	1	pt	no	fair to good	9	4.3 L	herbicide
Sagaz 1.0 EC	Diuron	1%	slightly toxic	liquid	bottle	plastic	no	1	L	50%	v. poor	8	4 L	
Black Leaf 40	nicotine	40%	slightly toxic	liquid	bottle	plastic	yes	5	fl oz	100	fair	7	1 L	insecticide
Sultron 52 SA	elemental S	48%	slightly toxic	liquid	bottle	plastic	yes	1	L	100	good	2	2 L	fungicide
Agrimycin	streptomycin + oxitetracycline + Cu	2.2+0.3 +71.9 %	slightly toxic	powder	bag	Al	yes	1210	gr	100	good	1	1.21 kg	bactericide

Mirex-S0-3GR	Sulfluramid		highly toxic	powder	bag	plastic	yes	454	gr	100	poor	1	.454 kg	insecticide
Spot Weed Killer	2,4-D	0.554%	mod-highly toxic	liquid-spray	can	metal	yes	23	oz	100	poor-fair	1	0.6 kg	herbicide
Maneb Spray	Maneb	80%	slightly toxic	powder	can	carton	yes	6	oz	100	poor-fair	2	0.3 kg	fungicide

Table 17. Pesticide inventory for Pesticide Control Board. (cont).

Commercial name	**AI**	**AI Conc**	**Primary/sec Chem Hazard**	**Physical form**	**Container type**	**Container material**	**Seal intact?**	**Size**	**Unit**	**%Full**	**Condition of containers**	**# of cont or Units**	**TOTAL QUANTITIES**	**PESTICIDE TYPE**
Talsan	Bifenthrin	11%	mod toxic	liquid	bottle	metal	yes	1	L		poor-fair	2	2 L	insecticide
Copper Count N	copper diammonia diacetate complex	8%	slightly toxic	liquid	bottle	plastic	no	1	L		poor	1	1 L	fungicide
Tackle	acifluorfen - sodium	21.1%	slightly toxic	liquid	bottle	plastic	yes	1	L	100	poor	1	1 L	herbicide
Bird Repellent	polybutene	80%		paste	tubes	carton	yes	10.5	fl oz	100	poor	1	0.3 L	bird repellent
Diazinon 600 EC	diazinon	58.7%	mod toxic	liquid	can	metal	yes	250	mL	100	poor	1	0.25 L	insecticide
Diazinon 60 EC	diazinon	35%	mod toxic	liquid	bottle	plastic	no	1	L		broken cap	1	1 L	insecticide
Basudin 600 EW	diazinon	600g/L	mod toxic	liquid	bottle	plastic	yes	1	L	100	good	5	5 L	insecticide
Actellic 50 EC	pyrimifos-methyl	50%	slightly toxic	liquid	bottle	plastic	yes	1	L	100	fair	2	2 L	insecticide
Actellic	pyrimifos-methyl	50%	slightly toxic	liquid	bottle	plastic	yes	100	gr	100	good	5	0.5 kg	insecticide
Dexol	disulfuton	2%	highly toxic	granules	bottle	plastic	yes	5	lb	100	good	4	8.9 kg	insecticide
Tilt	propiconazole	41.8%	low - mod toxic	liquid	bottle	plastic	yes	1	L	100	good	10	10 L	fungicide
Total Vegetation Killer	sodium chlorate & zsodium methanoate	16.5 + 10.2%		liquid	bottle	plastic	yes	1	gal	100		1	3.8 L	herbicide
Beef & Hog Spray	technical methoxychlor	24%	slightly toxic	liuid	bottle	glass	yes	1	gal	100	good	8	30.3 L	insecticide
Bravo 720	chlorothalonil	720g/L	slightly toxic	liquid	bottle	plastic	no	500	mL		fair	1	0.5 L	fungicide
Pest Barrier	castor oil, natural gum resins, vegetable wax		not toxic	paste	bucket	plastic	no	4.3	lbs			1	1.9 kg	insecticide
Volaton 500	phoxim	48%	highly toxic		can	metal		250	mL	some	poor	80	20 L	insecticide
Volaton 1.5 DP	phoxim	1.5%	highly toxic	powder	bag	plastic	yes	454	gr		fair	7	3.2 kg	insecticide
ZP Rodent Bait	zinc phosphide	2%	toxic	pellets	bottle		no				fair to good	6	17.4 kg	rodenticide
Furore 14.5 EC	fenoxaprop-p-ethyl	4.5%	toxic	liquid	bottle	plastic	yes	1	L	100	fair	1	1 L	herbicide
Previcur 72 SL	propamocarb hydrochloride	72.2%	toxic	liquid	bottle	plastic	yes	250	mL	100	fair	1	0.25 L	fungicide
Citarin L	levamisole	100%	slightly toxic	liquid	bottle	glass	yes	100	mL	100	good	3	0.3 L	antiparisitic
Multifox	malathion	57%	toxic	liquid	bottle	glass	yes	433	mL	100	fair to good	3	1.3 kg	insecticide
Agrimycin 1000	streptomycin + oxitetracycline	80 + 75%	slightly toxic		can	metal	yes	1	kg	100	fair	1	1 kg	antibiotic
Agrimycin 500	copper streptomycin,	42.4 + 1.76%	slightly toxic	powder	bag	plastic	yes	1.25	kg	100	good	1	1.25 kg	antibiotic

