



Better Markets, Better Lives



STUDY ON COUNTERFEITING OF PEST CONTROL PRODUCTS IN KENYA FINAL REPORT

SUBMITTED BY



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LIST OF ACRONYMS

AAK	Agrochemical Association of Kenya
ACA	Anti-Counterfeit Authority
CAWI	Computer Aided Web Interface
CIF	Cost, Insurance and Freight
CIT	Magnitude of illicit trade
DCI	Directorate of Criminal Investigation
EAC	East African Community
EU	European Union
EUIPO	European Union Intellectual Property Office
FAO	Food and Agricultural Organization
FOB	Free on Board
IPR	Intellectual Property Rights
KAM	Kenya Association of Manufacturers
KEPHIS	,Kenya Plant Health Inspectorate Services
KES	Kenya Shillings
KRA	Kenya Revenue Authority
OECD	Organization for Economic Co-operation and Development
NEMA	National Environmental Management Authority
NPS	National Police Service
OSCE	Organization for Security Cooperation in Europe
PCPB	Pest Control Products Board
UN	United Nations
USA	United States of America
WCO	World Customs Organization

EXECUTIVE SUMMARY

INTRODUCTION

The Study on Counterfeiting of Pest Control Products in Kenya has been commissioned by Agrochemical Association of Kenya in collaboration with PCPB. It is responding to the growing national and global concerns about the rising trend of counterfeit pest control product. AAK while commissioning this study observed in the background to the study that “*the risk faced by the industry is real and seems to be spread countrywide*”. This concern is further amplified by the recently concluded National Baseline Survey on Illicit Trade (ACA February 2020), where the agrochemical industry featured under the chemical and allied industry. The size of illicit trade in the industry was estimated at KES11.8billion in 2017, rising by 23% to KES14.6billion in 2018. At the global level, the European Parliament report of January 2021, citing the European Crop Protection Agency (ECPA) noted that: “*the trade in counterfeit pesticides has grown into a major profitable criminal enterprise. A global operation called Silver Axe seized 1 346 tonnes of illicit pesticides, worth up to EUR 94 million, during just the first four months of 2020 (Europol, 2020)*”.

The threat that counterfeits pest control products pose to any economy are well know and have been a subject of research since 2010. These include environmental degradation (EOCD (2020)¹, putting human health at risk, loss of productivity, unfair competition, sales losses (OECD, 2011), loss investments (ACA, Feb 2020), food insecurity (OECD Dec.2018), loss of government revenues (ACA Feb 2020), among many other negative effects.

The significance of the study is underscored by the role that the agrochemical industry is expected to play in Kenya’s economic development. This fact is best demonstrated by the significance of Kenya’s agriculture sector in the overall economy. Agriculture is the lead contributor to Kenya’s national wealth creation and a means of livelihood and employment as demonstrated by the sector’s contribution to the country’s Gross Domestic Product (GDP) annually. Between 2017 and 2019 the sector’s contribution to the country’s GDP was on average 28%. Over the same period the sector accounted for an average 58% of the country’s total exports.

This reality has made the Government place the sector at the heart of the country’s economic transformation blueprints which are, Vision 2030, the Big Four Agenda and Integrated National Export Development Strategy (INEDPS). The latter strategy has assigned agriculture exports an annual growth rate of 25% per year as a contribution to the country’s targeted export of KES2 trillion by 2025. Among the key determinants of the sector’s ability to deliver this targeted growth rate is pest control products. A significant number of agricultural products being produced, either for the domestic or export market require application of pest control products.

The sector and the economy in general are therefore exposed to the negative impact that is associated with counterfeit pest control products. This assignment is geared towards contributing to the search for the solution to this challenge through assessment of the situation to **determine the extent of counterfeiting of pest control products/pesticides in Kenya and measures to arrest the situation.** The study has achieved this goal through: -

- a) Assessment of the success of past and current efforts to manage and control the counterfeit pest control industry in Kenya;
- b) Assessment of the degree and presence of the counterfeit pest control products;
- c) Assessment of the extent to which counterfeit pest control products are stocked and used in the country;
- d) Determining the nature and key stakeholders of the counterfeit pest control product industry and the key entry points;
- e) Determining the factors that drive the counterfeit industry to prosper in the country;

¹ OECD (2020): Trade and Environment Working Paper N°1 © OECD 2020

APPROACH AND METHODOLOGY

The scope of the assignment dictated the approach and methodology that was used in the envisaged assessments of the counterfeit pest control products. The driver in determining the approach and methodology applied was the need to document: degree and presence, extent of stocking and use, factors behind the thriving of counterfeit pest control industry in Kenya and past and current efforts of management and control of the counterfeit pest control products. The following complementary approaches and methods were used:

1) The degree and presence counterfeit pest control products

Three internationally acclaimed and complementary methods of measuring the magnitude of counterfeits in an economy were used.

- a) Seizure method, which focuses on Government Agencies seizures of counterfeit pest control products. Seizures are recognized a measure of counterfeits in any economy (OECD/EUIPO (2016))²
- b) Firm sales losses method, which focuses on reported firms sales losses as a result of their products being counterfeited. Firm sales losses have been accepted as a measure of magnitude of counterfeits by (KAM (2012) and ACA (June 2020))³
- c) International trade-based method, which focuses on illicit trade, based on the understanding that counterfeits are considered to be part of the illicitly trade products. Therefore, although this method does not tell the level of counterfeit, it is a pointer that there could be counterfeit pest control products in the documented level of illicitly traded pest control products. The method has been used in ACA (Feb 2020) building on experiences of (OECD) 2008⁴ and EUIPO (2016)⁵.

2) Supply of counterfeit pest control product

This was determined through firm level survey, targeting sample of manufacturers, distributors and Agents. Respondents' firms were required to provide information touching on the supply of counterfeits pest control products and firm level impact among other areas of assessment.

3) Stocking of counterfeit pest control product

This was assessed through nation-wide survey of stockists that targeted the selected sample of stockists in 34 counties. The respondents were required to provide information on the presence of counterfeit pest control products, stocking of these products by licensed and unlicensed stockists, factors behind stocking of counterfeits and their sources, among other elements.

4) Demand of counterfeit pest control product among users

This was a survey among a sample of users, who included farmers, commercial users, spray service providers, among others. The respondents were required to provide information on the presence of counterfeit pest control products, ability to tell or identify pest control products, extent of purchasing and factors behind the purchasing of the products, source of the products, among other elements.

5) Management and Control of counterfeit pest control products

The framework that was used to assess the effectiveness of the management and control of pest control products was adapted from OSCE (2015) and OECD (2018). It included the following areas of assessment:

- a) Prevention of counterfeits
- b) Preparatory actions to arrest or deter spread of counterfeit pest control products
- c) Response actions on reported incidents of counterfeit pest control products
- d) Guidelines to identify illegal trade as well as trade of counterfeit pesticides

² OECD/EUIPO (2016): *The quantitative analysis in the report was based on a unique, global set of half a million-customs seizure data over the period of 2011-13.*

³ ACA (June 2020): *The National Baseline Survey on the Extent of Illicit Trade in Kenya*

⁴ OECD (2008): *The Economic Impact of Counterfeit and Piracy.*

⁵ EUIPO (2016), *'Trade in Counterfeit and Pirated Goods'*.

3.0 SUMMARY OF FINDINGS AND RECOMMENDED REMEDIAL MEASURES

3.1 MAGNITUDE AND PREVALENCE OF COUNTERFEIT ILLICITLY TRADE PEST CONTROL PRODUCT

The magnitude of counterfeit and illicitly traded pest control products as measured through the seizure and firm sales losses and international method, respectively is as detailed below.

- Using the seizure method, which relies on data on seized goods, for total magnitude of counterfeit pest control products between 2017 and 2019 was KES4.82million;
- Using the firm sales losses method (which relies on firm level data on sales losses as a result of losing market to counterfeit pest control products), total magnitude of counterfeit pest control products between 2017 and 2019 was KES607.94bn. This shows the size of counterfeit pest control is much higher than indicated by seizure data;
- Magnitude of illicit trade in pest control products (which by definition includes counterfeits and all other illegally imported pest control products) between 2017 and 2019 was KES11.3billion.

3.2 THE SUPPLY OF COUNTERFEIT PEST CONTROL PRODUCTS BY MANUFACTURERS/FORMULATORS, DISTRIBUTORS AND AGENTS

1. Level of counterfeiting of pest control products that are produced by Kenyan industries

Counterfeiting of pest control products was confirmed by 60.98% of the respondent firms who indicated awareness of cases of their products being counterfeited and sold in the domestic market.

2. Impact on firms that indicated awareness of their products being counterfeited and sold in the domestic market

a) Sales losses

Out of the total firms that indicated awareness of their products being counterfeited and sold in the domestic market, 80% reported having experienced sales loss as a result. The sales loss over the period 2017 to 2019 amounted to KES608million. The source of the counterfeit pest control products was given as domestic as well as foreign markets. The top five counties where firms recorded sales losses were given as Kirinyaga, Nairobi, Kajiado, Bomet and Embu.

b) Loss of employment

In total, respondent firms reported a total of 110 job losses as a result of counterfeiting and sale of their counterfeited products in the domestic market.

c) Loss of employment

Over the three-year period, 2017-2019, investment opportunity lost in the pest control industry because of counterfeiting and sale of counterfeited pest control products in the domestic market stood at KES324 million.

d) Loss of Government

The total government revenue loss over the three-year review period (2017-2019) stood at KES199million.

3. Supply of counterfeit pest control products by manufacturers, distributors or agents of counterfeit pest control products

In total, 39% of total respondents indicated having awareness of manufacturers/formulators, distributors, agents or stockists (agrovets) of counterfeit pest control products. This finding demonstrates that there are manufacturers/formulators, distributors and agents who are engaged in the supply of counterfeit pest control products in the country. This finding is further supported by stockists who gave their source of counterfeit pest control products to be manufacturers/formulators.

4. User complaints

Majority of respondent firms (41% of total respondents) indicated having received users' complaints of their counterfeited pest control products. This finding reaffirms the respondent firms' assertion that they were aware of their products being counterfeited and sold in the domestic market. It is also an affirmation of the presence of counterfeit pest control products in Kenya.

Reporting of incidents of counterfeit pest control products

The level of reporting of incidents of counterfeiting of respondent firms' pest control products was quite high, with 85% of the affected firms indicating having reported these incidents to Government Agencies. The level of satisfaction with action taken on reported cases was rather worrying because 40% of those who reported indicated that they were not satisfied with the action taken.

3.3 STOCKING OF COUNTERFEIT PEST CONTROL PRODUCTS

a) Presence of counterfeit pest control products in the domestic market

An overwhelming 84.43% of the stockists indicated awareness of counterfeit pest control products in the domestic market. They gave domestic and foreign market as the source of these products.

b) Stocking of counterfeit pest control products

Stocking of counterfeit pest control products is done by unlicensed and licensed stockists.

a) Stocking by unlicensed stockists

According to 52.4% of the respondents, there are unlicensed stockists stocking and sell counterfeit pest control products. The following counties were cited by most of the respondents as counties with unlicensed stockists: *Kilifi, Taita-Taveta, Marsabit, Makueni, Nyandarua, Kiambu, Uasin Gishu, Laikipia, Bomet, Bungoma, Busia, Homa Bay, Tharaka-Nithi, Migori, Embu, Kisii, Kakamega, Meru, Kajiado, Kirinyaga, Narok, Nairobi, Nakuru.*

The most counterfeited pest control products that are stocked by unlicensed stockist are insecticides. This is followed by acaricides, herbicides and fungicides. The factors behind the sale of counterfeit pest control products by unlicensed stockist included low price, product popularity, ease of availability and brand name. The sources of counterfeit pest control products that are stocked by unlicensed stockists were given as traders, home based network of distributors, manufacturers/formulators, other agrovets and online platforms/shops (2.71%).

b) Licensed stockists that could be selling counterfeit pest control products

According to 31.21% of the respondents, there are some licensed stockists who stock and sell counterfeit pest control products. The lead counties that these stockists are located are as follows: Nairobi, Kisii, Kirinyaga and Kiambu. Other counties that also featured prominently are Narok, Nakuru, Mombasa, Kakamega and Uasin Gishu. The most popular counterfeit pest control products that are stocked by licensed stockist are herbicides, acaricides, fungicides and insecticides.

The factors behind the sale of counterfeit pest control products by licensed stockist included low price, product popularity, ease of availability and brand name. The sources of counterfeit pest control products that are stocked by licensed stockists were given as traders, home based network of distributors, manufacturers/formulators, other agrovets and online platforms/shops.

c) Licensed stockists who indicated having stocked counterfeit pest control products

Licensed stockists accounting for 16.31% of the total respondents admitted having ever stocked counterfeit pest control products. However, an overwhelming 65.01% of the respondents were categorical that they had never stocked counterfeits. The most stocked counterfeit pest control products by the agrovets who declared having ever stocked these products was herbicides, acaricides, insecticides and termiticides. Whatever the reason that prompted these agrovets to stock counterfeit pest control

products, the message coming from this finding is that there is risk that counterfeit pest control products are being vended in licensed agrovets.

There was no prior awareness, among 50.72% of the total licensed stockists who admitted having stocked counterfeit pest control products, that the products being stocked were counterfeits. The lead reason that made licensed agrovets who declared having ever stocked counterfeits stock them was brand name, low price, origin of the product, and ease of availability. The source of the counterfeits was given as follows: manufacturers/formulators, home-based network of distributors.

The agrovets who indicated having stocked counterfeit pest control products in their licensed outlets were categorical that they will not be knowingly stocking these counterfeit products. This view was held by 82.98% of the licensed stockists who admitted having stocked counterfeits. This revelation should be used as an asset to stop stocking of counterfeits in licensed agrovets through education, training, awareness creation and partnership distributor/manufacturers supplier network with agrovets that ring fences the licensed agrovets from infiltration of peddlers of counterfeit pest control products. This policy measure will also dry up the source of counterfeit pest control products for the few licensed agrovets who hubber plans to stock these products knowingly.

Awareness of legal consequences of stocking counterfeit pest control products

The level of awareness of legal consequences of stocking counterfeit pest control products was quite high as evidenced by 98.26% of the respondents who indicated being aware of the legal consequences. The consequences that were cited included arrest, license revocation, closure of business, heavy fines, among others.

3.4 DEMAND FOR COUNTERFEIT PEST CONTROL PRODUCTS

a) Presence of counterfeit pest control products in the domestic market

Presence of counterfeit pest control products in Kenya was confirmed by 86.10% of the respondents who indicated awareness of these products being sold in the domestic market. The source of these products was given as domestic and foreign markets.

b) Ability of users to tell a counterfeit pest control product at sight or when buying

Ability of users to tell counterfeit pest control products at sight or when buying is high as evidenced by 54.28% of the respondents who indicated having this capability. The users attributed their capability to tell counterfeits at sight or when buying to the following sources of knowledge: advertisements, sensitization, experience, seminars, brand owners, training and agrovets.

c) Awareness of the legal consequences of buying counterfeit pest control products

Majority of respondents (56.28%) indicated that they were not aware of the legal consequences of using counterfeit pest control products. This low level of awareness of the legal consequences is a concern in the fight against counterfeit pest control products because it suggests that the current legal deterrents are not adhered to because they are not known.

d) Purchase of counterfeit pest control products

Out of the total respondent, only 24.22% indicated having ever purchased counterfeit pest control products, with the rest of the respondents (37.98%) indicating that they never purchased counterfeit products and 29.15% of the respondents indicating not being sure whether they bought or they did not and choosing to be nonresponsive.

The lead counties where users indicated having purchased counterfeit pest control products were: Nakuru, Kirinyaga, Nairobi and Embu. The most purchased types of counterfeit pest control products were herbicides, acaricides, insecticides, rodenticide, growth regulators and nematicides, rodenticide

Majority of the respondents (83.70%) who indicated having purchased counterfeits did not have prior knowledge that the products were counterfeit at the time of purchase of the products. This finding illustrates that ignorance and failure of the users to tell a counterfeit pest control product at the time of purchase is a key factor that is contributing to the growth in trade of counterfeit pest control products.

The lead reason that prompted purchase of counterfeit pest control products was ease of availability (in shops, kiosks, hawkers and home-based distribution), low price and product popularity.

3.5 MANAGEMENT AND CONTROL OF THE COUNTERFEIT PEST CONTROL PRODUCTS IN KENYA

1. Effectiveness of preventive system for management and control of counterfeit pest control products in Kenya

The parameters that were used to assess effectiveness of the preventive system were **registration of pest control products, customs clearance protocols, logistics and sales, waste and packing disposal, raising awareness, interaction with business, joint raids, quarantine protocols, raising awareness on incidences of counterfeit and international cooperation**. The assessment sought to establish the extent to which the preventive system has embraced this international best practice in prevention of trade in counterfeits. The findings for each of these parameters are as detailed below.

a) Pest control products Registration

i) Mandate to register pest control products

Registration of pest control products is aimed at ensuring that only registered products are offered for sale or are in use in the country. The only agency that does registration of pest control products in Kenya is PCPB. This is in line with the international best practice where registration of these products is a preserve of the competent Authority, which in this case is PCPB.

ii) Registration system

A registration system that facilitates timely registration of pest control products for ease of referencing, especially on suspected illegal or unregistered products is a mandatory requirement from an international best practice point of view. PCPB indicated that they did not have such a system. Given that PCPB website gives information on registered products (<https://www.pcpb.go.ke/crops/>; <https://www.pcpb.go.ke/biopesticides-on-crops/>), the issue is a weak registration system rather than lack of one.

iii) Requirement for uniform registration for original and generic products

Facilitating distinction of original and generic products is considered a prudent disclosure practice in the international best practice for registration of pest control products. PCPB indicated having this policy on uniform registration of original and generic pest control products, thus earning a score on this international best practice benchmark.

iv) System for audit of registered brands/products for expired registration or removal from the approved list of pest control products

Efficacy in management and control of pest control products is enhanced by system for audit of registered brands for expired registration or removal from the approved list of pest control products. **PCPB the only Agency that is mandated to register pest control products, indicated that they did not have the system for audit of registered brands/products for expired registration or removal from the approved list of pest control products.**

v) Share the current list of registered pest control products with Customs Authority, Kenya Revenue Authority, ACA and National Police Force

PCPB was adhering to this practice because it indicated that it shares the list with Customs Authority, ACA and the National Police Force.

a) Customs Clearance

PCPB indicated having a system for detection, interception and detention of illegally traded pest control products by customs. The efficacy of this arrangement is however put to question by the huge discrepancy in data on seized counterfeit pest control products between 2017 and 2019, as reported in the Section 4.0 of this report (Magnitude and Prevalence of Counterfeit Pest Control Products) which stood at KES4.8million and reported sales losses from counterfeited products sold in the domestic market, which stood at KES608million and illicit trade in pest control products in 2019 which was estimated using international trade method to be KES4.4billion in 2019.

b) Logistics and sales

PCPB indicated that there was a national system of monitoring distribution and sale of pest control products in the country. **As for certified carriers, PCBP was nonresponsive, meaning that there lacks a clear policy or system on certified carriers for pest control products.** The efficacy of the national system of monitoring distribution and sale of pest control products is however put to question by the widespread distribution of counterfeited products that, as noted by manufacturers resulted in sales losses in 43 counties.

c) Waste and pest control products packing and disposal

The survey, through the response by PCPB, revealed that other than technical regulation on distribution of the pest control products, all the other parameters on waste, packaging and disposal of pest control products, are in place. This presents a good platform for fighting counterfeit trade.

d) Raising awareness

The three Agencies, PCPB, ACA and NEMA responded by indicating that they have awareness programs on counterfeit pest control products. However, only PCPB and NEMA indicated running awareness programs with active involvement of local authorities, media and civil society organizations. Whereas this response makes these Agencies get a score in this international best practice, the presence of counterfeit as well as illegally traded pest control products in Kenya points to the inadequacy of the awareness program in terms of outreach to users and other stakeholders.

e) Interaction with business

PCPB indicated that they engaged with business associations across the pest control value chain or life cycle. The business associations that the Agencies listed as associations they had engaged with are as follows:

- a) Agrochemicals Association of Kenya (AAK)
- b) Kenya Association of Manufacturers (KAM)
- c) Kenya Private Sector Alliance (KEPSA)

2. Effectiveness of the preparation system

The international best practice parameters to existence and effectiveness of a country's preparation system, following OSCE and OECD (2018) are as follows: Joint raids, Quarantine warehouses, Raising awareness on cases of counterfeit pest control products and International cooperation. The status of these parameters in Kenya was determined during the survey and the results are as below: -

a) Joint raids

All the three Government Agencies whose mandate touch on counterfeit pest control products indicated having conducted joint raids with other Government Agencies and business in response to incidents or reported cases of counterfeit pest control products. The Government Agencies and businesses engaged in the joint raids included the following: ACA, KRA Customs, NPS, NEMA, KEBS DCI and brand owners.

b) Quarantine warehouses

PCPB indicated that it has a total of five (5) specialized protected quarantine warehouses for storage of seized counterfeit pest control products pending investigation and court proceedings that are secured to

ensure against these products leaking to into the market. This is a plus in the country's fight against counterfeit pest control products.

c) Raising awareness on cases of counterfeit pest control products

PCPB indicated that there was provision for obligatory media coverage of seized or arrested counterfeit pest control products, which includes involvement of civil activists and businesses. It is the only Agency among the three that indicated having mandate on counterfeit pest control products that indicated having this obligatory media coverage. On how many coverages had been undertaken between 2017 and 2019, PCPB was nonresponsive, indicating that the data may not have been readily available at the time of the survey.

d) International cooperation

There exists an operational intelligence information exchange between Customs Authority and PCPB and equivalent agencies in the countries that Kenya imports pest control products. This policy and practice is laudable, because it makes Kenya have a score on this international best practice parameter.

3. Effectiveness of the system for response to incidents of counterfeit pest control products in Kenya

The three Government Agencies, PCPB, ACA and NEMA indicated that the response provision for reported incidents of counterfeit pest control products was in place and that it was enshrined in regulatory framework that also provided for: -

- i) All arrested counterfeit pest control products be transferred to specially protected warehouses;
- ii) Secure integrity of sample/exhibits;
- iii) Customs and law enforcement officers involved in seizure procedures should undergo proper training.

The three Agencies also affirmed that the customs and law enforcement officers involved in seizure procedures had adequate training and had access to proper personal protection equipment for use during response missions. This standard, which is already in Kenya's framework for management and control of pest control products is commendable as it makes the country have a score in this international best practice parameter.

4. Effectiveness of the system for management and control of production and trade of counterfeit pest control products in Kenya

Guidelines to Identify Illegal trade of Pesticides

a) Manufacturing and storage facilities

The PCPB, in line with the international best practice benchmark, indicated having an up-to-date list of manufacturing and storage facilities of pest control products with details which include: name of the pest control products; destination country; pesticide composition (distinguishing the active substance and co-formulants); date of manufacture; name and address of manufacturer(s) of active substance; date(s) of acquisition of active substance; name and address of manufacturer(s) of co-formulant(s); date(s) of acquisition of co-formulant(s); date of manufacture of pesticide; batch number; type of packaging used; name and address of purchaser; date of sale / goods out.

b) Dedicated Inspectors for management and control of pest control products

The PCPB, in line with the international best practice benchmark, confirmed that there is a dedicated office and team charged with inspection of pest control products across the industry. The total number of PCPB inspectors were given as 18. This was the figure in June 2020 against the optimal level of 30 inspectors. From this finding, it emerges that the team of inspectors is inadequate, a challenge that could have contributed to the rise in the level of counterfeit and illicitly traded pest control products.

c) Export

PCPB, in line with the international best practice benchmark, indicated having an up-to-date list of operators exporting pest control products. Further, PCPB is enforcing exporters regulations and has

provision for mandatory authorization of exports of pest control products before exports are made. Similarly, and in articulation of the best practice standard, PCPB requires exporters to record the details of stored and exported pest control products and to keep these records for a period of at least 5 years, including Name of pest control products or active ingredient, Name and address of exporter, Name, address and country of consignee, Date of shipment / delivery for shipment, Quantity shipped.

5. Effectiveness of the system for management and control of transport and importation of pest control products in Kenya

a) Pre arrival

The PCPB, in line with the international best practice benchmark, indicated having a system on pre-arrival information on consignments before they arrive at points of entry. PCPB was however nonresponsive on the system's information content and whether it was in line with the international best practice benchmark recommended (Invoices, Material Data Safety Sheets (MSDS), export certificates and packaging lists (if available))

b) In transit

Pest control products in transit are considered as products in the market, posing a threat for introduction of counterfeit or illegal pest control products in the market of the transit country. This threat, according to the international best practice benchmark is averted through technical regulations for pest control products in transit. PCPB indicated that there is no such regulation because regulations of goods in transit is a KRA customs mandate. While this is true, PCPB will need to liaise with KRA Customs and ensure that the regulations recommended by OSCE and OECD are domesticated in Kenya because pest control products, unlike general goods require special attention because of the threat they pose to the country, especially counterfeits products in transit.

c) Sale/Retail Distributors (wholesalers/retailers)

The PCPB, contrary to the stipulation of the international best practice benchmark, does not have a framework for management and controlling distributors of pest control products. This leaves a loophole in the pest control products life cycle where unscrupulous distributors can use this lapse to stock, sell and even export counterfeit or illicit pest control products.

d) Education

Education of distributors on identification of illegal pesticides is given by OECD (2018) as a best practice in management and control of pest control products. It is advocated that education of distributors should include easily identifiable common features of illegal pesticides such as packaging and labels; higher risk channels; documentation/traceability issues; and price. Further, this education should include information on the risks and hazards of illegal pesticides; the possible penalties for the storage or distribution of them, and how distributors can notify authorities of suspicious pesticides or activity.

Contrary to the above stipulated standard, neither PCPB, ACA or NEMA runs a program for educating distributors on the above-mentioned best practice education topics. PCPB should take lead in developing an education program that should be implemented through a Multi-Agency Team framework for combating counterfeit pest control products.

e) Use Professional users

The PCPB, contrary to the international best practice benchmark, does not have a framework for management and controlling professional users of pest control products. This leaves a loophole in the pest control products life cycle where unscrupulous users can use this lapse to stock, use and even export counterfeit or illicit pest control products.

i) Complaints from users of pest control products

The PCPB indicated having received a total of 27 users' complaints on counterfeit pest control products over the period 2017-2019. This is corroborated by responses from the users survey where only 11.43% of respondents indicated having reported incidents of counterfeit pest control products to PCBP among

other Government Agencies. This low level of reporting to PCPB underscores need for enhancing awareness among the users on need to report incidents of counterfeit pest control products whenever they are detected. PCPB needs to embrace user complaints as an indicator of the presence of counterfeit pest control products and proceed to develop a system for user reporting.

4.0 REMEDIAL MEASURES FOR FIGHTING PEST CONTROL PRODUCTS COUNTERFEITS

A. Measures to strengthen management and control of pest control products

1. Review of PCPB systems for management and control of counterfeit pest control products

The PCPB scored very highly in the assessment of the current and past efforts of practices in management and control of counterfeit pest control products on the basis of international best practice benchmarks drawn from OSCE (2015) and OECD (2018). The magnitude and prevalence of counterfeit pest control products in Kenya as revealed by this study dictates need for the review of these systems with an aim of strengthening or improvement. It is therefore recommended that the system that PCPB has put in place to management counterfeit pest control products be reviewed to determine completeness, functionality, and effectiveness. The scope for review of this system should include the international best practice benchmarks parameters that were used in this study – systems encompassing prevention, preparations, response on reported or detected incidents of counterfeits, regulation of stakeholders – manufacturers/formulators, distributors, exporters and importers, among others.

2. Review of PCPB adequacy of funding against the challenge posed by counterfeit pest control products

Comprehensive implementation and enforcement of the legislation that outlaws counterfeiting of pest control products and sets out enforcement mechanism is crucial to the fight against counterfeits in the pest control products industry. The magnitude of counterfeit pest control products as identified in this study calls for review of PCBP funding of programs and activities that are designed to combat counterfeiting and documenting the gap in funding against the cost that the entire country is exposed as a result of the risks posed by the well documented negative impact on health, environment, productivity, employment, investments, among others. The review to include exploring other alternative source of funding using international best practice cases of funding Agencies such as PCPB. A high-level forum with policy makers should be organized where these findings tabled.

3. Reviewed and strengthening of PCPB Inspectorate Services

The total number of PCPB inspectors was given as 18 in June 2020 against the optimal level of 30 inspectors. In view of the revealed magnitude of counterfeit pest control products and nationwide spread, it is recommended that a review of inspectorate services personnel requirement be made to determine whether the 30 people recommended are adequate or more would be needed. This exercise should be preceded by benchmarking PCPB inspections methods and approaches to international best practice in surveillance and inspection of pest control industry and the requisite structure for inspectorate services. Any gaps should be addressed through overhaul of PCPB inspectorate approach and methods, inspectorate services delivery and structure. The number of personnel implied in the new structure should then be procured and deployed for effective inspectorate service delivery throughout the country.

4. Establish a Government Multi Agencies Team on management and control of counterfeit pest control products

Pursuant to FAO (2011), ‘Good collaboration between the inspectors and other relevant agencies such as the Customs Department, Police Department and Ministry of Trade is crucial to ensure effective enforcement of the law’. PCPB underscored need for this collaboration in the survey where it decried weak coordination among Government Agencies. It is therefore important that a ‘Pest Control Product Multi Agency Team’ be established within the framework of Government Inter-Agency Team on Counterfeits, with clear mandate on counterfeit pest control products under the leadership of PCPB.

The entire team should undergo rigorous training on identification of counterfeit and illegally traded pest control products.

5. Review licensing regime for stockists/agrovets

To address cases of unlicensed stockists/agrovets who were said to be stocking and selling counterfeit pest control products, it is recommended that the licensing system be reviewed and ensure that before any stockist/agrovets is granted a county business permit it will have obtained mandatory certificate to operate from PCPB, renewable annually, as is currently the case.

There is also need for an all Government Approach to the licensing of agrovets to ensure that one Agency, e.g. KEPHIS issues certificate of operation on the basis that seeds will be stocked, only for this outlet to stock pest control products without due authorization from PCPB. Implementation of this recommendation will require a regulation on licensing and monitoring Stockists/Agrovets which should among other things protect the name 'Agrovets/Stockist' to mean an outlet licensed by Government Multi-Agency Team on Regulation of Agrovets, comprising PCPB, KEPHIS, DVS and any other Government Agencies that are currently involved in authorizing Agrovets to stock products that are regulated. The regulation will require any business operating as an Agrovets to first get regulators license before applying for a County Single Business License. Counties to commit not to license Agrovets/Stockists unless the Regulators Permit/License accompany the application. The Regulation to prescribe minimum conditions that must be met before the Regulators Permit/License is provided. This should include some basic training (for the owners and operator/staff manning the agrovets) on stocking the controlled products where identification of counterfeit and consequences of stocking and selling counterfeits would be covered.

Implementation of this regulation to be extended to current agrovets to ensure compliance across the country. This could be done at the time of renewal of the annual licenses, where agrovets will be required to comply with the new licensing and compliance requirement.

6. Education and awareness program targeting manufacturers/stockists, distributors, agents, stockists/agrovets and users (farmers, commercial users, professional users/spray service providers)

The presence of counterfeit as well as illegally traded pest control products in Kenya points to the inadequacy of the awareness program in terms of outreach to users and other stakeholders. Therefore, there is a need to develop and implement programs to educate users on the importance and need to avoid use of counterfeit pest control products, how to identify these products and need for reporting of incidences of counterfeits to the relevant authorities to investigate and take the necessary corrective actions. Users should be educated about the consequences of using counterfeit pest control products. The education and awareness program should be implemented jointly with private sector stakeholders in the pest control products industry and PCPB.

7. Measures to combat import-based counterfeit and illicitly traded pest control products

- a) Develop a bilateral trade facilitation program with source countries for lead sectors in import based illicit trade, aimed at customs valuation of exports and imports, under-invoicing, misdeclaration of imported goods and exchange of information on goods under illicit trade radar that are destined to Kenya
- b) Share import declaration information of pest control products under counterfeit and illicit trade radar with the Multi-Agency team on combating counterfeit and illicitly traded pest control products to ensure that envisaged importation does not end up being counterfeit of Kenyan brands or other illicitly traded products
- c) Officers from law enforcement agencies at entry points should have an on-line database of registered pest control products, including brands and their owners to safeguard against importation of counterfeit or illicitly traded pest control products
- d) Kenya should pursue with EAC and other Regional Economic Communities for a mechanism to monitor and eliminate counterfeit and illicitly trade pest control products in the region, especially

the products gaining access these countries through cross border trading. In the EAC, the effort should focus on enacting the pending Bill on Anti-Counterfeit.

8. Measures to discourage manufacture of counterfeit pest control products by unlicensed manufacturers/formulators

Introduce a manufacturing enterprises registration regime, under the Ministry of Industrialization, Trade and Enterprise Development, to ensure against establishment of enterprises that manufacture counterfeit pest control products. The regulation should require, among other things, that before an establishment that manufactures or formulates pest control products is registered as a manufacturing establishment, it must first obtain a permit or license from PCPB. The regulation should require County Single Business Permit for establishments that manufacture or formulate pest control products to be issued only after the PCPB license and State Department for Industry 'Industrial Establishment' registration certificates are provided.

9. Strengthen enforcement and compliance

In order to deter counterfeiting of pest control products, it is recommended that the current measures that include fines, penalties and sanctions be reviewed with a view to coming up with punitive measures that make counterfeiting business risky and unprofitable.

10. Complaint receiving and action platform

Complaints on incidents of counterfeit pest control products is a very useful indicator of the presence of these products in the country. The higher the number in any one year implies a higher presence of these products. This indicator works better if there is an easy and straight forward system of reporting that encourages manufacturers/formulators, distributors, agents, stockists and users to report any incidents that they come across in time. We recommend that PCPB in collaboration with AAK develop such a system and have it hosted at PCPB. The system should also contain action taken or being taken and sanctions imposed. The reporter should be allowed to follow up on the actions taken on incidents they reported. The portal should allow public to view as part of the awareness campaign to combat counterfeit pest control products.

B. Measures to strengthen private sector role in management and control of pest control products

1. Encourage all private sector stakeholders in the pest control industry should be a member of a private sector association operating in the pest control industry

Private sector association in the pest control industry should enhance recruitment to ensure that all registered/licensed private sector operators in the pest control industry become members of the association. Tiered membership structure to enable the lowest of the operators, such as agrovets become non fee/low fee-paying members is encouraged. The pull factor will be services and value that these associations provides to the members. This calls for review of all programs including introduction of new programs to ensure value that elicits demand for membership from target stakeholders so that they can continue receiving this value service.

2. An all-private sector nationwide structure program for education/training of manufacturers /stockists, distributors, agents, stockists/agrovets and users (farmers, commercial users, professional users/spray service providers)

The private sector players – manufacturers/formulators and agents should, through leadership of private sector associations in the pest control industry, develop an education/training program on counterfeit products touching on how to identify the products, their risks, value of not using counterfeits, among other topics. The program, which should target manufacturers/formulators, distributors, agents, stockists/agrovets and users (farmers, commercial users, professional users/spray service providers, among others), should be run by private sector associations of the consortium of private sector companies which offer to be part of the national program on education and training. This program should be linked with the one proposed under 'measures to strengthen management and control of

counterfeit pest control products’ where PCPB will also be a partner of private sector associations in development and execution of the nationwide program.

3. Private sector platform for sharing innovations and methods that are being used to counter counterfeit pest control products

The private sector has invested heavily in protection of brands through embracing brand protection, technology to help a user tell a genuine product from a counterfeit product, among others. While this may look obvious to the firms that are already aware of such protective measures, many others, especially the SMEs entering the sector may have no clue on how to go about protecting their products. A platform where private sector members of private sector associations in the pest control industry wish to share such information, including the suppliers of the protection technology.

4. Strengthen private sector role in the prosecution of cases of counterfeit pest control products

The private sector owners of pest control products are encouraged to take lead in the surveillance/monitor of their products and report violation of their rights through counterfeiting. This is the model that is being used in management of counterfeiting of Intellectual Properties Rights (IPR). In this case, for better chances of favourable outcomes in court cases, product owners should record statements and appear in court as expert witnesses. Product owners are the foremost experts on their products.

5. An all-private sector/PCPB awareness program on registered products, brands, licensed outlets, manufactures/formulators, distributors, agents and stockists/agrovets

The private sector, through leadership of AAK in partnership with PCPB should run annual awareness program using various platforms to create awareness on licensed manufacturers/formulators, distributors, agents and stockists/agrovets across the country and deregistered products

5.0 PROPOSED ACTION PLAN FOR IMPLEMENTATION OF RECOMMENDED REMEDIAL MEASURES FOR FIGHTING COUNTERFEIT PEST CONTROL PRODUCTS

A detailed action plan for implementation of the above recommended remedial measures is provided in section 10.0, complete with proposed activities, responsible organization and timeline for implementation over a two-year period (2021/2022 to 2022/2023).

1.0 INTRODUCTION

The agrochemical industry is pivotal and strategic to Kenya's economic development. This fact is best demonstrated by the significance of Kenya's agriculture sector in the overall economy. Agriculture is the lead contributor to Kenya's national wealth creation and a means of livelihood and employment as demonstrated by the sector's contribution to the country's Gross Domestic Product (GDP) annually. Between 2017 and 2019 the sector's contribution to the country's GDP was on average 28%. Over the same period (2017-2019), the sector accounted for an average 58% of the country's total exports.

This reality has made the Government place the sector at the heart of the country's economic transformation blueprints which are, Vision 2030, the Big Four Agenda and Integrated National Export Development Strategy (INEDPS). The latter strategy has assigned agriculture exports an annual growth rate of 25% per year as a contribution to the country's targeted export of KES2 trillion by 2025.

Among the key determinants of the sector's ability to deliver this targeted growth rate is pest control products. A significant number of agricultural products being produced, either for the domestic or export market require application of pest control products.

The agrochemical industry has, however, been experiencing challenges towards delivery of the above promise as a result of counterfeit pest control products. This challenge is underscored by AAK in the background to this study, where the Association observed that "*The risk faced by the Industry is real and seems to be spread countrywide*". This concern is further validated by the recently concluded National Baseline Survey on Illicit Trade, where the Agrochemical industry featured among the sixteen focal sectors under the chemical and allied industry. This industry recorded (at HS Chapter 38 level) illicit trade of KES11.8billion in 2017, rising by 23% to KES14.6billion in 2018.

The sector and the economy in general are therefore exposed to the negative impact that is associated with counterfeit pest control products. Some of these adverse effects include crop failures associated with ineffective pest control products, leading to food shortage; undeclared active substances that may result in unacceptable residue levels, making the products unmarketable; possible health related risks that consumers may be exposed to; firm losses as a result of genuine pest control products being competed out of the market by counterfeits; lost investment opportunities as entrepreneurs are discouraged from entering the agrochemical industry due to losses associated with counterfeits; and Government revenue loss.

This assignment is geared towards contributing to the search for the solution to this challenge through assessment of the situation to **determine the extent of counterfeiting of pest control products/pesticides in Kenya and measures to arrest the situation.**

The assessment involved examining the entire industry including each stage of the pesticide life cycle starting from manufacturing, distribution, storage, use and container recycling and disposal in relation to compliance and enforcement.

The overall objective of the assignment is to determine the status of counterfeiting of pest control products/pesticides in Kenya. This objective is to be realized through pursuit of the following tasks: -

- f) Assess the success of past and current efforts to manage and control the counterfeit pest control industry in Kenya;
- g) Assess the degree and presence of the counterfeit pest control products;
- h) Assess the extent to which counterfeit pest control products are stocked and used in the country;
- i) Determine the nature and key stakeholders of the counterfeit pest control product industry and the key entry points;
- j) Determine the factors that drive the counterfeit industry to prosper in the country;
- k) Propose practical remedies for management of the counterfeiting of pest control products problem including statutory and policy actions that are needed; and
- l) Proposed action plan for fighting counterfeit pest control products.

2.0 APPROACH AND METHODOLOGY

The key outputs from this study defined the approach and methodology that was applied in delivery of the assignment. These outputs, as outlined in the terms of reference for this study are:

1. The degree (magnitude) and presence of counterfeit pest control products in Kenya
2. Past and current efforts for management and control of counterfeit pest control products
3. Stocking of counterfeit pest control products
4. Factors behind counterfeit trade in Kenya
5. Remedies for management of the counterfeiting of pest control products
6. Proposed action plan

2.1 Measurement of the degree and presence counterfeit pest control products

The degree of the counterfeit pest control products refers to the magnitude in value terms in any one given year. On the other hand, the presence of the counterfeit pest control products refers to the prevalence of these products overtime. In this study, the data used was for the years 2017, 2018 and 2019. The following complementary methods of assessing the magnitude and prevalence of counterfeit pest control products were used:

- d) International trade-based method
- e) Seizure method
- f) Firm sales losses method

The details of each of these three approaches and methodologies are provided below:

2.1.1 Determination of the degree and presence counterfeit pest control products based on seizures by Government Agencies

Seizure is a method that has been used by the WCO since 2012 to measure the global magnitude of illicit trade from data reported by customs under the WCO Customs Enforcement Network. The scope of coverage is goods whose trade contravenes domestic laws of the country where the goods are seized according to the legislations in the country.

As observed in the ACA report on ‘National Baseline Survey on the Extent of Illicit Trade in Kenya – Firm Level Report (May 2020)’, Kenya uses the seizure method, in conjunction with other methods, to track the magnitude of counterfeit trade in the country. This method was used to assess the magnitude and prevalence of counterfeit pest control products.

Parameters of the seizure data

The parameters of the seizure data are meant to facilitate collection of data using the WCO nomenclature of products as contained in WCO HS 2017⁶ Edition of product nomenclature and as already domesticated in Kenya through the EAC Customs Tariff Book⁷. For pest control products the HS descriptions at six-digit level fall under Heading HS 3808.

Counterfeited pest control products are either sourced from foreign markets or sourced locally from the domestic market. There are therefore parameters put in place for international trade-based seizures and parameters put in place for domestic market-based seizures as follows: -

a) Parameters for international trade based (imports) seizures

The table below shows the rationale in the context of measurement of the magnitude of counterfeit and all forms of illicit trade for imports. It describes the rationale of parameters such as the HS Code, Year,

⁶ <http://www.wcoomd.org/en/topics/nomenclature/instrument-and-tools/hs-nomenclature-2017-edition.aspx>

⁷ <http://www.trade.go.ke/content/eac-tariff-book-hs-2017>

Value, Volume, country of origin, date of seizure, place of seizure, form of disposal, date of disposal and National IPR Holders affected by the Seized Products (in case of counterfeit and piracy).