	oxytetracycline													
Dormant oil	Mineral oil		toxic	liquid	bottle	plastic	yes	1	L	100	fair	1	1 L	
Ortho Weed B Gon	MCPA, dicamba, 2,4-D	2.13 +0.37 +8.66%	mod-highly toxic	liquid	can	metal	yes	1	qt	100	fair to poor	1	0.9 L	herbicide
Ortho Scram Dog & Cat Repeller	methyl nonyl lectone & related compounds	2%		liquid spray	can	metal	yes	14	oz	100	poor	1	0.4 kg	insecticide

Table 17. Pesticide inventory for Pesticide Control Board. (cont).

Commercial name	**AI**	**AI conc Unit**	**Primary/sec Chem Hazard**	**Physical form**	**Container type**	**Container material**	**Seal intact?**	**Size**	**Unit**	**%Full**	**Condition of containers**	**# of cont or units**	**TOTAL QUANTITIES**	**PESTICIDE TYPE**
Super K 900 Tomato Vegetable Dust	captan, methoxychlor, rotenone	5.5 + 75 + 1.5%	slightly toxic	powder	bottle	plastic	yes	10	oz	100	good	1	0.3 kg	fungicide
Ambush 50	permethrin (cis + trans)	50%	slightly toxic	liquid	bottle	glass	yes	100	mL	100	poor	1	0.1 L	insecticide
Spot Weed Killer	2,4-D, dicamba, MCPA	0.26+0.025 + 0.26%	mod-highly toxic	liquid	bottle	plastic	yes	24	fl oz	100	poor	2	1.4 L	herbicide
Palsatrina 5% CE	cypermethrine	6%	slightly toxic	liquid	bottle	plastic	yes	1	L	100	poor	1	1 L	insecticide
Ridomil MZ S8 WP	mancozeb + metalaxyl-M	48 + 3%	slightly toxic	powder	bags	plastic		50	gr	100	peeling labels	14	0.7 kg	fungicide
Icon 10 WP	lambda-cyhalothrin	10%	harmful	powder	bags/ satchels	plastic	yes	62.5	gr	100	good	2	0.125 kg	insecticide
Foley 2 DP	methyl parathion	2%	harmful	powder	bags	plastic	yes	454	gr	100	good	2	0.908 kg	insecticide
Folidol 48 EC	methyl parathion	48%	highly toxic	liquid	bottle	plastic	yes	250	m		good	1	0.25 L	insecticide
Flint 50 WG	trifloxystrobin	50%	slightly toxic	granules	bag	plastic	yes	1	kg	100	fair	1	1 kg	fungicide
AgriFos 12 G	mono and di-potassium salts of phosphorous acid	60+ 56%	extremely toxic	granules	bag	plastic	yes	2	lb	100	good	1	0.9 kg	fungicide
Kocide 101	copper hydroxide	77%	hazardous	powder	bag/ satchel	paper	no	2	lb		poor	1	0.9 kg	fungicide/ bactericide
d-Con	brodifacoum	0.005%	highly toxic		boxes	paper	yes					127	40.4 kg	rodenticide
Monarca 11.25 SE	thiacloprid + beta-cyfluthrin	9.9 + 2.24%	mod toxic	liquid	bottle	plastic	yes	500	mL	100	good	10	4.2 L	insecticide
Kung Fu 2.5 EC	lambda-cyhalothrin	2.5%	mod toxic	liquid	bottle	plastic	yes	250	mL	100	good	1	0.25 L	insecticide
Bushen 10 EC	cypermethrin	10%	slightly toxic	liquid	bottle	plastic	yes	500	mL	100	fair	2	1 L	insecticide
Goal 24 EC	oxyfluorfen	24%	slight-mod tox	liquid	bottle	plastic	yes	250	mL	100	good	1	0.25 L	herbicide

Table 17. Pesticide inventory for Pesticide Control Board. (cont).