Table 1: Parameters to guide collection of data on illicit trade emanating from international trade (imports)

Parameter	Rationale in the context of measurement of the magnitude of counterfeit and all forms of illicit trade
HS Code	Conformity with the WCO product nomenclature and allows comparison with data collected using international trade method.
Description of the Products	
Year	The year of seizure allows the building of time series data on seizures which is crucial in measurement of prevalence of the counterfeit pest control products.
Value	The value and volume allow measurement of the magnitude of the counterfeit and all forms of illicit trade.
Volume	
Country of Origin	This parameter is critical in the analysis to show the countries from where the counterfeit pest control products originate.
Date of Seizure	This parameter is crucial in determination of incidences of counterfeit pest control products occurrence, using the date of seizure as the date of occurrence. It will be important in the computation of the number of seizures as a measure of the success of the fight against counterfeit.
Place of Seizure (County, City, Town or Rural Area)	This parameter helps in determination of hotspots of counterfeit pest control products through comparative analysis of the value and number of seizures by geographical locations. By computing the number and value of seizures the significance of specific geographical areas will emerge.
Form of Disposal	This parameter allows analysis of measures taken to discourage counterfeit pest control products. Disposals send a strong message to vendors on the cost of dealing or trading in counterfeit pest control products goods. Seizure and disposal should be positively correlated as an indicator of the ultimate goal of seizure. This parameter allows this computation.
Date of disposal	This parameter allows comparative analysis between the date of seizure and disposal. It allows policy discourse on the appropriate period between seizure and disposal as an instrument of discouraging counterfeit and all forms of illicit trade.
National IPR Holders affected by the Seized Counterfeit pest control products.	This parameter enables correlation of seizure to the specific IPRs being infringed on by counterfeit pest control products. It allows analysis of seizure data by specific patents and trademarks that are being infringed upon, leading to computation of costs to the economy using the industries or IPR Holders identified through the seizure data method.

ii) Parameters for domestic market-based seizures

The table below shows the rationale in the context of measurement of the magnitude of counterfeit pest control products for domestic market-based seizures targeting counterfeit pest control products: -

Table 2: Parameters to guide collection of data on illicit trade within the domestic market

Parameter	Rationale for the parameter in the context of measurement of the magnitude of counterfeit and all forms of illicit trade
Name of industry/firm where the product was seized	This parameter enables attribution of seized data to the offender companies/individuals. Analysis of the characteristics of these companies/individuals helps to provide crucial corporate information on the supply side of the counterfeit pest control products.
Location (County, City/Town/Rural Area)	This parameter helps in determination of hotspots of counterfeit pest control products through comparative analysis of the value and number of seizures by geographical locations. By computing the number and value of seizures the significance of specific geographical areas will emerge.
Description of the Product	Conformity with the WCO product nomenclature and allows comparison with data collected using international trade method
Year of Seizure	The year of seizure allows building of time series data on seizures which is crucial in measurement of prevalence of the counterfeit pest control products
Value	The value and volume allow measurement of the magnitude of the counterfeit pest control products
Volume	
Date of Seizure	This parameter is crucial in determination of incidences of counterfeit pest control products occurrence, using the date of seizure as the date of occurrence. It will be crucial in computation of the number of seizures as a measure of the success of the fight against counterfeit.
Place of Seizure	This parameter helps in determination of hotspots of counterfeit pest control products through comparative analysis of the value and number of seizures by geographical locations. By computing the number and value of seizures the significance of specific geographical areas will emerge.
Form of Disposal	This allows analysis of measures taken to discourage counterfeit pest control products. Disposals send a strong message to vendors on the cost of dealing or trading in counterfeit pest control products. Seizure and disposal should be positively correlated as an indicator of the ultimate goal of seizure. This parameter allows this computation.
Date of disposal	This parameter allows comparative analysis between the date of seizure and disposal. It allows policy discourse on the appropriate period between seizure and disposal as an instrument of discouraging counterfeit pest control products.
National IPR Holders affected by the Seized Products (in case of Counterfeit and Piracy).	This parameter enables correlation of seizure to the specific IPRs being infringed on by counterfeit pest control products. It allows analysis of seizure data by specific patents, trademarks and Copyrights that are being infringed upon, leading to computation of costs to the economy using the industries or IPR Holders identified through the seizure data method.

b) Survey Instrument

The data was collected online based on the ‘Survey To Go’ application that enabled Government Agencies to log in, fill in and submit the online questionnaires. The questionnaire provided a platform for respondents to respond to questions under key thematic areas that will help gather the necessary information needed.

The following Government Agencies were identified and engaged in the survey using the survey instrument attached to this report as Annex 1.

- a) Pest Control Products Board (PCPB)
- b) Anti- Counterfeit Agency (ACA)
- c) Kenya Revenue Authority (KRA)
- d) Kenya Bureau of Standards (KEBS)
- e) National Environmental Authority (NEMA)
- f) National Police Service (NPS)

The result on the magnitude of illicit trade in counterfeit pest control products is provided in Chapter 4.0 of this report.

2.1.2 Determination of the degree and presence of counterfeit pest control products on the basis of firms' sales losses

Firms' sales losses as a measure of illicit trade have been advocated in the OECD (2008) study. Sales losses occur when illicit trade, and specifically counterfeit and pirated products, crowd genuine products out of the market. This leads to the lowering of market share of the rights holder and consequent downward pressures on prices as the products fight to remain in the market because of "cutthroat" unfair competition from counterfeits and pirated products. In the case of trademark and copyright-infringing items, the loss in market share has two components:

- a) Sales lost to consumers who purchase a counterfeit or pirated product believing it is genuine, and
- b) Sales lost to consumers who knowingly purchase a lower-priced counterfeit or pirated product instead of a genuine article.

The sales loss approach to measuring illicit trade has also been applied by the Kenya Association of Manufacturers (KAM) study on illicit trade in Kenya (KAM, 2012), which estimated that Kenyan manufacturers are losing close to 40% of their market share to counterfeiters. Kenya Publishers' Association are also quoted in the ACA (2019) - National Action Plan and Implementation Framework to combat illicit trade in Kenya (2019-2022), to have used sales losses to establish the extent of book piracy. The publishers, using method estimated more than KES 2 billion loss annually through book piracy.

Therefore, the evidence that has been adduced this far indicates that traditionally, firm level methods of measurement of illicit trade focus on counterfeit and piracy, where the target population is the IPR firms, i.e. firms that have registered their Intellectual Property Rights (IPRs). Since this baseline study goes beyond counterfeit and piracy to include other forms of illicit trade (substandard, uncustomed, unexcised and restricted goods) the measurement of firms' sales losses will be extended to cover Non-IPR firms, i.e. firms that are engaged in manufacturing of products without having registered Intellectual Property Rights such as Trademarks.

The concept behind firm level methods of measurement of illicit trade is premised on the fact that, in many cases, illicit trade undercuts genuine products by landing in the domestic markets at prices far below the prices of genuine products. The domestic firms producing similar products start feeling the heat through market loss, which prompts them to undertake surveillance and to report occurrences of illicit trade as a defense against the losses their businesses experience.

Survey instrument and data collection techniques

The firm level survey instrument (Annex xx) was used to collect the data on sale losses through the online tool based on the 'Survey To Go' application that enabled firms to log in and fill in and submit the online questionnaires.

Computer Aided Web Interface (CAWI) method was used to collect the data. This was done using the 'Survey To Go' tool. This tool was chosen for this survey because of its following strengths:

- a) Supports more than 1000 users depending on the package,

- b) It is user friendly,
- c) Scripting the questionnaire is quite easy, one is able to collect data offline and only upload the data when they get internet access,
- d) Quality control features such as skip logic, question branching, site intercept survey, looping,
- e) Supports Geo fencing, audio/image/video, among others helping ensure that collected data has very minimal errors if any,
- f) Wrong data can be returned back to the surveyor for correction and re-upload.
- g) No expiry of data storage period by Survey To Go (STG) tool, hence as the account holder, you can at any particular time login and access the data.
- h) Allows export of the data to multiple applications for further analysis, e.g. Statistical Package for the Social Sciences(SPSS), Access, Excel, Word, XML, e.t.c.

The tools were scripted and configured for access through a CAWI Link. The link was emailed to the target respondent firms. Respondent firms filled and submitted the questionnaires by themselves online.

Sampling and actual firms that participated

Manufacturers/Formulators

In the case of manufacturers/formulators, 55 of them were drawn from the membership of Agro Chemical Association of Kenya (AAK) and the list provided by Pest Control Product Board (PCPB). The repeated manufacturers/formulators were subtracted from the total number of 55 to arrive at 42 manufacturers/formulators. Out of 42 manufacturers/formulators, a sample size of 30 manufacturers/formulators was determined (*reference on sampling technique for firms under the section on methodology*). The online questionnaires were sent to all 30 manufacturers/formulators and follow up done over the period 16th November 2020 to 5th February 2021. Only 12 of them responded with the rest having committed to submit but never ended submitting by the end date of the field survey. The list of those companies is with AAK for future follow up and sensitization on need to participate in such an important research.

Distributors/Agents

Similarly, the list of 88 distributors/agents were drawn from the membership of Agro Chemical Associations and the list provided by Pest Control Product Board, 76 distributors/agents were arrived at after repeated distributors/agents were subtracted. A sample size of 43 distributors/agents was determined. The online questionnaires were also sent to all 43 distributors/agents to fill and return. Only 22 distributors and 7 Agents responded with the rest having committed to submit but never ended up submitting by the end date of the field survey. The list of those companies is with AAK for future follow up and sensitization on need to participate in such a very important research.

In total, 41 (12 manufacturers, 22 distributors and 7 Agents) respondents submitted their online questionnaires.

The result on the magnitude of illicit trade in counterfeit pest control products is provided in Chapter 5.0 of this report.

2.1.3 Determination of the degree and presence counterfeit pest control products on the basis of international trade flows

The international trade method for measurement of illicit trade is adapted from the ACA Study on the extent of Illicit Trade in Kenya (2020). As observed in this study, the first major attempt to measure counterfeiting and piracy was the acclaimed and groundbreaking Organization for Economic Co-operation and Development (OECD) 2008⁸ report, later updated in 2016⁹ by the European Union Intellectual Property Office (EUIPO). The focus of these two studies was counterfeit and piracy. The

⁸ OECD (2008); *The Economic Impact of Counterfeit and Piracy*.

⁹ EUIPO (2016), *Trade in Counterfeit and Pirated Goods*.

studies relied on customs seizure data. The methodology used involved computing the propensity or probability of counterfeiting or piracy of products, where the probability was determined based on these products' share in the reported seizures by 77 reporting countries in 2011, 2012 and 2013. The studies also used the same method to compute propensity or probability of a given country being the source of counterfeit or pirated products, based on their share of the reported seizure.

The key limitation in this method in regard to Kenya's quest for measurement of magnitude and levels of illicit trade is its narrow focus on only two forms of illicit trade – counterfeit and piracy. A more holistic and comprehensive international trade method of estimating the magnitude and prevalence of all forms of illicit trade is the comparative analysis of declared exports by the world to a specific country, and the importing country's declared imports from the world. The EUIPO (2016) acknowledged this fact but moved away from this methodology because of the following challenges:

- 1) Differentials between imports and exports arising from the insurance and freight component of the imports;
- 2) Time lag between exports and import recording by the importer and exporter country; and
- 3) Misreporting by exporters through collusion with importers geared towards evading taxes at port of entry.

Despite these weaknesses, comparative analysis of exports and imports offer a more powerful indicator of the magnitude of illicit trade. It is worth noting that the third challenge above on misreporting (*misreporting by exporters through collusion with importers*), is the very reason why comparative analysis of exports and imports should be used to pick cases of undervalued/under declared imports which contravene customs law and thus qualify as illicit trade. Comparative analysis of world declared exports and importing country's declared imports from the world would also help flag out possible cases of overvalued/over declared imports, where goods that would have otherwise been declared under tariff headings that would require prior authorization because of controls such as public health safety, among others, end up being declared in tariff headings that would conceal the identity of the product thus ending up being imported without meeting the prior import authorization requirements.

The way forward, therefore, is to devise a strategy to overcome these challenges by coming up with factors that correct the disparity between exporting country's declared exports and importing country's declared imports from the specific exporter country. These factors basically address the first and second challenge with the aim of making exports and imports comparable through neutralization of time lag and the insurance and freight charges. These adjustment factors are discussed below and later applied in the measurement of the magnitude of illicit trade.

a) Adjustment of imports for time lag

Exports from the country of origin are recorded as exports at the time that the customs in those countries release the goods for export. An importing country, on the other hand declares imports from a specific country of origin when the goods are received and cleared as imports by the customs.

In order to bring out the time lag challenge, let's assume the case of consignment **XY** being exported to Kenya by India in the month of June. India's declared exports to Kenya in June will be **XY**. In Kenya, declared imports from India in June will be nil because the consignment will not have been received. Therefore, comparing India's declared exports to Kenya in June and Kenya's imports from India in June will indicate an export/import differential of **XY** with the difference being as a result of time lag in export/import recording.

On the other hand, using the above example but now taking into account Kenya's declared imports in the month of June, time lag needs to be taken into account in order for comparison of Kenya's declared imports in June and India's declared exports in June to be comparable. Kenya's declared imports from

India for the month of June will be including India's declared exports to Kenya in the month of May. Hence, to ensure comparability of India's declared export to Kenya in June and Kenya's declared imports from India, the month of May imports from India would have to be deducted from Kenya's June imports from India.

To address this challenge in Kenya and taking into account that (for purposes of this study) Kenya's trade partner is taken to be the world, the time lag factor is considered to be the average number of days that cargo takes to come from around the world to Kenya which is one month (30 days). This is the average number of days taken for goods to be freighted into Kenya from around the world taking into account that distance variances from one country to the other, with goods originating from the region taking less than 14 days while goods coming from the USA taking 30 days. The goods from China, as a further example, take an average of 29 days to arrive in Kenya.

Table 3: Number of days it takes to ship goods from various ports in China to Kenya

Port of Loading	Port of Arrive	Transmit Time
Shanghai	Mombasa	29
Shenzhen	Mombasa	26
Ningbo	Mombasa	29
Qingdao	Mombasa	31
Tianjin	Mombasa	32
Xiamen	Mombasa	27
Average number of days		29

Source: <http://ports.com/sea-route/port-of-shanghai,china/port-of-mombasa,kenya/>. Distance for all ports obtained from the same website.

Therefore, the time lag factor (*the value of exports to adjust imports with*), that will be applied in this study will be determined through computation of monthly exports, by dividing the annual exports by 12 (*average monthly exports*). The lag adjustment factor (A_*), will be obtained by adding one month world declared exports at the current year and then subtracting one month world declared exports for the previous year. The latter will be added to Kenya's declared imports from the world for the current year.

Below is the formula for the time lag adjustment:

$$\text{Adjusted Imports}_{\text{current year}} = \text{kenya declared imports}_{\text{current year}} - 1 \text{ month world declared exports}_{\text{previous year}} + 1 \text{ month world declared exports}_{\text{current year}}$$

For example

$$\begin{aligned} \text{Adjusted imports}_{2018} &= \text{kenya declared imports}_{2018} - 1 \text{ month world declared exports}_{2017} \\ &+ 1 \text{ month world declared exports}_{2018} \end{aligned}$$

Table 4: Time lag adjustment simulation spread sheet

(1)	(2)	Imports		Exports			
HS Code	Product description	2017	2018	2016	2017	2018	
	Average Monthly exports $\left(\frac{X}{12}\right)$	Imports	Imports	$\frac{X_{2016}}{12}$	$\frac{X_{2017}}{12}$	$\frac{X_{2018}}{12}$	Adjustment Imports for time lag (A_*)

Abbreviation		M_{2017}	M_{2018}	d_{2016}	d_{2017}	d_{2018}	A_{*2018} $=M_{2018} +$ $(-d_{2017} +$ $d_{2018})$
Chapter 38	Live animals						

b) Adjustment for insurance and freight

Export/import parity pricing method will be used to avoid errors associated with exports being declared at Free on Board (FOB) prices and imports being declared on Cost, Insurance and Freight (CIF) basis. A consideration of what constitutes CIF helps explain parity pricing in exports and imports of specific products:

CIF Price: -

Includes:

- FOB cost at the point of export
- Freight charges to point of import
- Insurance charges
- Unloading from ship to pier at port

Excludes:

- Import duties and subsidies
- Port charges at port of entry for taxes, handling, storage, agents' fees, and the like

Therefore, import price parity will be obtained by deducting estimated freight charges and insurance charges.

The insurance and freight component are deducted from adjusted imports for time lag to achieve adjusted imports M_* .

Insurance factor is then computed from imports (c.i.f.) adjusted for the time lag using the following formula $i = \text{imports (c.i.f.) adjusted for the time lag} * 1.5\%$ ¹⁰.

Freight factor is then computed from imports (c.i.f.) adjusted for the time lag using the following formula: $f = \text{imports (c.i.f.) adjusted for the time lag} * 18.5\%$ ¹¹.

Table 5: The 'insurance' and 'freight' adjustment simulation spread sheet

(1)	(2)	CIF (imports adjusted by lag)	Insurance factor (i)	Freight Factor (f)	Adjusted Imports (M_*)
HS Code	Product description	$CIF = A_*$	$(CIF$ $* 1.5\%)$	$(CIF$ $* 18.5\%)$	$M_* = CIF - (i + f)$
3808	Insecticides, Rodenticides,				

¹⁰ Consultations with freight forwarders stakeholders (FEAFFA) revealed that insurance component in imports (c.i.f) is usually 1.5% of the imports (c.i.f), a rate that KRA uses to determine the c.i.f value of imports. This view is further corroborated by the Author of the East African, Mr. Njiraini Muchira - <https://www.theeastafrican.co.ke/business/Kenyan-insurers-battle-for-marine-cover-/2560-4093794-112n8c9z/index.html>

¹¹ Consultations with freight forwarders stakeholders (FEAFFA) revealed that freight component in imports (c.i.f) is usually an average of 18.5% of the imports (c.i.f). This view is further corroborated by the Author of the East African (Mr. Gitonga Marete) Article: "<https://www.theeastafrican.co.ke/business/Kenyan-shippers-save-freight-fees/2560-4186950-151igaw/index.html>" where the freight component of importation of KES1.4trillion imports in 2017 is estimated at KES300billion, working to 0.21 of the import value.

(1)	(2)	CIF (imports adjusted by lag)	Insurance factor (<i>i</i>)	Freight Factor (<i>f</i>)	Adjusted Imports (M_*)
HS Code	Product description	$CIF = A_*$	$(CIF * 1.5\%)$	$(CIF * 18.5\%)$	$M_* = CIF - (i + f)$
	Fungicides, Herbicides, Anti- Sprouting Products And Plant-Growth Regulators, Disinfectants				

a) Limitation of the International Trade method

The international trade method however does not break down the data into counterfeit and other forms of illicit trade. This is because the data is based on international trade data captured through customs declaration which seeks to record volume and value of trade by destination or country of origin, among other parameters. The data is only able to tell the level and magnitude of counterfeit and all forms of illicit trade in total. Following WCO Annual Illicit Trade Reports, seizure data, as discussed in section 3.2 below, is the one that measures the level and magnitude of desegregated counterfeit and other forms of illicit trade.

b) Specification of the formula and parameters

The measurement of illicit trade from international trade data is premised on the basic concept that declared exports by a specific country of origin should match the recorded imports in the destination country. The factors that would make the subject exports and imports not be equal are as discussed above and their neutralizing remedies are as explained above for purposes of ensuring such challenges are avoided or minimized.

c) Formula

The following formula will be used to measure the differential in imports and exports, where the differential is interpreted to be a measure of illicit trade, after adjusting for the seasonality (time lag), and cost and insurance freight components of the imports.

$CIT = X - M$, where CIT is Value of Illicit Trade, X is reported exports (net or re-exports) by the bilateral trade partner or country of origin and M is imports as recorded by the destination country.

Parameters

Following OECD (2008), and EUIPO (2016), and given the focus of the study to be on ‘Pest Control Products’ the most appropriate level to measure the extent of illicit trade is at Harmonized System (HS) six-digit level for products of HS Heading 3808 as specified in the table below:

Table 6: Harmonized System of Classification of Pest Control Products

Product code	Product label
3808	Insecticides, rodenticides, fungicides, herbicides, anti-sprouting products, plant growth regulators, disinfectants and the like, put up in forms or packings for retail sale or as preparations or articles
380850	Insecticides, rodenticides, fungicides, disinfectants, herbicides and the like; containing goods specified in Subheading Note 1 to this Chapter; put up in forms or packings for retail sale or as preparations or articles

Product code	Product label
380891	Insecticides; other than containing goods specified in Subheading Note 1 to this Chapter; put up in forms or packings for retail sale or as preparations or articles
380892	Fungicides; other than containing goods specified in Subheading Note 1 to this Chapter; put up in forms or packings for retail sale or as preparations or articles
380893	Herbicides, anti-sprouting products and plant-growth regulators; other than containing goods of Subheading Note 1 to this Chapter; put up in forms or packings for retail sale or as preparations or articles
380894	Disinfectants; other than containing goods specified in Subheading Note 1 in this Chapter; put up in forms or packings for retail sale or as preparations or articles
380899	Rodenticides and other similar products n.e.c. in heading no. 3808.9; other than containing goods specified in Subheading Note 1 in this Chapter, put up in forms or packings for retail sale or as preparations or articles

Bilateral Partner

To measure the magnitude of illicit trade, the appropriate partner for Kenya is the world. Thus, illicit trade in any HS chapter is computed through analysis of the world's declared exports to Kenya and Kenya's declared imports from the world of products in a specific chapter.

Magnitude of illicit trade (CIT)

This is the difference between what the world declares as its exports to Kenya and what Kenya declares as its imports from the world. This figure will be computed for each product grouping at the HS six-digit level to determine the magnitude of illicit trade. To get the national picture, aggregation of the HS six-digit results will be done to obtain total at HS 4 Digit (3808) level.

Exports (X)

Exports refer to the value of Kenya destined exports as declared by the world. The data was collected at HS 2 Digit level for all the 97 HS Chapters using COMTRADE database for the period 2017 – 2019¹².

Imports (M)

Imports refer to Kenya's declared imports of the same products that the world declares as having exported to Kenya. The data was collected in value at HS 6 Digit level for the above specified products, using the COMTRADE database for the period 2017 – 2019.

Source of data

The data on exports and imports of focal products was collected from the United Nations (UN) COMTRADE database. The justification of using this database is well articulated in OECD/EUIPO (2016), which makes the argument that *'with 171 reporting economies and 247 partner economies (76 economies in addition to reporting economies), the database covers the largest part of world trade and is considered the most comprehensive trade database available. Products are registered on a six-digit Harmonized System (HS) basis, meaning that the level of detail is high,'* OECD/EUIPO (2016), page 38.

The result on the international trade-based magnitude of illicit trade in counterfeit pest control products is provided in Chapter 4.0 of this report.

¹² Subject to availability of 2019 data at the COMTRADE data base

2.2 Approach and methodology in assessment of the effectiveness of past and current efforts for management and control of counterfeit pest control products

This result area sought to assess the efficacy of policy, legal and regulatory framework on management and control of counterfeit pest control products. This is what was considered to constitute past and current efforts to manage and control pest control industry in Kenya. The basis for this assessment was international framework for best practise in “*Policy, legal, regulatory and practice in management and control of pest control products*”. This framework was prepared through review of internationally accepted management and control of pest control products, especially in Kenya’s lead trading partners such as the EU, USA as well as relevant international conventions.

This framework of assessment was presented to AAK and PCPB for review and adoption as the basis for review of the past and current efforts, which is deemed to refer to the policy, legal and regulatory framework that has been put in place and measures taken to implement the policies. Gaps between the international framework for best practise in “*Policy, legal, regulatory and practice in management and control of pest control products*” were identified and remedial measures proposed. In addition, this review provided input to specification of issues that were included in the survey which were administered among the respondent in the Government Agencies, Firms and end users of pest control products surveys. The issues that were considered in the survey included following:

- a) *Registration of pest control products*
- b) *Licensing of vendors*
- c) *Inspection and monitoring of outlets*
- d) *Protocols for seizure and disposal of seized pest control products*
- e) *Licensing of manufacturers and distributors*
- f) *Program on awareness creation and capacity building on matters pertaining to the policy and legal provisions on stocking, sale and use of pest control products*

The survey instrument (Annex 1) incorporating the above issues was designed and administered online to the following Government Agencies that had been identified through consultations with AAK and PCPB as the Agencies to be targeted in the survey.

- a) Pest Control Products Board (PCPB)
- b) Anti- Counterfeit Agency (ACA)
- c) Kenya Revenue Authority (KRA)
- d) Kenya Bureau of Standards (KEBS)
- e) Kenya Plant Health Inspection Services (KEPHIS)
- f) National Environmental Authority (NEMA)
- g) National Police Service (NPS)

The results on effectiveness of past and current efforts of management and control of counterfeit pest control products are provided in Chapter 8.0 of this report.

2.3 Approach and methodology in assessment factors behind trade in counterfeit pest control products in Kenya

Conceptually, factors behind trade in counterfeit pest control products are traced to the supply, stocking and demand of these products. The approach and methodology that was used to get these factors, was therefore, three-fold. The first involved firm level survey to capture supply factors, the second involved agrovets or stockists, where role of distributorship in the trade of counterfeit pest control products was assessed. Finally, these factors were assessed using the pest control users survey. The specific details of these three methods are provided below.

Manufacturers/Formulators, Distributors and Agents (supply factors behind the trade in counterfeit pest control products)

The key parameters to inform the supply factors behind trade in counterfeit pest control products, were identified and included in the survey instrument (annex 2). These include the following:

- a) Source of counterfeit pest control products
- b) Nature or type of firms that supply pest control products
- c) Methods used to supply counterfeit pest control products
- d) Factors behind the supply of counterfeit pest control products and proliferation of industries that produce counterfeits
- e) The outlets for distributorship of counterfeit pest control products (*The extent to which counterfeit pest-controlled products are stocked*)
- f) Impact of counterfeit products on licensed manufacturers/formulators and distributors – *Sales losses, Investment Losses and Employment Losses*
- g) The firms' assessment of the effectiveness of measures to curb the supply of counterfeit pest control products

The survey was conducted on sample basis. The sample was drawn from a population of manufacturers and distributors and Agents as obtained from AAK and PCPB.

Sampling of manufacturers

For manufacturers, the sample was drawn from a population 42 companies. The sample size was determined based on Cochran (1963)¹³, where the following formula was used to generate statistically significant sample of 30 companies:

$$\text{Sample size} = \frac{N_0}{1 + \frac{N_0 - 1}{N}}$$

Where $N_0 = \frac{Z^2 pq}{e^2}$
And

N_0 = Sample size before adjustment

N = Population size

p = Desired confidence level

q = $1 - p$

Z = Area under normal curve corresponding to the desired confidence level

e = Level of precision

p = value that gives maximum variability = 0.5

e = Level of precision = $\pm 10\%$

At 95% Confidence Level, the Z value is 1.96

First, we calculate for

$$\begin{aligned} N_0 &= 1.96^2 \left[\frac{0.5(1-0.5)}{0.1^2} \right] \\ &= 3.8416 \left[\frac{0.25}{0.01} \right] = 96.04 \end{aligned}$$

We then compute the sample size

¹³ Cochran, W. G. 1963. *Sampling Techniques, 2nd Ed., New York: John Wiley and Sons, Inc.*

$$\begin{aligned} \text{Sample size} &= \frac{96.04}{1 + \frac{96.04 - 1}{42}} \\ &= \frac{96.04}{1 + 2.262857143} = 29.43 \approx 30 \end{aligned}$$

Sampling of distributors

For distributors, the sample was drawn from a population of 76 companies obtained from AAK and PCPB. The sample size was determined based on Cochran (1963)¹⁴, where the following formula was used to generate statistically significant sample of 43 companies.

p = value that gives maximum variability = 0.5

e = Level of precision = ± 10%

At 95% Confidence Level, the Z value is 1.96

First, we calculate for

$$\begin{aligned} N_0 &= 1.96^2 \left[\frac{0.5(1-0.5)}{0.1^2} \right] \\ &= 3.8416 \left[\frac{0.25}{0.01} \right] = 96.04 \end{aligned}$$

We then compute the sample size

$$\begin{aligned} \text{Sample size} &= \frac{96.04}{1 + \frac{96.04 - 1}{76}} \\ &= \frac{96.04}{1 + 1.250526316} = 42.67 \approx 43 \end{aligned}$$

The survey sampled 43 Distributors.

Stockists (stocking factors behind the trade in counterfeit pest control products)

The stockists' survey was country wide on sampled counties and stockists or agrovets (refer annex 3 for the survey instrument). The sample counties and stockists was determined on the basis of Cochran (1963)¹⁵, where the following formula was used to generate statistically significant sample.

1. Sample size for counties

The purpose of sampling counties was to determine the number of counties where the survey will be undertaken. The above sampling method was used, with the various parameters as below:

Population size = 47

p = value that gives maximum variability = 0.5

e = Level of precision = ± 10%

At 95% Confidence Level, the Z value is 1.96

First, we calculate for

¹⁴ Cochran, W. G. 1963. *Sampling Techniques, 2nd Ed.*, New York: John Wiley and Sons, Inc.

¹⁵ Cochran, W. G. 1963. *Sampling Techniques, 2nd Ed.*, New York: John Wiley and Sons, Inc.

$$N_0 = 1.96^2 \left[\frac{0.5(1-0.5)}{0.1^2} \right]$$

$$= 3.8416 \left[\frac{0.25}{0.01} \right] = 96.04$$

We then compute the sample size

$$Sample\ size = \frac{96.04}{1 + \frac{96.04 - 1}{47}}$$

$$= \frac{96.04}{1 + 2.02212766} = 31.78 \approx 32$$

The survey targeted to sample 32 counties. The 32 were chosen from the counties that have the highest number of agrovets and stockists. A big number of agrovets and stockists is an indicator that the locality is prime for farming and subsequently will have greater use of pest control products. However, after consultations with various stakeholder, two more counties were added to the list, making it 34 counties which is within the statistically accepted sample size based on Cochran computation. These counties include the 20 counties that were used in the AAK survey of 2016 on *'The status of Agrochemical Counterfeiting in Kenya'* which were picked on the basis of agro-ecological considerations.

2. Sample size for Agrovets and Stockists

Population size (Number of Agrovets and Stockists as obtained from AAK and PCPB) = 10,393)

p = value that gives maximum variability = 0.5

e = Level of precision = ± 5%

At 95% Confidence Level, the Z value is 1.96

First, we calculate for

$$N_0 = 1.96^2 \left[\frac{0.5(1-0.5)}{0.05^2} \right]$$

$$= 3.8416 \left[\frac{0.25}{0.0025} \right] = 384.16$$

We then compute the sample size

$$Sample\ size = \frac{384.16}{1 + \frac{384.16 - 1}{10,393}}$$

$$= \frac{384.16}{1 + 0.036867122} = 370.5 \approx 371$$

The survey targeted to sample 371 Agrovets and Stockists from the selected counties. The minimum target for Agrovets and Stockists per county was achieved and in some, the target was surpassed giving rise to a total of 423 respondents, which is statistically acceptable.

Users (demand factors behind the trade in counterfeit pest control products)

The key parameters to inform the demand factors behind trade in counterfeit pest control products, were identified and included in the survey instrument (annex 4). These include the following:

- a) Categorization of the users of pest control products
- b) Knowledge of counterfeit pest control products
- c) The extent to which the users have purchased counterfeit products

- d) The extent to which users have purchased counterfeit pest control products knowingly/unknowingly
- e) The factors that influence users to purchase counterfeit pest control products
- f) Source of counterfeit pest control products
- g) Effects of counterfeit pest control products on the users
- h) Pest control products users' views on effectiveness of the counterfeit management and control programs
- i) Future plans to purchase counterfeit pest control products

Sample size of end users (farmers)

The sample of users was drawn from the population size of farmers which is 8,300,000 based on Ministry of Agriculture, Fisheries and Livestock Development (2019) page 30 – *'Towards sustainable agricultural transformation and food security in Kenya (2019-2029)'*

p = value that gives maximum variability = 0.5

e = Level of precision = ± 5%

At 95% Confidence Level, the Z value is 1.96

First, we calculate for

$$N_0 = 1.96^2 \left[\frac{0.5(1-0.5)}{0.05^2} \right]$$

$$= 3.8416 \left[\frac{0.25}{0.0025} \right] = 384.16$$

We then compute the sample size

$$Sample\ size = \frac{384.16}{1 + \frac{384.16 - 1}{8,300,000}}$$

$$= \frac{384.16}{1 + 0.000046164} = 383.14 \approx 385$$

The survey targeted to sample 385 farmers from the selected counties. The minimum target for users per county was achieved and in some, the target was surpassed giving rise to a total of 446 respondents, which is statistically acceptable.

County coverage of stockists and users during the survey is as detailed in the table below:

Table 7: Sample sizes per County

County	Agrovets	Users	County	Agrovets	Users	County	Agrovets	Users
Baringo	5	5	Kisii	8	6	Nandi	6	7
Bomet	7	7	Kisumu	10	11	Narok	8	8
Bungoma	11	11	Kitui	12	12	Nyandarua	13	13
Busia	7	5	Laikipia	14	12	Nyeri	31	28
Embu	26	30	Machakos	12	12	Siaya	6	8
Homabay	5	5	Makueni	10	10	Taita Taveta	5	7
Kajiado	6	7	Meru	42	43	Tharaka Nithi	12	7
Kakamega	11	11	Migori	6	4	Trans Nzoia	15	12
Kericho	13	12	Mombasa	6	7	Uasin Gishu	15	17
Kiambu	7	8	Murang'a	12	10	Vihiga	6	9

County	Agrovets	Users	County	Agrovets	Users	County	Agrovets	Users
Kilifi	7	7	Nairobi	10	19			
Kirinyaga	31	43	Nakuru	28	33			
Total Agrovets – 423			Total Users – 446					

3.0 THE PEST CONTROL PRODUCTS INDUSTRY IN KENYA

3.1 Pest Control Products Policy, Legal and Management framework

The Pest Control Product Policy and Management system is vested in the Pest Control Products Act (Cap 346) Act. Implementation and enforcement of the act is vested in Pest Control Products Board, a statutory Board established under this Act with the mandate to regulate the importation, exportation, manufacture, distribution, use and disposal of Pest Control Products (pesticides) in Kenya. In line with this role, Kenya is a member of the United Nations, Food and Agriculture Organization and World Health Organization, and is signatory to the Multilateral Environmental Conventions namely, Rotterdam, Stockholm and Basel Conventions which are all key to the regulation and management of the pesticides globally and nationally.

The following Regulations are used by the Board in the implementation and enforcement of the provisions of the Act: -

- a) Pest control products (licensing of premises) regulations;
- b) Pest control products (registration) regulations;
- c) Pest control products (labelling, advertising and packaging) regulations;
- d) Pest control products (importation and exportation) regulations;
- e) Pest control products (disposal) regulations;
- f) Pest control products (license fees and other charges) regulations.

According to Pest Control Products Act, no person shall import, export, manufacture, distribute, sell or use pest control products in Kenya unless it is registered by the Pest Control Products Board, except those to be used for research purpose or listed under the first schedule of the regulation on registration. It is an offence under the Pest Control Products Act to import or sell any pest control product in Kenya unless it has been registered by the Board. The Board undertakes the evaluation of pesticides in the country for safety, efficacy and quality prior to registration. In addition, it regulates trade of Pest Control Products through inspection, licensing and product certification.

The Board maintains the following categorizes of pest control products:

- a) List of Fully Registered Pest Control Products for Crops;
- b) List of Fully Registered Pest Control Products for Public Health;
- c) List of Technical grade materials for formulation purposes;
- d) List of Temporary Registered Pest Control Products;
- e) List of Severely Restricted Products;
- f) List of Banned Products.

The lists are reviewed from time to time to accommodate such changes due to dynamism of the pesticide industry. These documents are meant to assist the public, farmers, extension staff, pesticide stockists, exporters, manufacturers, government institutions and other stakeholders to easily identify pesticides, which have been evaluated by the Board for safety, efficacy, quality and economic value.

Other national relevant laws and legislations for the management and regulation of pesticides include the following: -

- a) Anti-Counterfeit Act No.13 of 2008.
- b) Plant Protection Act (Cap 324 Laws of Kenya) – this Act provides for the prevention of the introduction and spread of pests destructive to plants (Government of Kenya, 2015).
- c) The Environment Management and Coordination Act, No. 8 of 1999 – establishes a legal framework for the management of pesticides, and toxic and hazardous chemicals (Government of Kenya, 1999).
- d) The Public Health Act (Cap 242 Laws of Kenya) – enacted to provide for measures to secure and maintain the health of the public (Government of Kenya, 2012c). The relevant provisions with regard to pesticides management in general are in Part IX of the Act. Section 115 of the Act prevents

any person from causing a nuisance, keeping any dangerous substances, or maintaining their premises in a condition which may be injurious to human health. Pesticides as well as other chemicals are captured within the scope of this section.

- e) Food, Drugs and Chemical Substances Act (Cap 254 Laws of Kenya) – enacted to prevent the adulteration of food, drugs and chemical substances. Pesticides are covered by this Act as they fall within the definition of chemical substances (Government of Kenya, 2012d).
- f) Devolved Government Act (Cap 265 Laws of Kenya), 2013 - this Act deals with the establishment of Local Authorities and defines their functions, powers and operations. Local 15 authorities have the power to impose, control and manage pesticides within their own jurisdictions. Additionally, by-laws can be developed to facilitate the implementation of laws that deal specifically with pesticides. The County Authorities are critical agents in this regard since they are able to reach communities at a grass roots level, as well as various stakeholders and the public at large (Government of Kenya, 2014).

From the above legal system for the pest control industry, the following are the law enforcement agencies who will be involved in the study, especially in the assessment of the current and past effort in the management of pest control products: -

- *Pest Control Products Board*
- *Anti-Counterfeit Authority*
- *KEPHIS*
- *Ministry of Health, Port Health Office*
- *County Governments*
- *Veterinary Medicine Directorate.*

3.2 Pesticide industry stakeholders

Pest control products (PCPs) are mainly used for public health, animal and plant protection purposes. They include insecticides, fungicides, herbicides, Insect Growth Regulators (IGRs), nematicides, miticides/ acaricides, molluscicides and animal drugs (AAK, 2016). Most of the pesticides are used in the agriculture sector to reduce the impact of pests and diseases on crops and livestock. In public health, the PCPs are used to control the vectors of disease pathogens such as mosquitoes and tsetse flies. According to the AAK (2016), pesticides imports have been increasing with the major consumer being the horticultural sub sector. This view is further corroborated by Heinrich Boll Stiftung¹⁶ which observed that: *‘Kenya’s demand for pesticides is relatively high and steadily increasing. In 2018 Kenya imported 17,803 tonnes valued at 128 Mill \$. These pesticides are an assortment of insecticides, fungicides, herbicides, fumigants, rodenticides, growth regulators, defoliators, proteins, surfactants and wetting agents. Of the total pesticide imports, insecticides, fungicides and herbicides account for about 87% in terms of volume and 88% of the total cost of pesticide imports. It’s remarkable that the volume of imported insecticides, herbicides and fungicides has more than doubled within four years from 6,400 tonnes in 2015 to 15,600 tonnes in 2018, with a growth rate of 144%’.*

The pesticide industry in Kenya has several players throughout the pesticide life cycle ranging from **manufacturers, formulators, distributors, stockists, users and container recyclers and disposal.** These stakeholders and their role in the pesticide life cycle is as presented in the table below.

Table 8: Pesticide industry stakeholders and their roles

Stakeholder	Role in the pesticide life cycle
Pesticide Manufacturers/Technical Formulators <ul style="list-style-type: none"> • <i>Manufactures or formulates pesticides</i> • <i>Sells pesticides to distributors or stockists/Agro vets</i> 	Manufacturing/Formulating
Pesticide Distributors	Wholesaling

¹⁶ <https://ke.boell.org/en/2019/10/14/pesticides-kenya-whats-stake>

Stakeholder	Role in the pesticide life cycle
<ul style="list-style-type: none"> • Buys pesticides from domestic industries(manufacturers/formulators) or imports pesticides directly • Sells pesticides to stockists/Agrovets 	
Stockists/Agrovets <ul style="list-style-type: none"> • Buys pesticides from wholesalers • Sells to final users in the domestic market/export market 	Retailing
Farmers/Households/Commercial Users (Final use of pesticide)	Final users of pesticide

The Agrochemicals Association of Kenya (AAK) is the umbrella organization for the pesticides industry stakeholders whose members comprises of manufacturers/formulators, distributors, stockists/Agrovets, farmers and users of pest control products (pesticides).

Defining counterfeit pest control products

For purposes of this assignment, counterfeit pest control products are as defined in the Pest Control Products Act (Cap 346) Act. The first element that the Act defines is the “pest control product”, which is taken to be a product, device, organism, substance or thing that is manufactured, represented, sold or used as a means for directly or indirectly controlling, preventing, destroying, attracting or repelling any pest and includes— (a) any compound or substance that enhances or modifies or is intended to enhance or modify the physical or chemical characteristics of a pest control product to which it is added; and (b) any active ingredient used for the manufacture of a pest control product.

The second element which the Act defines is counterfeiting, which is taken to mean manufacturing, formulating, producing or making of any pest control products, labels or packages that are identical or substantially indistinguishable from those legally authorized under this Act and are likely to cause confusion, mistake or to deceive or pass off as being genuine pest control products, labels or packages of the registrant of that particular product and “counterfeit goods” shall be construed accordingly.

3.3 Pest Control Products

The Pest Control Products in Kenya include the ones listed below. These are the products that local industries are manufacturing or are being imported for use in the domestic market or re-export. These are also the products that agrovets and other licensed users are stocking for sale to eventual users – farmers, homes, institutions, among other users. The status of manufacturing, stocking or use of these products by farmers, commercial users and other users targeted in the survey is covered under the section on presence of counterfeit pest control products: -

- a) Fungicides - a chemical that destroys fungus
- b) Herbicides - also commonly known as weedkillers, are substances used to control unwanted plants¹⁷
- c) Acaricides - are pesticides used to kill ticks and mites
- d) Nematicides – are chemical used to control/eradicate nematodes
- e) Miticide - any chemical substance used to control mites or ticks (especially species that damage ornamental or food plants)
- f) Adjuvant - is a substance that enhances performance of pesticide.
- g) Insecticide – is a substance used for killing insects
- h) Rodenticide - a poison used to kill rodents
- i) Biological agents
- j) Bactericides – products that control bacteria
- k) Surfactants - that improve pesticides activity/performance
- l) Termiticides - for control of termites
- m) Growth regulators - that promote or inhibit growth.**

¹⁷ Selective herbicides control specific weed species, while leaving the desired crop relatively unharmed, while non-selective herbicides (sometimes called total weedkillers in commercial products) can be used to clear waste ground, industrial and construction sites, railways and railway embankments as they kill all plant material with which they come into contact

4.0 MAGNITUDE, PREVALENCE AND PRESENCE OF COUNTERFEIT AND ILLICITLY TRADED PEST CONTROL PRODUCTS

4.1 The magnitude and prevalence of counterfeit pest control products

The magnitude and prevalence of counterfeit pest control products was determined using three approaches as articulated in the section on methodology. These approaches are as follows:

1. Seizure data on counterfeit pest Control products by Government Agencies,
2. Sales losses by companies as a result of their products being counterfeited and sold in the domestic market,
3. International trade-based measure of illicit trade.

The first two approaches constitute a direct measure of the magnitude of counterfeit pest control products. The latter approach, international trade-based method, measures magnitude of total illicit trade, which includes counterfeits. The results of international trade-based method, therefore, demonstrate the possibility of the magnitude and prevalence of counterfeit pest control products being higher than possible highlighted by the two methods and underscores the need for strict measures to deter illegal international trade.

In a nutshell the magnitude of counterfeit pest control products as measured through these three approaches and as provided in details in the sections below is as follows.

- Using the seizure method, which relies on data on seized goods, for total magnitude of counterfeit pest control products between 2017 and 2019 was KES4.82million
- Using the firm sales losses method (which relies on firm level data on sales losses as a result of losing market to counterfeit pest control products), total magnitude of counterfeit pest control products between 2017 and 2019 was KES607.94. This shows the size of counterfeit pest control is much higher than indicated by seizure data.
- Magnitude of illicit trade in pest control products (which by definition includes counterfeits and all other illegally imported pest control products) between 2017 and 2019 was KES11.3billion

Table 9: Magnitude of counterfeit pest control products and illicitly trade pest control products in Kenya, 2017 - 2019

Approach to measurement of the counterfeit pest control products	2017	2018	2019	Total (2017-2019)
Magnitude of Counterfeit Pest Control Products - Seizure (Government Agencies) method (KES Millions)	1.8	1.5	1.52	4.82
Magnitude of Counterfeit Pest Control Products - Firm sales losses method (KES Millions)	233.04	204.7	170.2	607.94
Magnitude of Illicit trade in Pest Control Products - International trade method (KES Billions)	2.6	4.3	4.4	11.3

Source: Seizure (Government Agencies), Firm sales losses (companies which participated in the survey and Illicit trade (computation from international trade data, with base data being COMTRADE data base

4.1.1 The magnitude of counterfeit pest control products on the basis of seizure method

According to the survey results, there are two Government Agencies, that have been mandated to seize counterfeit pest control products. These are:

1. Pest Control Products Board (PCPB)
2. Anti-Counterfeit Authority (ACA)

In order to determine the magnitude of counterfeit pest control products as measured using the seizure method, these two Agencies were asked to provide data on seizures for the years 2017, 2018 and 2019. The data was provided by PCPB. ACA did not seize counterfeit pest control products over this period.

The seizure data from the two institutions reveals total counterfeit pest control products over the three years to be KES4.82million. As illustrated in the chart below, the highest level of counterfeit pest control products was in 2017, amounting to KES1.8million. In the following two years, the level dropped to KES1.50 and KES1.52 respectively. The seizures are entirely on imported counterfeit pest control products. There was no seizure on domestic sourced products, a fact that shows, from the seizure data point of view that Kenya’s challenge on counterfeit pest control products emanates from imports of pest control products.

The seizure-based figure on counterfeit pest control products is likely to be much higher than reported, if this figure is looked at against the serious institutional capacity limitation that PCPB has. As explained under the section on ‘Management and Control of Pest Control Products’ the limitations include an inadequate staff of 18 against the optimal staff level of 31. Given that these staff cover the whole country, this challenge can therefore be well appreciated.