Commercial name	AI	AI conc Unit	Primary/sec Chem Hazard	Physical form	Container type	Container material	Seal intact?	Size	Unit	%Full	Condition of containers	# of cont or Units	TOTAL QUANTITIES	PESTICIDE TYPE
Rienda 21.2 EC	deltamethrin + triazophos	21.2%	mod toxic	liquid	bottle	plastic	yes	250	mL	100	good	2	0.5 L	insecticide
Stratego 25 EC	propioconazole + trifloxystrobin	12.5%	slightly toxic	liquid	bottle	plastic	yes	1	L	100	fair	1	1 L	fungicide
Carbaryl 80 WP	carbaryl	80%	mod toxic	powder	bag	plastic	yes	1	lb	100	good	1	0.4 kg	insecticide
Garden Sulphur	sulphur	40%	hazardous	powder	bag	paper	yes	4	lb	100	good	1	1.8 kg	fungicide
Rabbit & Dog Repellent	naphthalene	15, 15%	hazardous	powder	bag	paper	no	3	lb		poor	5	6.7 kg	insecticide
Gesapax	atrazine + ametryne	25, 25%	slightly toxic	powder	bag	plastic		1	lb		fair	2	0.9 kg	herbicide
Fosethyl - Al	fosetyl Al		highly toxic	powder	bag	plastic		2.5	lb	100	fair	1	1.1 kg	fungicide
Black Flag	tetramethrin + permethrin + piperonyl butoxide		hazardous	spray	can	metal	yes	17.5	oz		good	5	2.4 kg	insecticide
Mole Cricket Bait	chlorpyrifos	0.5%	mod toxic	powder	bag	paper		3	lb			8	10.7 kg	insecticide
Metasystox R-500 SL	oxydemeton methyl	45%	highly toxic	liquid	bottle	plastic		0.5	L		label faded	1	0.5 L	insecticide
Tambo 44 EC	profenofos + cypermethrin	40%	mod toxic	liquid	bottle	metal	no	100	mL			1	0.1 L	insecticide
Wilsarin (rat & mouse bait pellets)	bromadiolone		toxic	pellets	pouches	plastic		50	gr			19	0.95 kg	rodenticide
Dieldrin 50 WP	dieldrin	50%	highly toxic	powder	bag	Paper							1.8 kg	insecticide
Gamezan	cypermethrin	0.5%	mod toxic	white powder	bag	Plastic		250	gr			1	0.25 kg	insecticide
Ido Genabil	menbutone	100mg	slightly toxic	liquid	bottle	Glass	yes	100	mL	100	fair - poor	2	0.2 kg	
Vermisan	fenbendazole	10%	slightly toxic	tablets	bottle	Plastic	no	1000	tablets		poor	2		anti-helmintic
Roxacin	quinolone excipient q.s	10g/100mL	slightly hazardous	liquid	bottle	Glass	yes	100	mL	100	fair-poor	3	0.3 L	anti-parasitic
TOTAL													**269.3 L + 235.7 kg**	

Table 18. List of active ingredients identified in this study.