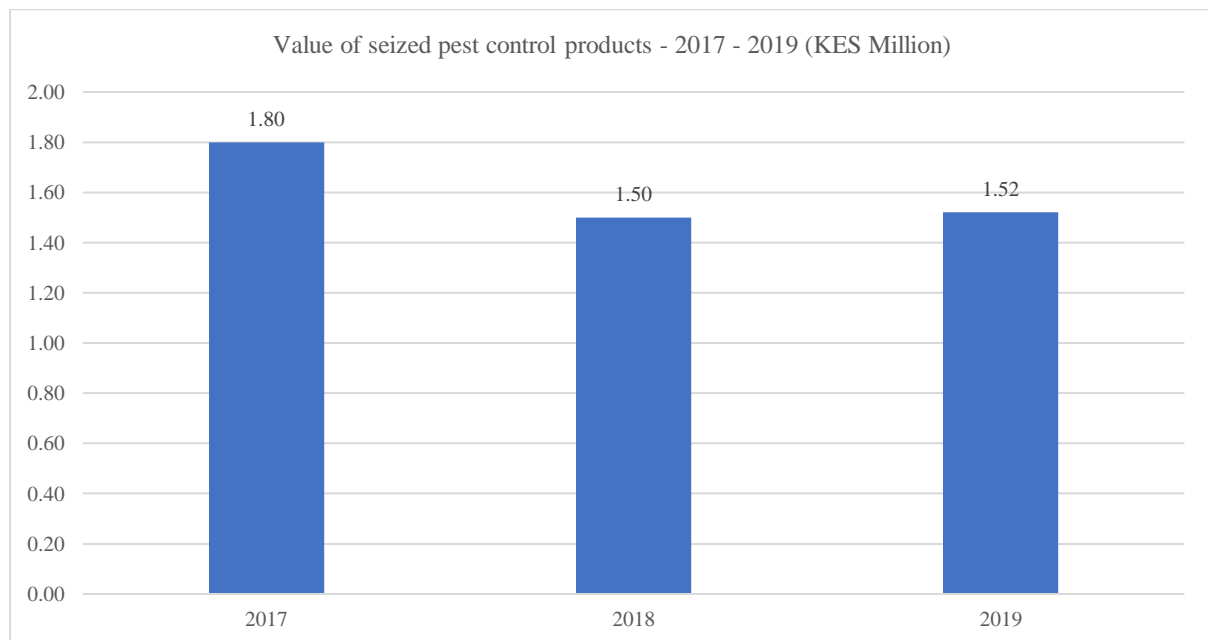


Chart 1: Value of seized imported counterfeit pest control products

Location where imported seizures of counterfeit products took place

Counterfeit pest control products, going by the location where seizures were done are concentrated in fifteen (15) counties that are listed in the table below. Nairobi and Mombasa, counties with very little agricultural activities, featured as hot spots, throughout the three-year period. These counties could be considered as sources of supply of counterfeit pest control products that may be feeding other counties where no seizure was recorded. This possibility is underscored by views of users across 43 counties where users were surveyed. In all these counties users indicated awareness or having purchased counterfeit pest control products in outlets within the counties (refer the section on users behaviour towards counterfeit pest control products).

Table 10: Location where imported seizures of counterfeit products took place

2017		2018		2019	
Number of Seizure	Places of Seizure	Number of Seizure	Places of Seizure	Number of Seizure	Places of Seizure
11	Kirinyaga, Meru, Mombasa, Uasin Gishu, Nairobi, Eldoret, Nyandarua, Mombasa	10	Busia, Nairobi, Narok, Kiambu, Mombasa, Nakuru, Eldoret (Uasin Gishu)	8	Kirinyaga, Embu, Muranga, Nairobi, Machakos, Nairobi, Mombasa, Nyeri, Eldoret (Uasin Gishu)

4.1.2 The magnitude of counterfeit pest control products on the basis of companies reported sales losses as a result of their counterfeited products

As already mentioned in the section on methodology, firms' sales losses as a measure of illicit trade has been advocated in an OECD (2008) study. Sales losses occur when illicit trade, and specifically counterfeit and pirated products, crowd genuine products out of the market. This leads to the lowering of market share of the rights holder and consequent downward pressures on prices as the products fight to remain in the market as a result of 'cutthroat' unfair competition from counterfeits and pirated products. In the case of trademark and copyright-infringing items, the loss in market share has two components:

- (i) Sales lost to consumers who purchase a counterfeit or pirated product believing it is genuine, and
- (ii) Sales lost to consumers who knowingly purchase a lower-priced counterfeit or pirated product instead of a genuine article.

A cautious approach was used in the determination of the magnitude of counterfeit pest control products using the 'reported sales losses' method. The survey invited the respondent firms to indicate whether they were aware of their pest control products which could have been counterfeited and sold in the domestic market. Out of the total respondent firms (manufacturers and distributors) 60.98% responded in the affirmative, signaling the gravity of counterfeit pest control products in the country. Further, the survey found that a significant 80% of respondents who had indicated awareness of their products being counterfeited, had experienced a loss in sales as a result.

The firms that reported having experienced sales losses were either manufacturers or distributors. Consequently, the survey sought to establish the value of sales losses from the firms (manufacturers and distributors) who indicated having suffered loss from their products being counterfeited and sold in the domestic market. The results show the sales losses over the three years of review, 2017-2019, to have amounted to KES608million. In other words, the magnitude of the counterfeit pest control products over the review period was KES608million. This reality validates the observation made earlier in regard to seizure data-based method of estimation of the magnitude of counterfeit pest control products. The seizure data-based method figure of KES4.82million was observed to be possibly an understatement of the real status in the country.

Despite the sales losses-based figure being much higher than the seizure data-based figure, sales loss figures could still be an underestimation of the real situation in the country, given that only 40 out of the target sample agreed to participate in the survey. The figure of sales losses as a result of counterfeited pest control products is likely to be higher if the extra 33 firms responded. Even without these firms' participation, the results from the 40 firms already have made a case, especially if compared with the seizure data method figure.

The magnitude of the sales loss based counterfeit pest control products has been on the decrease since 2017, where sales losses stood at KES233.04million, dropping to KES170.2million by 2019. This period coincides with the period that the Government waged war on anti-counterfeit products throughout the country, with a plethora of actions being taken, including destruction of the seized products.

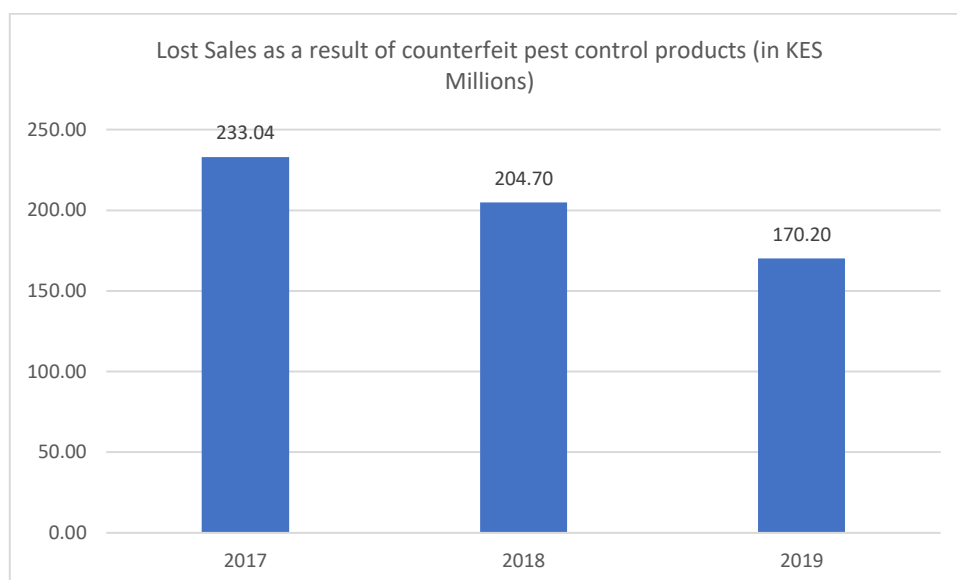


Chart 2: Lost Sales as a result of counterfeit pest control products

4.2 The magnitude of illicit trade in pest control products

Following the OECD (2008) study, and EUIPO (2016) study, the basis for computation of Kenya's magnitude and prevalence of illicit trade in pest control products was the world's declared exports to Kenya and Kenya's declared imports from the world of the pest control products, which fall under the following WCO Harmonized System (HS) of commodity classification. These products fall under HS Heading 3808 (*Insecticides, rodenticides, fungicides, herbicides, anti-sprouting products, plant growth regulators, disinfectants and the like, put up in forms or packings for retail sale or as preparations or articles*). The most appropriate level to measure the extent of illicit trade is at Harmonized System (HS) six-digit level for products of HS Heading 3808 as specified in the table below:

Table 11: Harmonized System of Commodity Classification of Pest Control Products

Product code	Product label
3808	Insecticides, rodenticides, fungicides, herbicides, anti-sprouting products, plant growth regulators, disinfectants and the like, put up in forms or packings for retail sale or as preparations or articles
380850	Insecticides, rodenticides, fungicides, disinfectants, herbicides and the like; containing goods specified in Subheading Note 1 to this Chapter; put up in forms or packings for retail sale or as preparations or articles
380891	Insecticides; other than containing goods specified in Subheading Note 1 to this Chapter; put up in forms or packings for retail sale or as preparations or articles
380892	Fungicides; other than containing goods specified in Subheading Note 1 to this Chapter; put up in forms or packings for retail sale or as preparations or articles
380893	Herbicides, anti-sprouting products and plant-growth regulators; other than containing goods of Subheading Note 1 to this Chapter; put up in forms or packings for retail sale or as preparations or articles
380894	Disinfectants; other than containing goods specified in Subheading Note 1 in this Chapter; put up in forms or packings for retail sale or as preparations or articles
380899	Rodenticides and other similar products n.e.c. in heading no. 3808.9; other than containing goods specified in Subheading Note 1 in this Chapter, put up in forms or packings for retail sale or as preparations or articles

The world declared exports to Kenya during the review period (2017 – 2019), as illustrated in the table below, stood at USD107million or KES11.1billion in 2017 against Kenya's declared imports from the world which in the same year, which stood at USD92million or KES11.9billion. In 2018 the world's declared exports to Kenya was USD139million or KES14.2billion against Kenya's declared imports

from the world which in the same year was USD138.6million or KES14billion. Lastly in 2018 the world's declared exports to Kenya was USD109million or KES11.2billion against Kenya's declared imports from the world which in the same year was USD108.9million or KES11.1billion.

Table 12: World declared exports of pest control products to Kenya and Kenya's declared imports of pest control products from the world

Product codes	Trade Flow		2017	2018	2019
Total (HS380850, 380891, 380892, 380893, 380894 and 380899)	World Declared Exports to Kenya	USD Mn	107.0688	139.698	109.6775
	Kenya's Declared Imports from the World	USD Mn	114.795	138.5514	108.907
	Difference between World Declared Exports and Kenya's Declared Imports from the World (Indicator of Existence of Illicit Trade)	USD Mn	-7.7261	1.1465	0.7705
Total (HS380850, 380891, 380892, 380893, 380894 and 380899)	World Declared Exports to Kenya	KES Mn	11,071.99	14,150.01	11,186.01
	Kenya's Declared Imports from the World	KES Mn	11,870.96	14,033.88	11,107.43
	Difference between World Declared Exports and Kenya's Declared Imports from the World (Indicator of Existence of Illicit Trade)	KES Mn	-798.96	116.13	78.58

In order to compute the magnitude of illicit trade, Kenya's declared imports in 2017, 2018 and 2019 were adjusted for the time lag as well as insurance and freight charges using the above specified adjustment factors and formula. Using the adjusted imports 'M*' the magnitude of illicit trade in 2017, 2018 and 2019 was computed by applying the above formula for computation of illicit trade in pest control products. Where the result was negative, meaning imports were higher than exports, this was considered as a case of under declaration and hence the result was assigned an absolute figure to allow aggregation with other six-digit HS codes whose results were positive. The six-digit HS codes whose results were positive, meaning world declared exports were higher than Kenya's declared imports from the world, are indicative of cases of under declaration through under invoicing or smuggled goods which end up not being captured in the national trade statistics.

The results of these computations together with the magnitude and prevalence of illicit trade in pest control products, are provided in the Annex 5. According to these results, total illicit trade of pest control products (specified under HS380850, HS380891, HS380892, HS380893, HS380894 and HS380899), as measured through the international trade approach, is estimated at KES4.4billion in 2019. As evidenced in the chart below, the situation has deteriorated from 2017, when illicit trade in pest control products was estimated at KES2.6billion, rising by 64.14% to KES4.3billion in 2018.

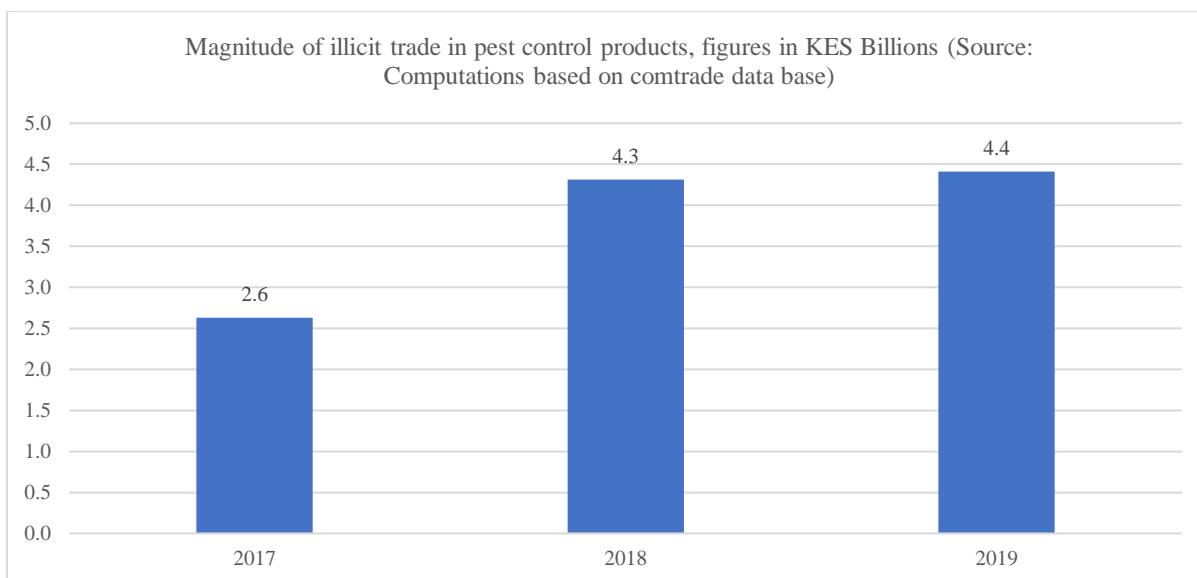


Chart 3: Magnitude and prevalence of illicit trade (All Sectors/All HS Chapters 1-97)

The pest control products that are targeted in illicit trade are Herbicides (HS380893), Insecticides (HS380891) and Rodenticides and other similar products (HS380899). As illustrated in the table below, these products account for 35.9%, 34.4% and 18.8% of the total illicit trade in counterfeit products, respectively. Combined these three categories of pest control products account for 88.9% of total illicit trade in counterfeit pest control products. Fungicides takes a share of 9.5% of the total illicit trade in pest control products.

Table 13: Prevalence of Illicit Trade in Pest Control Products

HS Code	Product Description	2017 (Absolute KESmn & % share in total)		2018 (Absolute KESmn & % share in total)		2019 (Absolute KESmn & % share in total)		Average (2017-2019) % share in total
		KES Mn	% share in total	KES Mn	% share in total	KES Mn	% share in total	
380893	Herbicides, anti-sprouting products and plant-growth regulators; other than containing goods of Subheading Note 1 to this Chapter; put up in forms or packings for retail sale or as preparations or articles	1,080.59	41%	1,755.62	41%	1,141.35	26%	35.9%
380891	Insecticides; other than containing goods specified in Subheading Note 1 to this Chapter; put up in forms or packings for retail sale or as preparations or articles	914.08	35%	1,369.10	32%	1,616.31	37%	34.4%
380899	Rodenticides and other similar products n.e.c. in heading no. 3808.9; other than containing goods specified in Subheading Note 1 in this Chapter, put up in forms or packings for retail sale or as preparations or articles	507.13	19%	671.4	16%	921.62	21%	18.6%
380892	Fungicides; other than containing goods specified in Subheading Note 1 to this Chapter; put up in forms or packings for retail sale or as preparations or articles	97.75	4%	383.34	9%	698.71	16%	9.5%
380894	Disinfectants; other than containing goods specified in Subheading Note 1 in this Chapter; put up in forms or packings for retail sale or as preparations or articles	23.27	1%	134.05	3%	30.57	1%	1.6%
380850	Insecticides, rodenticides, fungicides, disinfectants, herbicides and the like; containing goods specified in Subheading Note 1 to this Chapter; put up in forms or packings for retail sale or as preparations or articles	5.1	0%	0.03	0%	0	0%	0.1%
		2,627.92	100%	4,313.54	100%	4,408.56	100%	100.0%

Analysis on the top ten source countries of the pest control products reveals the countries in the table below as possible countries where illegally traded products could be originating. The countries that lead as source countries of these products are:

- a) China, India, France and UK for pest control product under HS 380891
- b) China, France and India for pest control product under HS 380892

- c) China, Belgium and India for pest control product under HS 380893
d) France, UK and Uruguay for pest control product under HS 380894

Table 14: Possible top source countries of illicitly traded pest control products

HS Code	Product Description	Top Source Countries of World Declared Exports of Pest Control Products to Kenya in 2019 (KES Millions)
380891	Insecticides; other than containing goods specified in Subheading Note 1 to this Chapter; put up in forms or packings for retail sale or as preparations or articles	China - 2,115.3 ; India - 695.9 ; France - 284.8 ; United Kingdom - 239.1 ; United Arab Emirates - 178.7 ; Japan - 162.1 ; Italy - 131.2 ; USA - 106.3 ; Israel - 89.3 ; Germany - 78.8.
380892	Fungicides; other than containing goods specified in Subheading Note 1 to this Chapter; put up in forms or packings for retail sale or as preparations or articles	China - 692.2 ; France - 667.8 ; India - 400 ; Germany - 275.4 ; South Africa - 192.8 ; Norway - 171.6 ; Israel - 155.4 ; Greece - 104.2 ; Spain - 96.8 ; Italy - 92.2.
380893	Herbicides, anti-sprouting products and plant-growth regulators; other than containing goods of Subheading Note 1 to this Chapter; put up in forms or packings for retail sale or as preparations or articles	China - 1,967.3 ; Belgium - 182.1 ; India - 140.5 ; South Africa - 138.9 ; France - 79.9 ; USA - 74.9 ; Hungary - 72.9 ; Germany - 66.7 ; Israel - 33.9 ; Netherlands - 17.8.
380894	Disinfectants; other than containing goods specified in Subheading Note 1 in this Chapter; put up in forms or packings for retail sale or as preparations or articles	France - 67.1 ; United Kingdom - 43.4 ; Uruguay - 29.4 ; South Africa - 28.7 ; Belgium - 28.5 ; China - 23.8 ; Ireland - 18.5 ; Germany - 17 ; India - 14.6 ; Egypt - 9.1.
380899	Rodenticides and other similar products n.e.c. in heading no. 3808.9; other than containing goods specified in Subheading Note 1 in this Chapter, put up in forms or packings for retail sale or as preparations or articles	Egypt - 60.8 ; South Africa - 50.1 ; India - 36.6 ; Thailand - 33.2 ; Netherlands - 29.2 ; United Arab Emirates - 15.1 ; Belgium - 14.7 ; China - 13.7 ; Rep. of Korea - 7.5 ; Spain - 7.3 .

5.0 THE SUPPLY OF PEST CONTROL PRODUCTS AND EFFECTS OF COUNTERFEITS ON MANUFACTURERS, DISTRIBUTORS IN KENYA

The survey among manufacturers, distributors and agents was designed to bring out information on the supply of pest control products in Kenya, and to obtain the respondents views on the supply and effects of counterfeit pest control products.

5.1 Profile of respondent firms

Category of respondents

In total, 40 companies participated in the survey. As illustrated in the chart below, this comprised distributors, who accounted for 53.66% of the respondents, manufacturers, and agents, who accounted for 29.77% and 17.07%, respectively. This survey set out to establish the extent of counterfeit pest control products in Kenya. Of the respondent companies surveyed, 53.66% were distributors, 29.77% were manufacturers/formulators and 17.07% are agents.

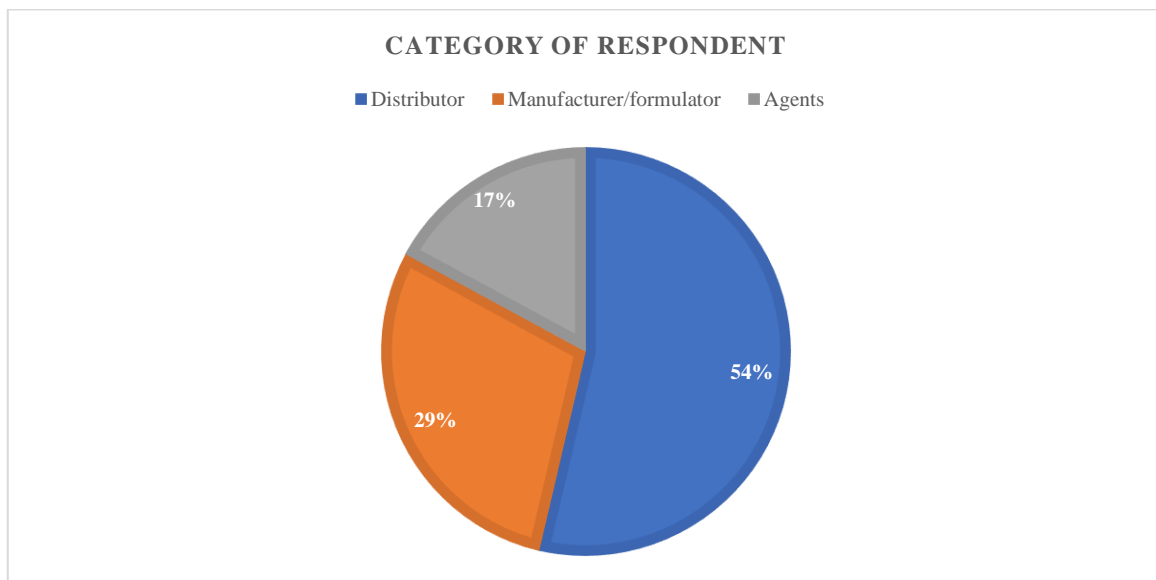


Chart 3: Category of respondents

Ownership of respondent companies

The respondent companies comprised of locally owned companies, which accounted for 76% of the respondents, and foreign owned companies which accounted for 24% of total respondents.

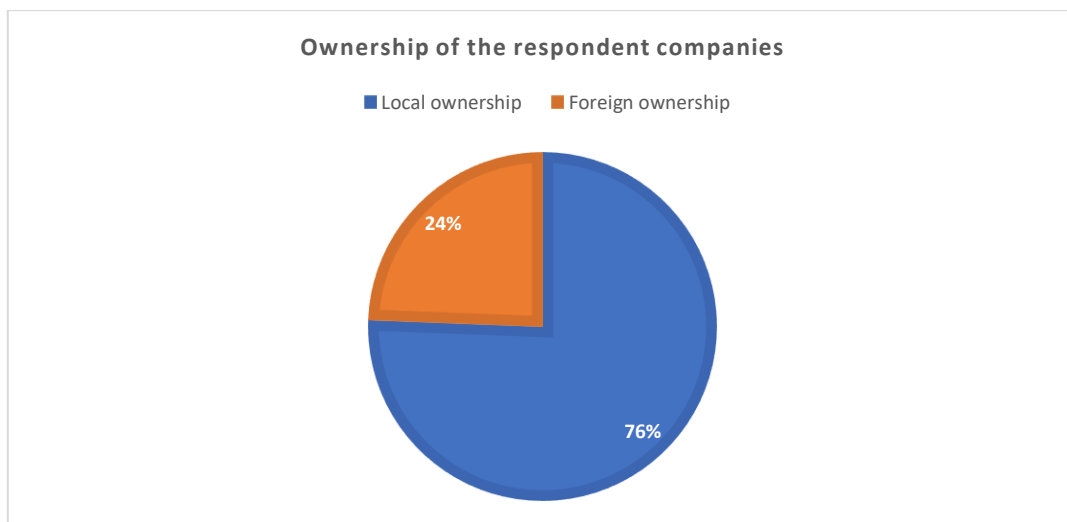


Chart 4: Ownership of companies

Geographical location of respondent companies

The respondent manufacturers were from the following four counties Nairobi (75% of manufacturers), Kiambu, Trans Nzoia and Nakuru, which accounted for 9% of the total respondent manufacturers. Distributors who participated in the survey were from 15 counties. As illustrated in the chart below, Nairobi had the highest share of respondent distributors, followed by Machakos.

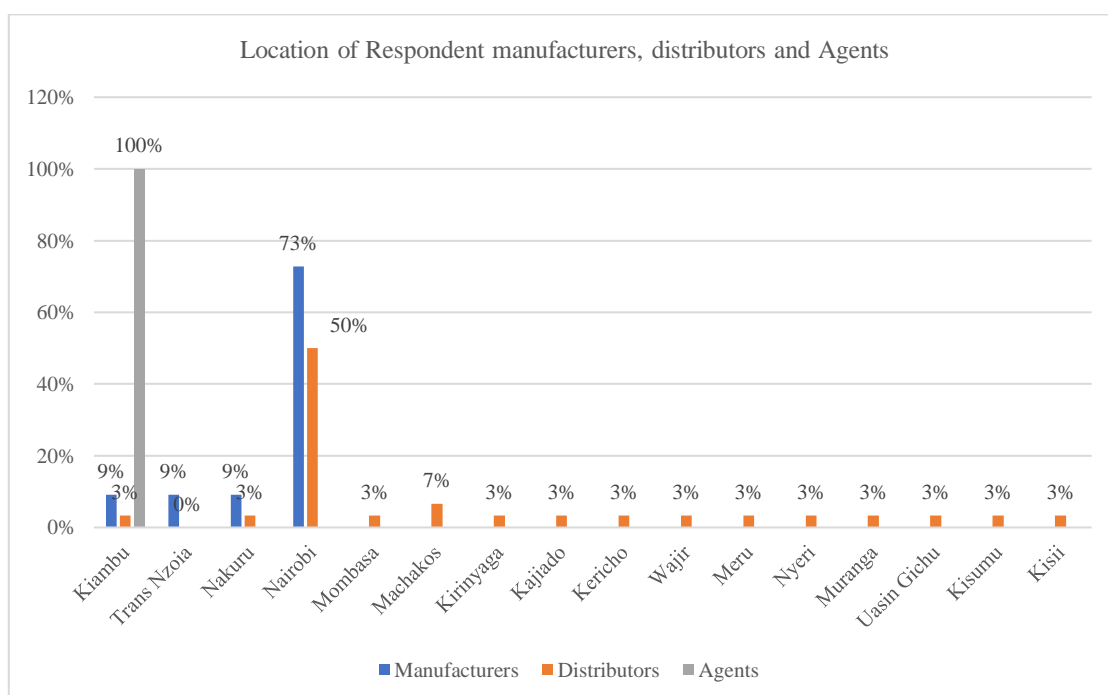


Chart 5: Location of respondent manufacturers, distributors and Agents

Products that are manufactured, distributed or have Agency representation

The lead pest control products which over 30% of the manufacturers, as illustrated in the table below, indicated producing are Insecticide, Acaricides, Rodenticides and Fungicides. None of the respondent manufacturers indicated producing Miticide and Surfactants. Virtually all products had good distributorship coverage with distributors ranging between 14.29% and 57.14% of today distributors who indicated distributing the various products, as illustrated in the table below. There were only two products, Bactericides and Surfactants which had low distributor coverage.

As is the case with distributorship, virtually all products had good agency representation, ranging between 20% and 60% of total Agents who indicated agency in various products, as illustrated in the table below. There were only two products, Bactericides and Surfactants which had low distributor coverage.

Table 15: Pest control products manufacturers produce, and which distributors and agents distribute

Pest Control Product	% of manufacturers who indicated producing the product	% of distributors who indicated distributing the product	% of agents who indicated dealing in the product
1. Insecticide	72.73%	57.14%	60.00%
2. Acaricides	54.55%	14.29%	20.00%
3. Rodenticide	54.55%	23.81%	20.00%
4. Fungicides	36.36%	52.38%	60.00%
5. Herbicides	27.27%	52.38%	60.00%
6. Nematicides	27.27%	52.38%	20.00%
7. Growth regulators	27.27%	23.81%	0.00%

Pest Control Product	% of manufacturers who indicated producing the product	% of distributors who indicated distributing the product	% of agents who indicated dealing in the product
8. Termiticides	18.18%	28.57%	20.00%
9. Adjuvant	9.09%	33.33%	20.00%
10. Biological agents	9.09%	19.05%	40.00%
11. Bactericides	9.09%	4.76%	20.00%
12. Miticide	0.00%	38.10%	20.00%
13. Surfactants	0.00%	9.52%	20.00%
14. Other	9.09%	19.05%	20.00%

Employment

Total employment among the 40 firms that responded in the survey were 59 people, which comprised 34 permanent employees and 25 casual employees.

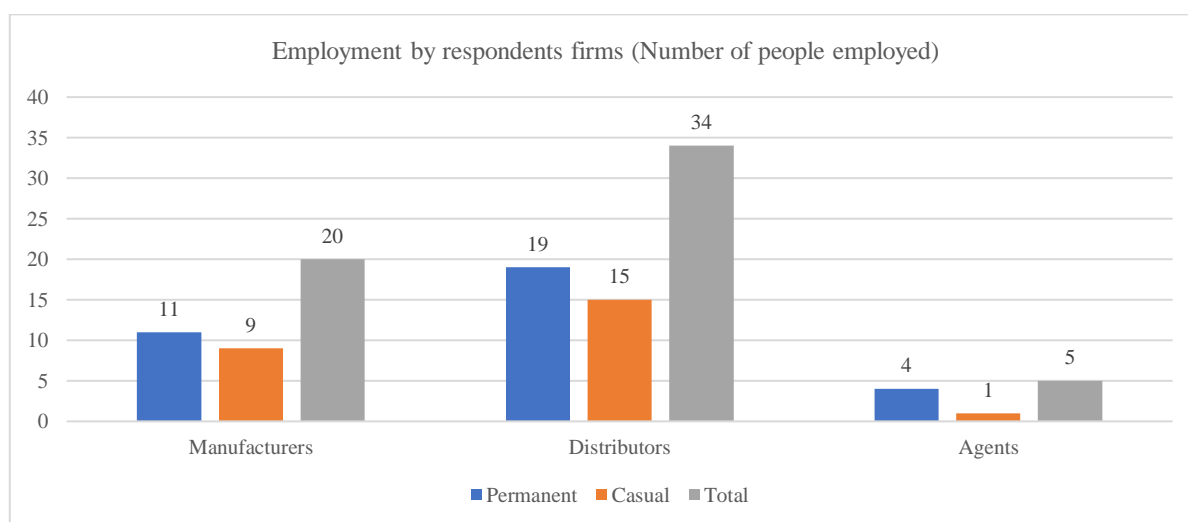


Chart 6: Employment by respondents' firms (Number of people employed)

5.2 Counterfeiting of pest control products that are manufactured or distributed by respondent firms

The level of counterfeit of pest control products was established through seeking indication whether respondent manufacturers, distributors and agents had experienced cases of their products being counterfeited and sold in the domestic market. Out of the total respondent firms (manufacturers and distributors) 60.98% responded in the affirmative, signalling the gravity of counterfeit pest control products in the country. These firms indicated that they were aware that their pest control products had been counterfeited and sold in the domestic market.

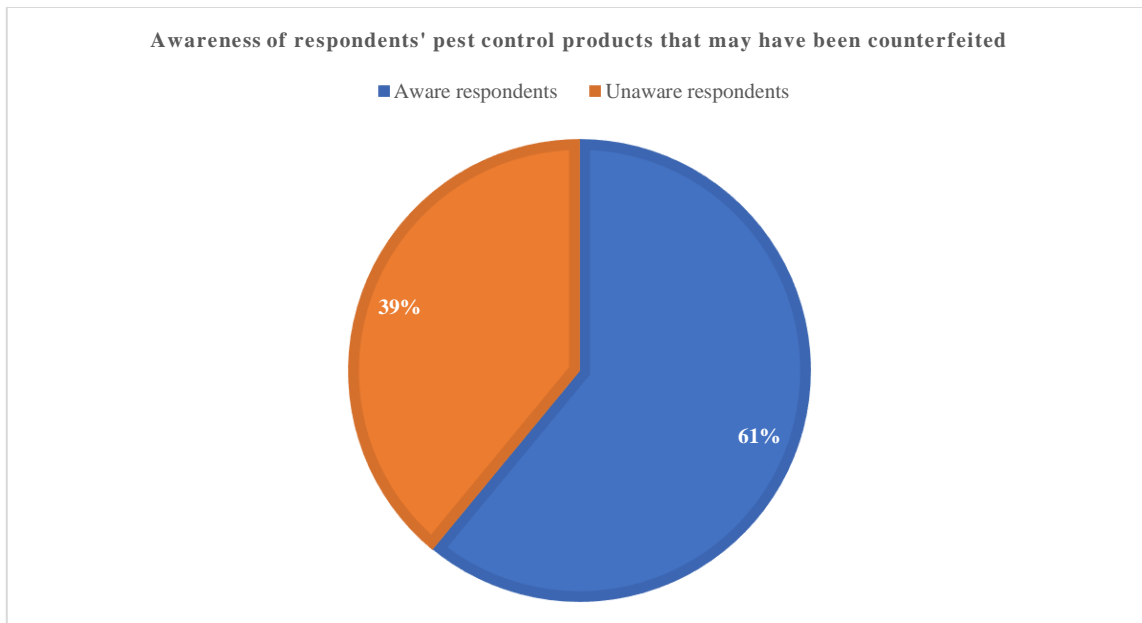


Chart 7: Awareness of respondents' pest control products that may have been counterfeited

5.3 Impact of counterfeiting on manufacturing and distributorship of pest control products

5.3.1 Firms that reported loss of sales because of losing domestic market from their counterfeited products over the last three years

The economic impact of counterfeit pest control products to manufacturers can be partly understood through any experienced loss of sales as a direct result of the phenomenon. The survey found that a significant 80% of respondents who had indicated awareness of their products being counterfeited, had experienced a loss in sales as a result, whilst 16% had not, with 4% being non-responsive.

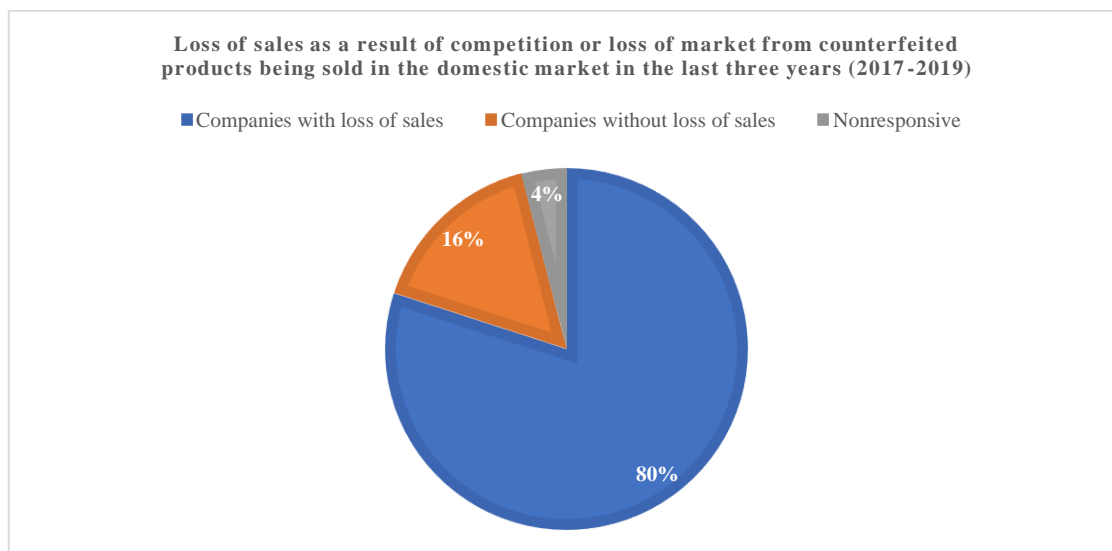


Chart 8: Firms that reported loss of sales as a result of losing domestic market from their counterfeited products in the last three years

The respondents who indicated experiencing sales losses were manufacturers and distributors. As evidenced in the chart below, 89% of the manufacturers and 85% of the distributors who reported awareness of their products being counterfeited also reported sales losses as a result. No agent was affected as indicated in the 'no sales loss' response in the chart below.

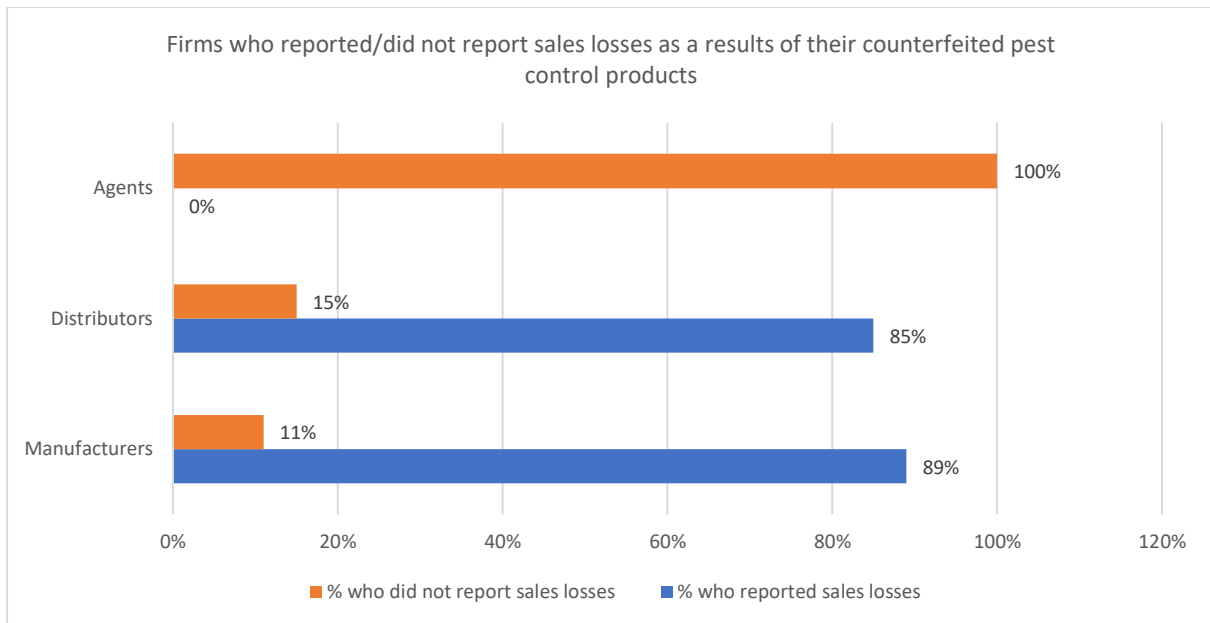


Chart 9: Category of firms which reported sales losses as a result of their pest control products being counterfeited and sold in the domestic market

5.3.2 Sales losses because of pest control products being counterfeited and sold in the domestic market

The sales losses because of counterfeited pest control products being sold in the domestic market amounted to KES608million over the review period, 2017-2019. The sales losses have been declining from KES233.04million in 2017 to KES170.2million by 2019. This period coincides with the period that the Government wage war on anti-counterfeit products throughout the country, with the plethora of actions, including destruction¹⁸ of the seized products.

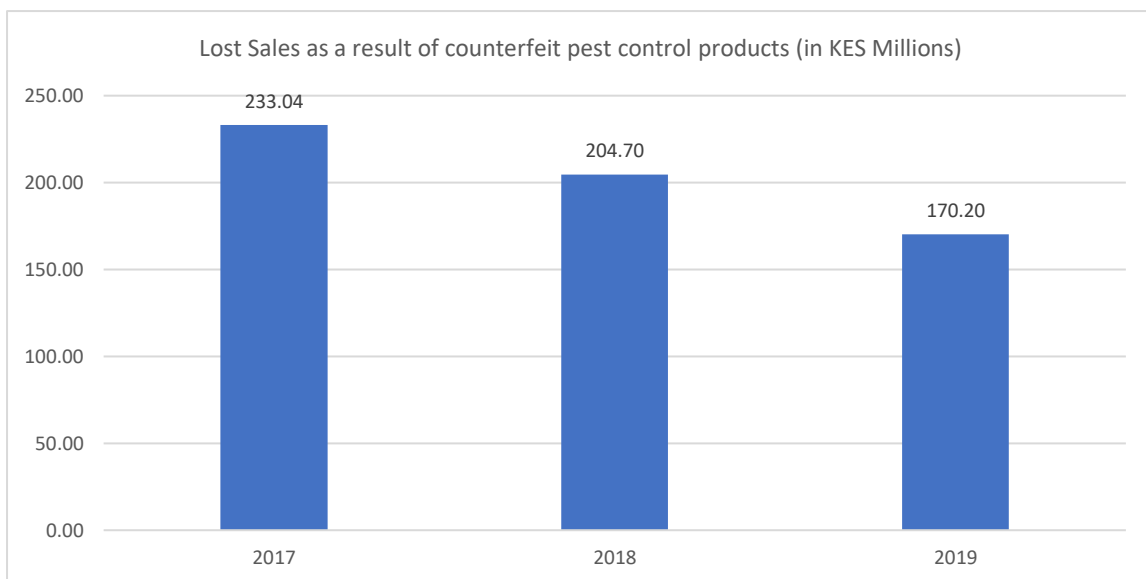


Chart 10: Lost Sales as a result of counterfeit pest control products

5.3.3 Source of counterfeited pest control products that precipitated firms' sales losses

The survey sought to establish from firms that reported having their products being counterfeited, whether the source was from domestic industries or foreign industries (imported). As illustrated in the chart below, 43.90% of respondents indicated the domestic industries as the main source of their counterfeited pest control. Foreign industries, on the other hand played a less significant

¹⁸ <https://www.therecycler.com/posts/counterfeit-goods-destroyed-in-mombasa/>

role, as only 14.63% of the respondents indicated the source of their counterfeited pest control products being foreign industries.