AI	Note	AI	Note	AI	Note	AI	Note
2,4-D	SR[a]	cyfluthrin	Reg	Malathion	Reg	prontalbin	
abamectin	Reg	cypermethrin	Reg	Mancozeb	Reg	propamocarb HCl	
acetamiprid	Reg	DDT	POP	Maneb		propiconazole	Reg
acifluorfen - sodium	Reg	DDUP		MCPA		propineb	Reg
alachlor	Reg	deltamethrin	Reg	menbutone			
aldicarb		diafenthurion		Metalaxyl	Reg	propoxur	Reg
aldrin	POP[b]	diazinon	Reg	metaldehyde	Ref	pyrethrin	Reg
AlP	Reg[c]	dicamba		metallic Cu		pyrethrum	Reg
Al tris(o-ethyl)phosphonate		dieldrin	POP	methamidophos	Reg	quinolone excipient q.s	
ametryn	Reg	difeconazole	Reg	methiocarb		quizalofop P-Ethyl	
atrazine	Reg	Dimethenamid-P		methomyl	Reg	rotenone	
azadirachtin	Reg	diphacinone	Reg	methoxychlor		s-bioallethrin	Reg
azoxystrobin	Reg	diquat dibromide	Reg	methoxychlor tech		simazine	
Bac thuringensis	Reg	disulfuton		methyl parathion	Reg	s-metolachlor	
benomyl		diuron	Reg	methyl primiphos tech	Reg	sulfluramid	Reg
benzimidazol		elemental sulfur	Reg	methyldithiocarbamate Na		sulphur	
bifenthrin		endosulfan	POP	metribuzin	Reg	terbutrine	Reg
borax	Reg	ethephon		monocrotophos	Reg	terbutylazine	
brodifacoum	Reg	Ethylenebisdithiocarbamate Zn & Mg		nicosulfuron	Reg	tetrachlorvinphos	
bromadiolone		fenbendazole		Nicotine	Reg	tetramethrin	Reg
buprofezin		fenoxaprop-p-ethyl	Reg	Oxadiazon	Reg	thiacloprid	
butylfluazipop		florasulam		Oxamyl	Reg	thiamethoxam	Reg
captafol		fluazifop p-methyl	Reg	oxydemeton methyl		thiodicarb	Reg
captan	Reg	fluazifop-p-butyl	Reg	oxyfluorfen	Reg	thiophamate methyl	Reg
carbaryl	Reg	flumethrin		Paraquat	Reg	toxaphene	POP
carbofuran	Reg	flumetsulam		pendimethalin	Reg	triazophos	

chlorothalonil	Reg	fomesafen	Reg	permethrin	Reg	trifloxystrobin	Reg
chlorpyrifos	Reg	fosetyl-Al	Reg	phenanthrene		trifluralin	
chrysanthemum	Reg	glyphosate	Reg	phoxim	Reg	triolopy	
clofentezine	Reg	picaridin	Reg	picloram	Reg	zinc phosphate	
copper hydroxide		imidacloprid	Reg	piperonyl butoxide		zinc phosphide	
copper oleate		iprovalicarb		pirimiphos methyl		temophos	Reg
copper sulphate		l-cyhalothrin	Reg	polybutene		profoxydim	
cuomaphos		levamisole		profenofos		lindane	POP

[a]SR=severely restricted, [b]POP=persistent organic pollutant,[c]Reg=registered in Belize

Table 19. Inventory of unknowns for CPBL (Dangriga) site.

Commercial Name	Description Notes	Physical form	Container type	Container material	Seal intact?	Size	Unit	%Full	Condition of containers	# of cont or Units	TOTAL QUANTITIES
Unknown		oily liquid	gallon	plastic	no	1	pt	100	intact	1	0.5L
Unknown 2		liquid		plastic	yes	0.5	L	100	intact	1	0.5L
Unknown 3		solidified/dried		plastic	yes				intact	1	0.4 kg
TOTALS											**1L + 0.4 kg**

Table 20. Inventory of unknowns for Triple A Farms.

Commercial name	Description Notes	Physical form	Container type	Container material	Seal intact?	Size	Unit	%Full	Condition of containers	# of cont or Units	TOTAL QUANTITIES
Unknown 1	possibly Sevin	white powder									1.6kg
Unknown 2	looks like fertilizer	black granules									9kg
Unknown		liquid	bottle	plastic	yes	500	mL	100	intact	1	0.5L
Unknown		liquid	bottle	plastic	yes	1	L	100	not good	2	2L
TOTALS											**2.5 kg + 2.5L**

Table 21. Inventory of unknowns for CPBL (Barton Creek).

Commercial name	Description Notes	Physical form	Container type	Container material	Seal intact?	Size	Unit	%Full	Condition of containers	# of cont or Units	TOTAL QUANTITIES
Unknown 1		white powder									29.3 kg
Unknown 2		yellowish powder									27.6 kg
Unknown 3											25.3 kg
Unknown 4		yellow solidified powder									35.1 kg
Unknown 5		green powder									17.3 kg
Unknown 6		white granular powder				1	kg				13.3 kg
B) Barrel with mix of dry and liquid chemicals	contains mix of dry and liquid chemicals of unknown identity, and proportions; too degraded										37.7 kg
A) 3 barrells with unknowns											421 kg
Unknown series (12 unknowns)	all solids, weighed and placed in bags										572 kg
5 severely degraded barrels:											-
1 55-gal drum	empty pesticide plastic bags + sacks										-
1 55-gal drum	filled with unknown liquid - unknown wt (impossible to weigh severely degraded drum)										-
2 55-gal drums	half-filled with unknown pesticides/agrochemicals in powder form										-
1 55-gal drum	1/4-full with cupravit azul - copper packages, extremely deteriorated, already liquifying										-
TOTALS											**1179 kg**

Table 22. Inventory of unknowns for Agriculture – Yo Creek site.

Commercial name	Description Notes	Physical form	Container type	Container material	Seal intact?	Size	Unit	%Full	Condition of containers	# of cont or Units	TOTAL QUANTITIES
Unknown	red liquid										18.9 L
TOTALS											**18.9 L**

Table 23. Inventory of unknowns for Fruta Bomba site.

Commercial name	Description Notes	Physical form	Container type	Container material	Seal intact?	Size	Unit	%Full	Condition of containers	# of cont or Units	TOTAL QUANTITIES
Unknown #1											2.2 kg
Unknown #2											3.5 kg
Unknown #3											2.2 kg
Unknown #4											4.3 kg
Unknown #5											5 kg
Unknown #6											1.3 kg
Unknown #7											1.5 kg
Unknown #8											1.1 kg
Unknown #9											0.7 kg
Unknown #10											0.2 kg
Unknown #11											1.2 kg
Unknown #12											0.5 kg
Unknown #13											0.6 kg
TOTALS											**24.3 kg**

Table 24. Inventory of unknowns for ADS Farms.

Commercial name	Active Ingredient	Physical form	Container type	Container material	Seal intact?	Size	Unit	%Full	Condition of containers	# of cont or Units	TOTAL QUANTITIES
Unknown #1		powder	bags	plastic	yes						0.7 lbs

TOTALS		**0.3 kg**

Table 25. Inventory of unknown for the PCB site.

Commercial name	AI	Physical form	Container type	Container material	Seal intact?	Size	Unit	%Full	Condition of containers	# of cont or Units	TOTAL QUANTITIES
Unknown #1	Kilvail CE										1L
Unknown #2											1/3 L
Unknown #3	dark liquid										1/2 L
Unknown #4											1L
Unknown #5											~250 mL
Unknown #6											~250 mL
Unknown #7											**1L**
Unknown #8											**1L**
Unknown #9											~200 mL
Unknown #10											~60L
Unknown #11											~300 L
Unknown #12											1/2 L
Unknown #13											3/4 L
Unknown #14											1/2 L
Unknown #15											150 mL
Unknown #16											3/4 L
Unknown #17											250 mL
Unknown #18											150 mL
Unknown #19											1 gal
Unknown #20											1.5 L
Unknown #21		powder	bag	plastic	no	21.3	lb		poor	1	9.5 kg
Unknown #22		powder	bag	plastic	no	13.4	lb		poor	1	6 kg
Unknown #23		powder	bag	plastic	no	16.7	lb		poor	1	7.4 kg
Unknown #24						25.7	lb			1	11.4 kg
Unknown #25						1.7	lb			1	0.8 kg
Unknown #26						5	lb			1	2.2 kg
Unknown		liquid	bottle	plastic	yes	1	L	100	seal missing	1	1 L
Unknown A1	Dual 720 EC? (metolachlor?)		bottle	Al		1	L			1	1 L
Unknown A2		solidified	gallon	plastic		0.75	gal			1	2.8 L
Unknown A3		fuel-like liquid	gallon	plastic		0.8	gal			1	3 L
Unknown A4	QQ Sanfle from Fyfes?	brown granules	bottle	plastic		230	gr			1	0.23 kg
Unknown A5		clear liquid		plastic		100	mL			1	0.1 L

Unknown A6		clear liquid	bottle	dark glass		500	mL			1	0.5 L
Unknown A7	same as A6					500	mL			1	0.5 L
Unknown A8	sameas A6, A7					400	mL			1	0.4 L
Unknown A9											
bucket of tar-like material											9.5 L
TOTALS											**33 L + 37.5 kg**

Table 26. Inventory of unknowns for CGA.

Commercial name	Description Notes	Physical form	Container type	Container material	Seal intact?	Size	Unit	%Full	Condition of containers	# of cont or Units	TOTAL QUANTITIES
Unknown A (4.5 lb)											2L
Unknown B (5.4 lb)											2.4L
Unknown C (7.5 lb)											3.3 L
Unknown D (8.4 lb)											3.7L
Unknown E (8.5 lb)											3.8L
Unknown F (7.3 lb)											3.2L
Unknown G (6.2 lb)											2.8L
TOTALS											**21.2 L**

Table 27. Inventory of unknowns for Vector Control Cayo.