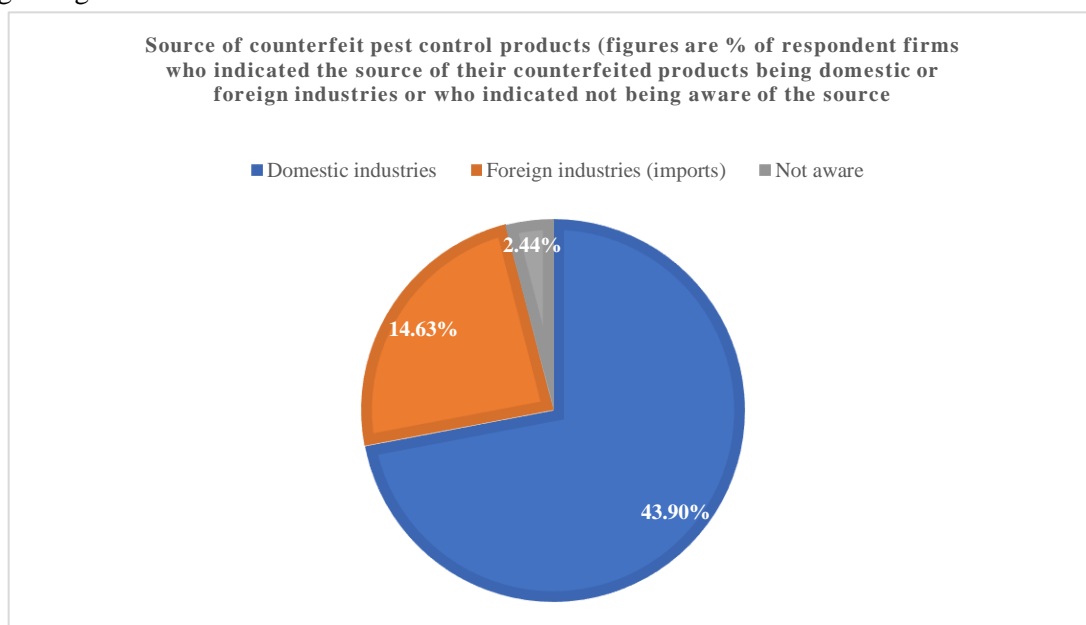


Chart 11: Source of counterfeit pest control products

5.3.4 Hot spot counties where respondent firms reported sales losses because of their counterfeit products being sold in those markets (Hot spot counties)

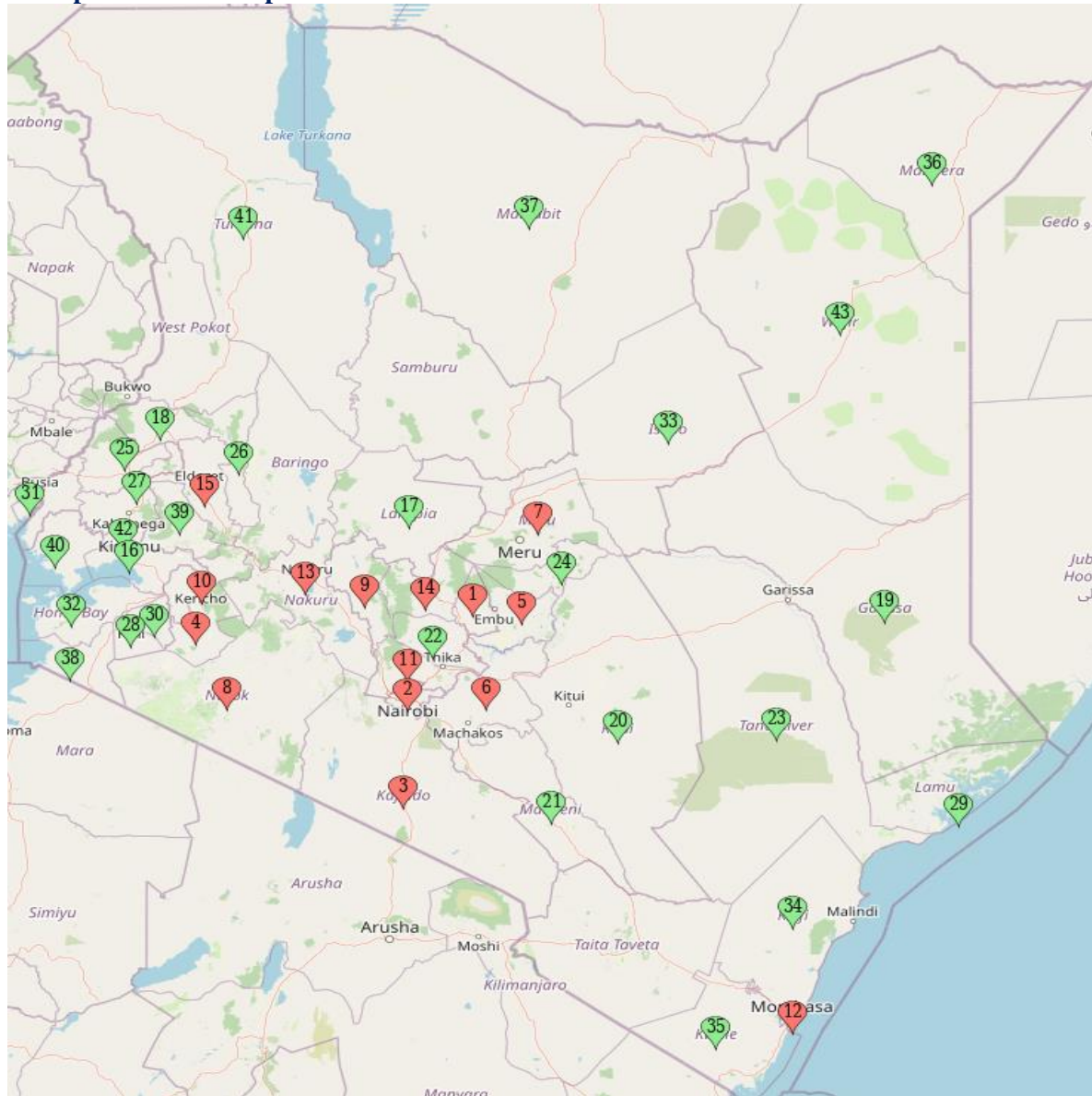
Respondent firms indicated sales losses in virtually all counties as illustrated in Annex 6. Out of the 47 counties, the following 15 counties are considered as hot spot counties because over 25% of firms reported having lost sales as a result of their counterfeited products being sold in these counties. Top in the list, as evidenced in the table below are Kirinyaga, Nairobi, Kajiado, Bomet, Embu, Machakos, Meru, Narok and Nyandarua.

Table 16: Hot spot counties on sale of counterfeit pest control products

County of lost sales	% Firms which reported sales losses in the county
1. Kirinyaga	53%
2. Nairobi	42%
3. Kajiado	37%
4. Bomet	32%
5. Embu	32%
6. Machakos	32%
7. Meru	32%
8. Narok	32%
9. Nyandarua	32%
10. Kericho	26%
11. Kiambu	26%
12. Mombasa	26%
13. Nakuru	26%
14. Nyeri	26%
15. Uasin Gishu	26%

Source: AAK/PCPB Survey on counterfeit pest control products, March 2021

Hot Spot Counties Map¹⁹



Key: 1–15 – Counties with >25% of firms that reported sales losses in the county

16–43 – Counties with <25% of firms that reported sales losses in the county

1	Kirinyaga	53%	12	Mombasa	26%	23	Tana River	16%	34	Kilifi	5%
2	Nairobi	42%	13	Nakuru	26%	24	Tharaka-Nithi	16%	35	Kwale	5%
3	Kajiado	37%	14	Nyeri	26%	25	Bungoma	11%	36	Mandera	5%
4	Bomet	32%	15	Uasin Gishu	26%	26	Elgeyo-Marakwet	11%	37	Marsabit	5%
5	Embu	32%	16	Kisumu	21%	27	Kakamega	11%	38	Migori	5%
6	Machakos	32%	17	Laikipia	21%	28	Kisii	11%	39	Nandi	5%
7	Meru	32%	18	Trans Nzoia	21%	29	Lamu	11%	40	Siaya	5%
8	Narok	32%	19	Garissa	16%	30	Nyamira	11%	41	Turkana	5%
9	Nyandarua	32%	20	Kitui	16%	31	Busia	5%	42	Vihiga	5%
10	Kericho	26%	21	Makueni	16%	32	Homa-Bay	5%	43	Wajir	5%
11	Kiambu	26%	22	Murang'a	16%	33	Isiolo	5%			

¹⁹ Counties with firms that reported no sales losses are Samburu, West Pokot, Baringo and Taita Taveta

5.3.5 Loss of employment as a result counterfeiting of pest control products

In total, respondent firms reported a total of 110 job losses as a result of counterfeiting and sale of their counterfeited products in the domestic market. As evidenced in the chart below, job losses have been on the increase from 20 in 2017 to 54 people in 2019.

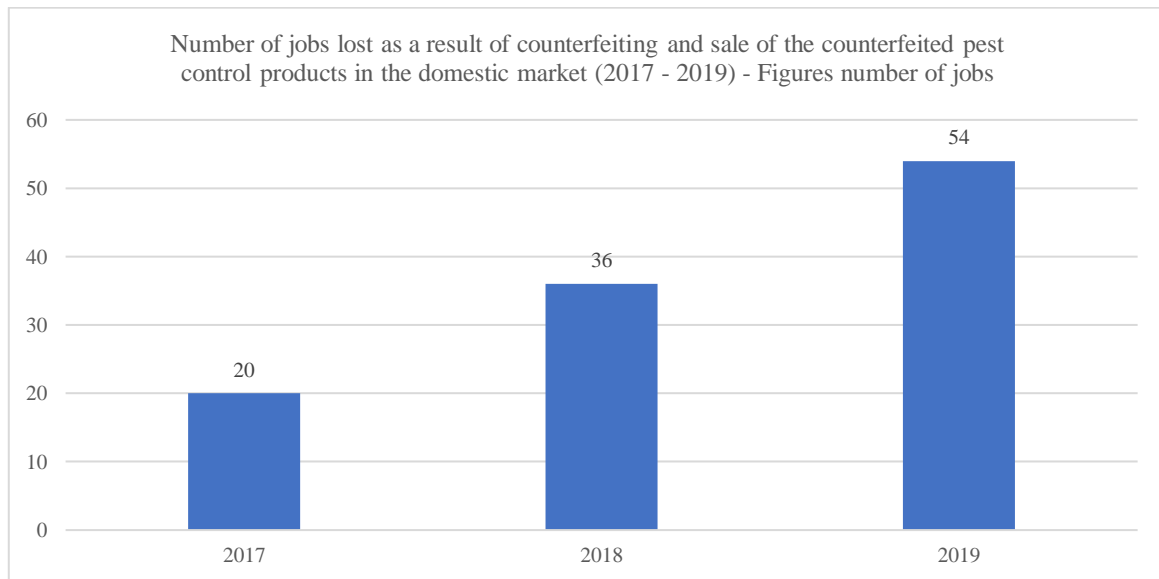


Chart 12: Job losses because of counterfeiting and sale of counterfeited pest control products in the domestic market, 2017-2019

5.3.6 Loss of investment opportunity²⁰ as a result counterfeiting and sale of counterfeited pest control products in the domestic market

Counterfeiting and sale of counterfeited pest control products in the domestic market had adverse effects on investment in the industry. This is evidenced by differed investments or what is in this study being referred to as investment opportunity lost. Over the three-year period, 2017-2019, investment opportunity lost in the pest control industry because of counterfeiting and sale of counterfeited pest control products in the domestic market stood at KES324 million. As illustrated in the chart below, investment opportunity loss increased from KES73.6million in 2017 to KES144million in 2018, before marginally dropping to KES106.8million in 2019.

²⁰ Investment opportunity lost refers to resources that would have been used in research and production of the specific product which the company put off because of the adverse effect of counterfeit trade on the company

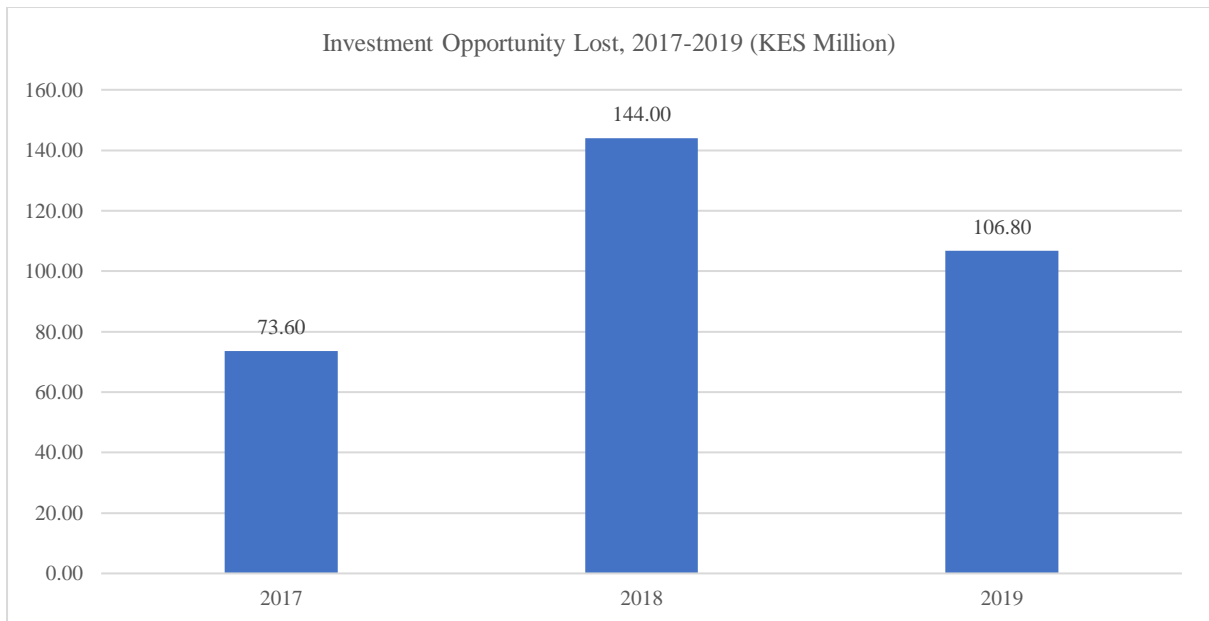


Chart 13: Investment opportunity lost

5.3.7 Loss of Government revenue²¹ as a result counterfeiting and sale of pest control products in the domestic market

The Government revenue loss in this study is defined as taxes that would have been paid to the Government from the sale of the specific product which the company could not pay because of lost sales because of lost of market to counterfeit products. The total government revenue loss over the three-year review period (2017-2019) stood at KES199million. As evidenced in the chart below, the revenue loss increased by 81%, from KES25.5million in 2017 to KES133.4million in 2019.

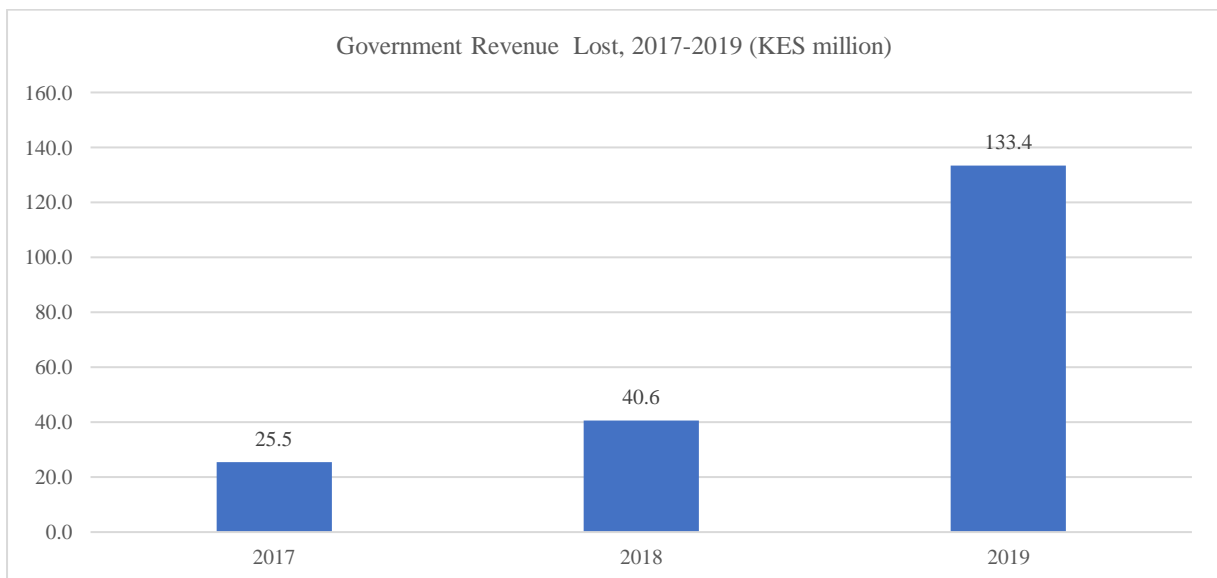


Chart 14: Government Revenue Lost as a result counterfeiting and sale of pest control products in the domestic market

²¹ Government Revenue lost refers to taxes that would have been paid to the Government from the sale of the specific product which the company could not pay because of lost sales as a result of lost of market to counterfeit products

5.4 Manufacturers/formulators, Distributors or Agents of counterfeit pest control products and sites where counterfeits are produced

5.4.1 Manufacturers/formulators Distributors or Agents of counterfeit pest control products

The existence of manufacturers, distributors or agents of counterfeit pest control products was determined through a question requiring respondents to indicate their awareness of any manufacturers/formulators, distributors, agents or stockists (agrovets) who may be producing or handling counterfeit pest control products in Kenya. In total, 39% of total respondents indicated awareness of manufacturers/formulators, distributors, agents or stockists (agrovets). As illustrated in the chart below, the lead are agrovets, where 14.63% of total respondents indicated their awareness of agrovets that stock counterfeits. This was followed by distributors, where 12.20% of total respondents indicated awareness of distributors of counterfeit pest control products. Awareness of agents and Manufacturers of counterfeit pest control products was lesser, with 7.32% and 4.88% of the respondents indicating awareness of either of the two, respectively. It is however worth noting, as illustrated in the chart below that majority of the respondents 61% were either not aware (39%) or abstained from answering this question (21.95%)

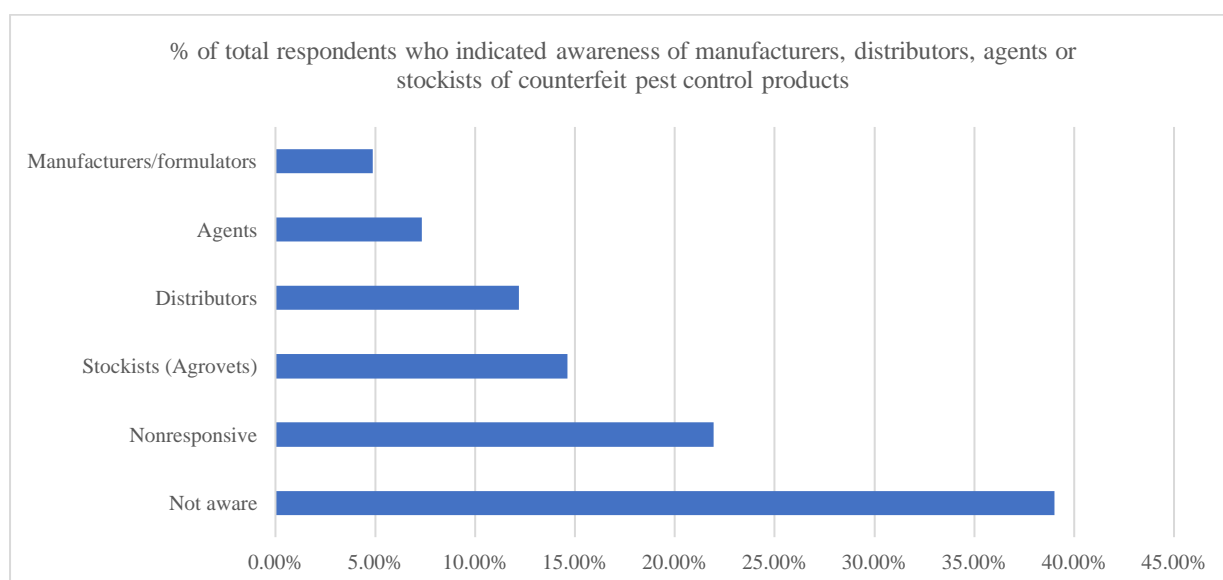


Chart 15: Awareness of respondents who indicated awareness of manufacturers, distributors, agents or stockists of counterfeit pest control products

Recommendations to deter any manufacturer/formulator, distributor, agent or stockist from producing or handling counterfeit pest control products.

The recommendations put forth by respondents to deter production and handling of counterfeit pest control products include:

- Inspection programs to all manufacturers by regulatory authorities
- Blacklisting stakeholders associated with the distribution of counterfeit products

5.4.2 Sites for manufacturing counterfeit pest control products

The existence of these sites for manufacturing of counterfeit pest control products was established through questioning respondent firms on their awareness of any manufacturing sites for counterfeit pest control products that have been subjected to law enforcement action in Kenya in the last three years. According to 12% of the respondents, there have been raids on sites for manufacturing counterfeit pest control products over the review period (2017-2019). Majority of the respondents were however unaware (49%) or chose to abstain from answering this question. The sites for manufacturing counterfeit pest control products that were said to have been raided were in the following counties: -

- Kiambu
- Nairobi
- Nakuru

- Kajiado

5.5 User complaints received, and action taken by respondent firms

Majority of respondent firms (41% of total respondents) indicated having received users' complaints of their counterfeited pest control products. This serves as evidence of the presence of counterfeited pest control products and further corroborates earlier findings on the firms' awareness of their counterfeited products being sold in the domestic market. Only 20% of the respondents indicated not having received users' complaints, while 39% of the total respondents chose to abstain from this question.