Commercial name	Description Notes	Physical form	Container type	Container material	Seal intact?	Size	Unit	%Full	Condition of containers	# of cont or Units	TOTAL QUANTITIES
Unknown #1	white powder (placed in plastic bag)										26 kg
Unknown #2	white powder (placed in plastic bag)										25.6 kg
Unknown #3	white powder (placed in plastic bag)										25.4 kg
Unknown	9 bags with white powder;all placed inside a drum labelled unknowns A1-A9									9	125.8 kg
Unknowns 1-20	20 units of 28.5 kg									20	570 kg
TOTAL											**772.8 kg**

Table 28. Inventory of unknowns for Vector Control Corozal.

Commercial name	Description Notes	Physical form	Container type	Container material	Seal intact?	Size	Unit	%Full	Condition of containers	# of cont or Units	TOTAL QUANTITIES
Unknown	white, solid-texture powder (NB: added contaminated cardboard box and placed all in one garbage bag)		bags							3	12.4kg
Unknown 2	5 bags with white powder, all placed in one garbage bag										1.5g
TOTALS											**13.9 kg**

Table 29. Inventory of unknowns for MoH (Western Regional Hospital) for non-DDT stockpile.

Commercial name	Active Ingredient	TOTAL QUANTITIES
Unknown #1	white powder inside bag, bag inside cardboard, appears usable	27.6kg
Unknown #2	white powder inside bag, bag inside cardboard, appears usable	25.6 kg
unknown #3	white powder inside bag, bag inside cardboard, appears usable	27.8 kg
unknown #4	white powder inside bag, bag inside cardboard, appears usable	27.8 kg
TOTAL		**108.8 kg**

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Appendices

Appendix 1. Pictures showing conditions of chemicals and storage units before and after the inventory.

A. Brodies Belmopan

Before: **After:**


B. CPBL Stann Creek

Before: **After:**


C. Vector Control Corozal

Before: **After:**

D. PCB

Before: **After:**

E. Unknown owners

Before: **After:**


F. CPBL Barton Creek

Before: **After:**


Appendix 2. Organizing, weighing, labeling and repackaging chemicals during the inventory.

A. Repackaging, weighing and labeling chemicals at CPBL Barton Creek.

B. Weighing and labeling unknowns at CGA.

C. Reorganizing chemicals at Tripple A

Glossary of Terms

Chemicals	used in a broad sense to include pesticides fertilizers and other agricultural chemicals, chemicals used in industrial processes, petroleum products, chemicals marketed for consumer usage, pharmaceuticals, cosmetics, food additives, chemicals of natural organic and biological origin as well as unintended chemicals such as produced in combustion processes, appearing in food residue, biota and consumer goods.
Environmental pollutant	Any solid, liquid, or gaseous substance present in such concentration as may be, or tend to be injurious to human health or the environment
Fertilizers	Any product containing three basic plant nutrients (nitrogen, phosphorus, and potassium) and micronutrients, is proposed or used for making soil more fertile
Formulation	The combination of various ingredients in a pesticide as purchased by users designed to render it useful and effective for the purpose claimed
Hazard	Any source of potential damage, harm or adverse health effects on something or someone under certain conditions at work.
Hazardous materials	Waste that is dangerous or potentially harmful to our health or the environment. Hazardous wastes can be liquids, solids, gases, or sludges. They can be discarded commercial products, like cleaning fluids or pesticides, or the by-products of manufacturing processes.
Hazardous waste	Any waste which, by reason of its chemical or physico-chemical or biological properties or handling, is liable to cause harm to human beings, other living creatures, plants, micro-organism, property or the environment
Liquid waste	Any waste in the liquid state of matter. It includes industrial waste such as by-products from food-processing and production plants, municipal waste, chemical by-products, agricultural waste and wastewater.
Obsolete pesticides	stocked pesticides that can no longer be used for their original purpose or any other purpose and therefore require disposal.
Pesticides	Any substance which by itself, or in combination with other substances, is proposed, represented, or used for destroying or controlling pests but does not include any antiseptic, disinfectant, drug or preservative.
Registered pesticides	Means a pesticide declared as a registered pesticide and given in the Second Schedule of the Pesticide Control Act (2000) of the Laws of Belize and intended for general use.

Restricted pesticides	Means any pesticide which, if used in accordance with a widespread and commonly recognized practice, may generally cause, without additional regulatory action, unreasonable adverse effects on the environment, including injury to the applicator.