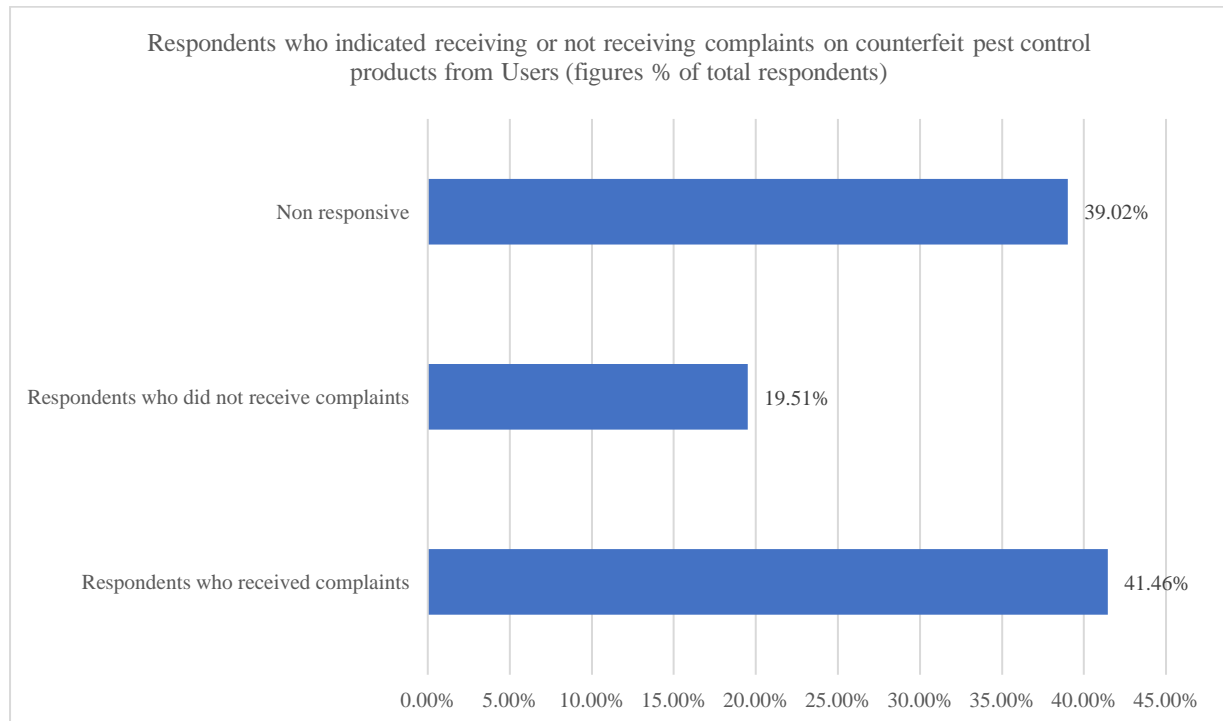


Chart 16: Respondents' indication of receipt of pest control products users' complaints

In response to the users' reported complaints, the firms indicated having taken the following measures with a view to addressing the challenge: -

- Compensated the users
- Farm visits and showing the farmers the original and counterfeit and how to distinguish them
- Identified the counterfeiters and acted by reporting to the PCPB and AAK
- Identified the product used that was a counterfeit and advised on where to get genuine products
- Investigated the complaint and reported the matter to PCPB
- Logged in our system and reported to the authorities
- Made the users aware of our company's holograms
- Referred them to accredited dealers
- Referred the users to authorized distributors
- Requested users to see bottom of bottle for company engraving
- Sending an independent person to purchase from the dealer and forwarding the product to PCPB
- Apologized for the inconveniences and informed them the features to look for in our genuine products
- Escalated the complaint to the various companies whose products were being counterfeited
- We followed it up with our technical field representatives for close follow up. We also notified PCPB of persistence of the counterfeits
- We had to extensively help the users to differentiate original products and counterfeits where possible so that they do not fall into traps again.
- Contacted the local sales representative and management on the matter who promised to conduct their own investigation

q) Withdrew the product, investigated, replaced product to the client and reported the matter to ACA

5.6 Reporting of incidents of counterfeited pest control products to Government Agencies, level of satisfaction on action taken and reasons for not reporting

5.6.1 Reporting of incidents of counterfeited pest control products to Government Agencies

Out of the total respondent firms which indicated awareness of counterfeiting of their pest control products, 85% indicated having reported these incidents to Government Agencies, while 15% opted not to report. This shows a high level of awareness of Government Agencies role in combating trade in counterfeit of pest control products. As evidenced in the chart below, the lead Agency where these incidents were reported was Pest Control Products Board (PCPB) where 65% of the respondents indicated having reported the incidents of counterfeiting of their pest control products. This was followed by Anti Counterfeit Authority (ACA) where 25% of the respondents indicated having reported the incidents.

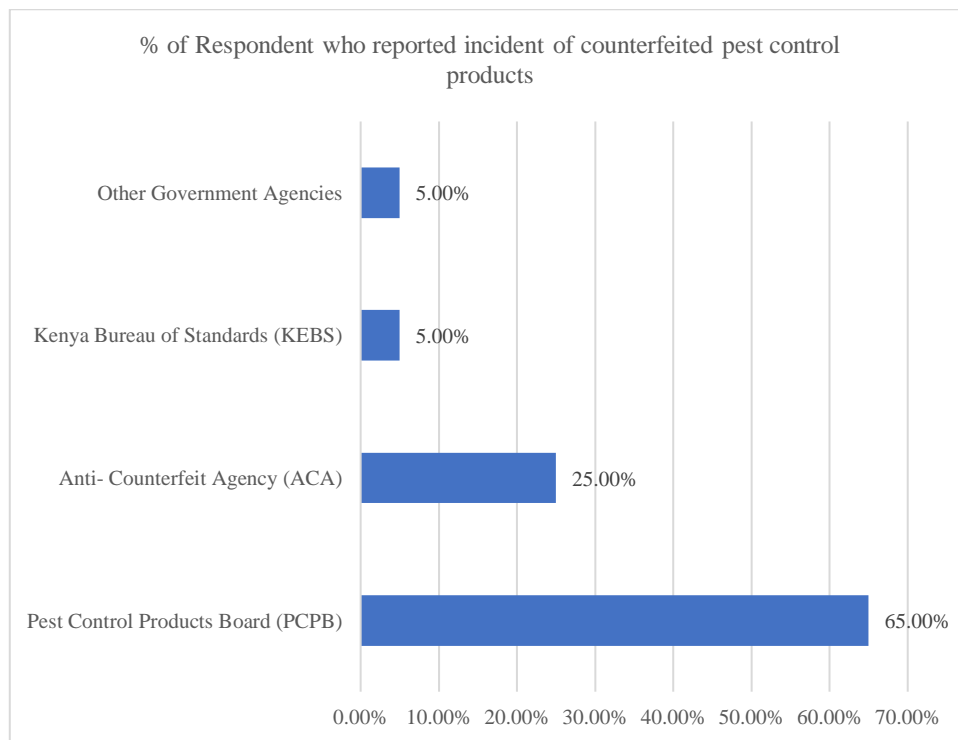


Chart 17: % of Respondent who reported incident of counterfeited pest control products

5.6.2 Level of satisfaction on action taken on reported cases of incidents of counterfeited pest control products

The level of satisfaction was rather low as evidenced in the chart below, where 40% of respondents indicated a lack of satisfaction in the actions taken by Government Agencies after they reported incidents of counterfeited pest control products. Those that reported satisfaction were 30% of the total respondents, while the remaining 30% opted for non-response on whether they were satisfied. This situation should be viewed as an opportunity for Government Agencies to improve their response to these reports to encourage more co-operation between them and manufacturers.

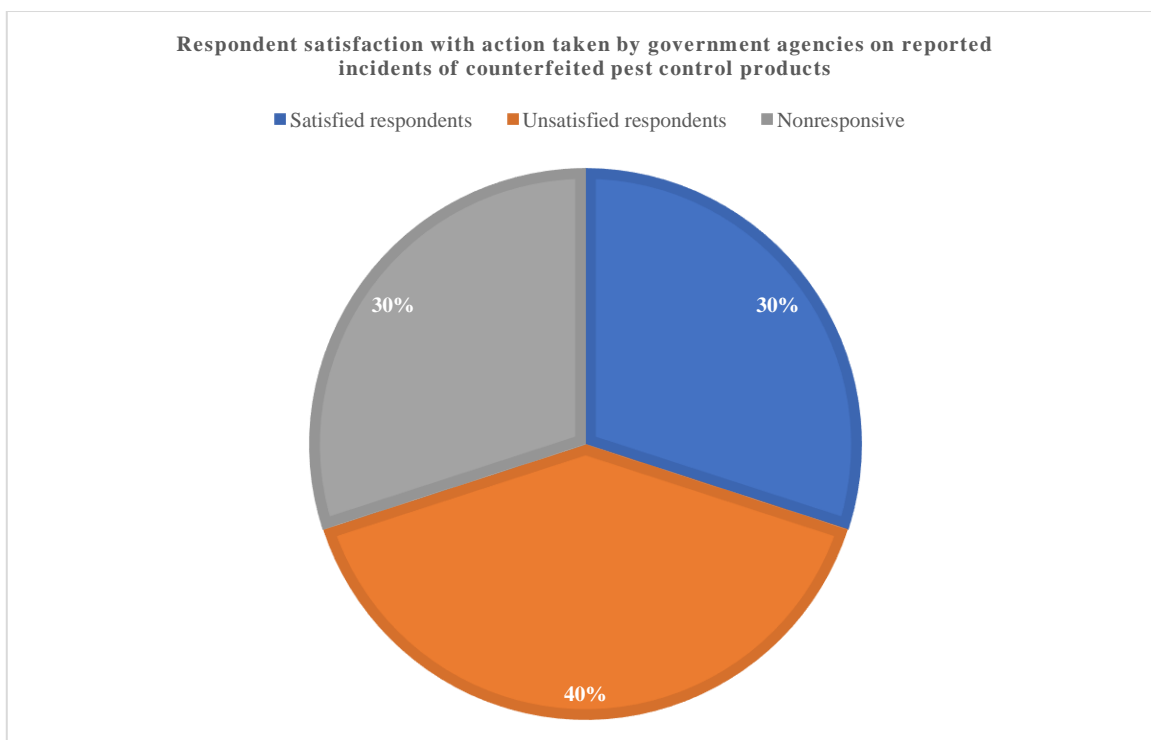


Chart 18: Respondent satisfaction with action taken by Government agencies on reported incidents of counterfeited pest control products

5.6.3 Level of satisfaction on action taken on reported cases of incidents of counterfeited pest control products

Only 15% of the respondents who indicated not reporting incidents of their counterfeited pest control products agreed to give reasons for not reporting. The rest abstained from answering this question. The reasons for choosing not to report by the few who opted to respond to these questions are as follows: -

- Agency asked for money for them to pursue the investigation.
- Few individuals were arrested selling the counterfeit goods but not those who had sourced for them, hence counterfeit goods continue to circulate in the market

5.7 Government and Private sector initiatives to combat counterfeited pest control products

5.7.1 Government Agencies initiatives to combat counterfeited pest control products

The Government Agencies programs and initiatives towards combating the counterfeiting of pest control products offered some promise to the grim picture of counterfeits in the pest control products. This situation is attributed to a high level of awareness among the respondents (46% of total respondents) about Government Agencies programs and initiatives to combat trade in counterfeit pest control products. Only 15% of the respondents indicated unawareness of these programs or initiatives, with 39% choosing to abstain from the question.

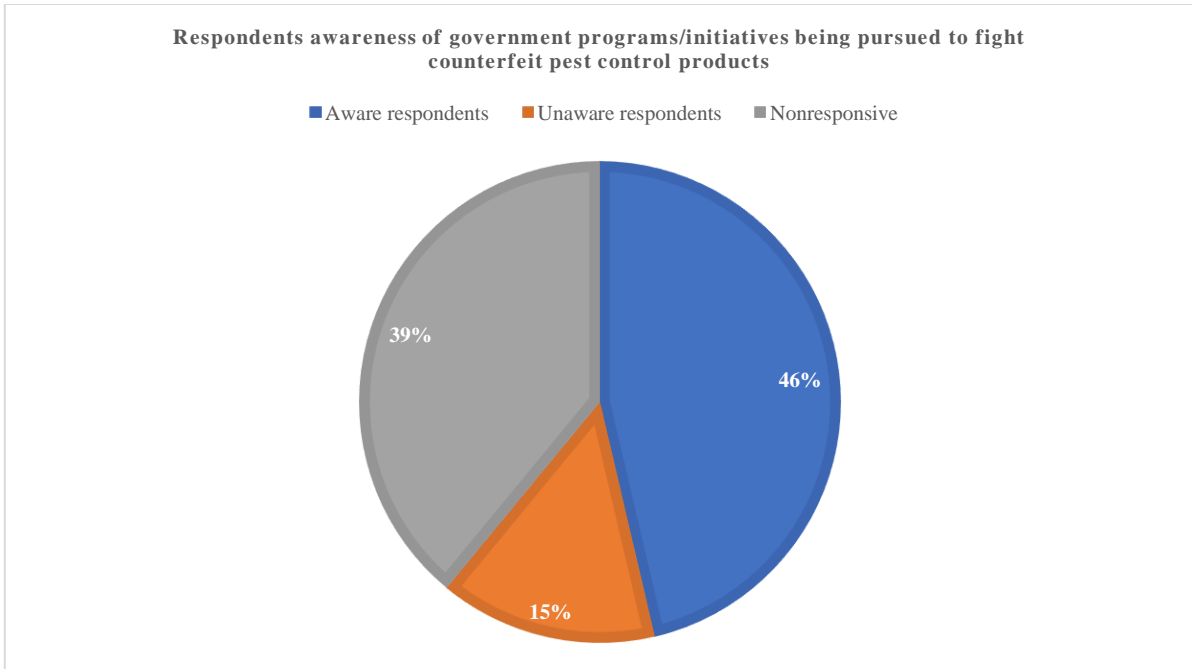


Chart 19: Respondents' awareness of government programs/initiatives being pursued to fight counterfeit pest control products

Recommended government initiatives or actions to combat counterfeiting of pest control products

The following initiatives to combat counterfeiting of pest control products were recommended for Government Agencies to consider, in addition to what they were running at the time of the survey:

- Improved regulation of borders to minimize the entry of counterfeit pest control products
- Factual, scientific adverts and trainings to improve consumer awareness of counterfeit products
- Intensification of field inspections

5.7.2 Private sector initiatives to combat counterfeited pest control products

The private sector is at the forefront in the fight against trade in counterfeit pest control products. This is evidenced by an overwhelming awareness of such programs among respondents, where 51% responded in the affirmative on the question on their awareness of such programs or initiatives. Only 15% of the respondents indicated unawareness of these programs or initiatives, with 39% choosing to abstain from the question.

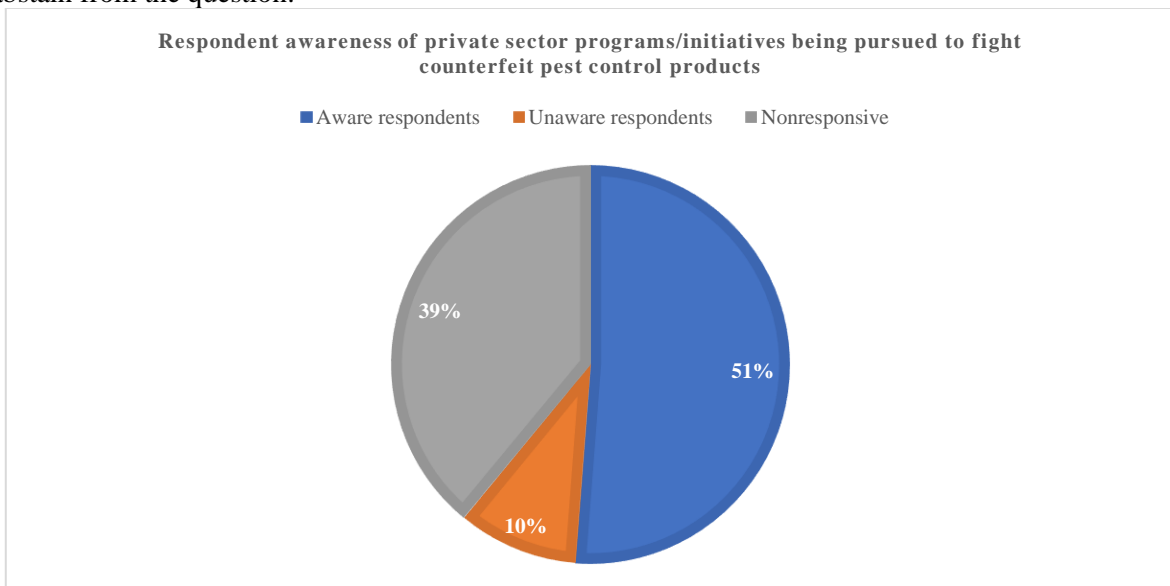


Chart 20: Respondent awareness of Private Sector programs/initiatives being pursued to fight counterfeit pest control products

Recommended initiatives or programs to combat counterfeiting of pest control products for private sector to consider

The following initiatives to combat counterfeiting of pest control were recommended for Government Agencies to consider, in addition to the initiatives they were running at the time of the survey:

- Encourage companies to be members of AAK
- Enhance stakeholder training
- Blacklisting of distributors and stakeholders involved in selling counterfeit pest control products
- Increase surveillance to capture products that are not registered by PCPB and AAK members.

5.8 Measures taken by companies to combat counterfeiting of their products

There was overwhelming response by companies to the threat that counterfeit pest control products posed to their businesses. This is evidenced by 56.10% of the respondents who indicated having taken measures to safeguard their companies from the threat posed by counterfeit pest control products.

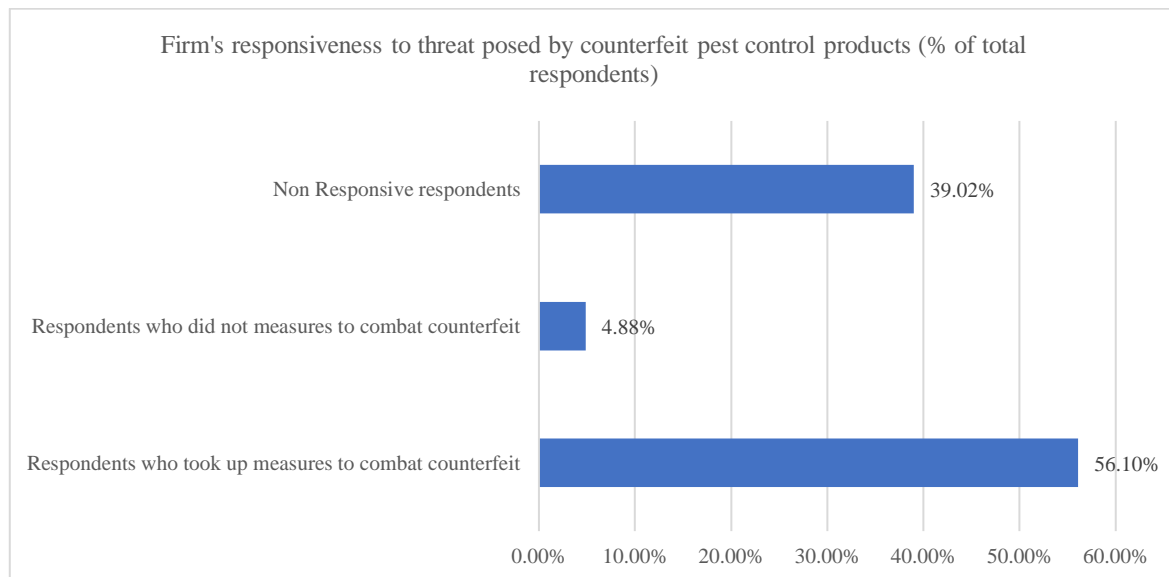


Chart 21: Firm's responsiveness to threat posed by counterfeit pest control products (% of total respondents)

Type of measures or strategies used by respondents to counter counterfeiting of pest control products

Of the respondents who indicated taking measures towards countering counterfeit pest control products, the measures they took included:

- a) Signing of confidentiality agreements between employees and the company barring disclosure of company information
- b) Maintaining strict policies on access of critical company documents such as formulas and procedures
- c) Auditing distributors and product supply chain
- d) Change of packaging and inclusion of authenticating/security features on the labels
- e) Training stakeholders on the company's products to ensure they can identify counterfeit products

6.0 STOCKING OF COUNTERFEIT PEST CONTROL PRODUCTS

Agrovets

6.1 STOCKISTS IN THE PEST CONTROL PRODUCTS INDUSTRY

In total, according to the data shared by AAK and PCPB there are 10,393 Stockists or Agrovets distributed across all the counties. The survey covered a sample 423 agrovets from 34 counties which were randomly sampled from the 47 counties. The distribution of the sample agrovets across the counties was based on the county's total agrovets share in the total national agrovets. This ratio was used to distribute sample agrovets across the counties as illustrated in the chart below. The survey was conducted between 30th November 2020 and 8th December 2020 simultaneously across all the sample counties.

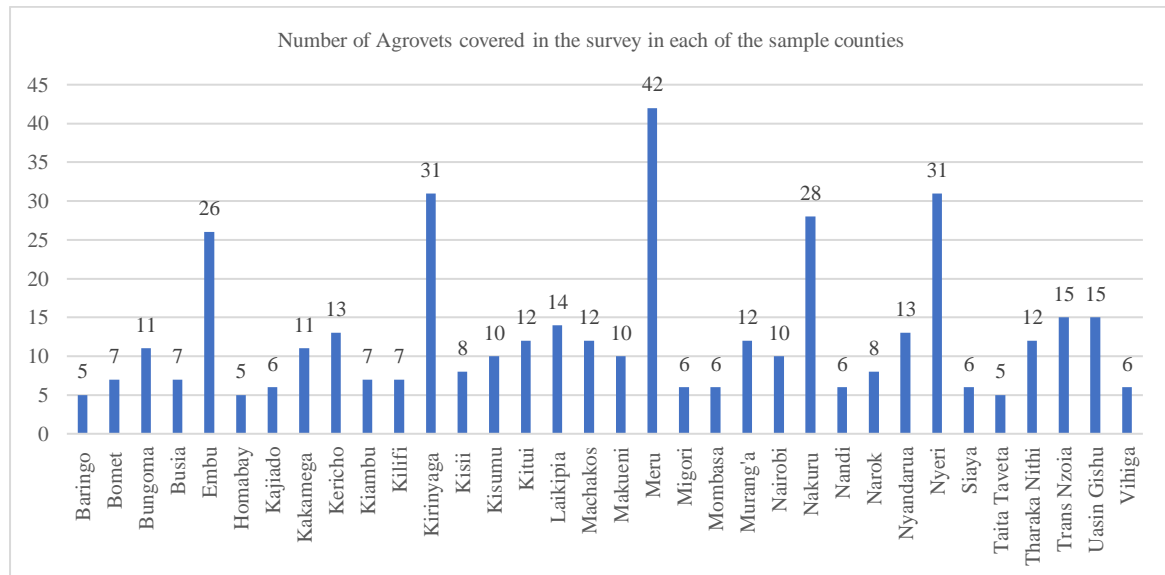


Chart 22: Number of Agrovets covered in the survey in each of the sample counties

Pest control products that are stocked by Agrovets/Stockists

The survey established that all the pest control products that were identified as products available in the Kenya pest control products industry were being stocked by the respondent agrovets/stockists. The stocking of these products varies. The products that took lead in being stocked are herbicides, which were stocked by 88.89% of the total respondents. As illustrated in the chart below, other lead products being stocked by over 50% of the respondents are as follows, where specific share in total respondents is provided: -

- Fungicides (85.34%),
- Acaricides (84.63%)
- Insecticide (81.32%)
- Rodenticide (66.67%)
- Miticide (61.94%)
- Nematicides (58.16%); and
- Termiticides (57.21%).

Besides the products that we listed for respondents to indicate whether they were stocking them, the survey instrument had a provision for the respondents to list any other products that they were stocking, other than ones listed. As illustrated in the chart below, the respondents that indicated stocking other products were 3.78%. The 'other products' were specified to include the following: *animal feed, seeds, poultry vaccine, bamako, laraforce, nicidol, bedrum dewormers, Vitamins for poultry deworming, fertilizer, gladiator (mostly is counterfeit), injectable, dewormers, poultry microbes, salts, vitamins, antibiotics*

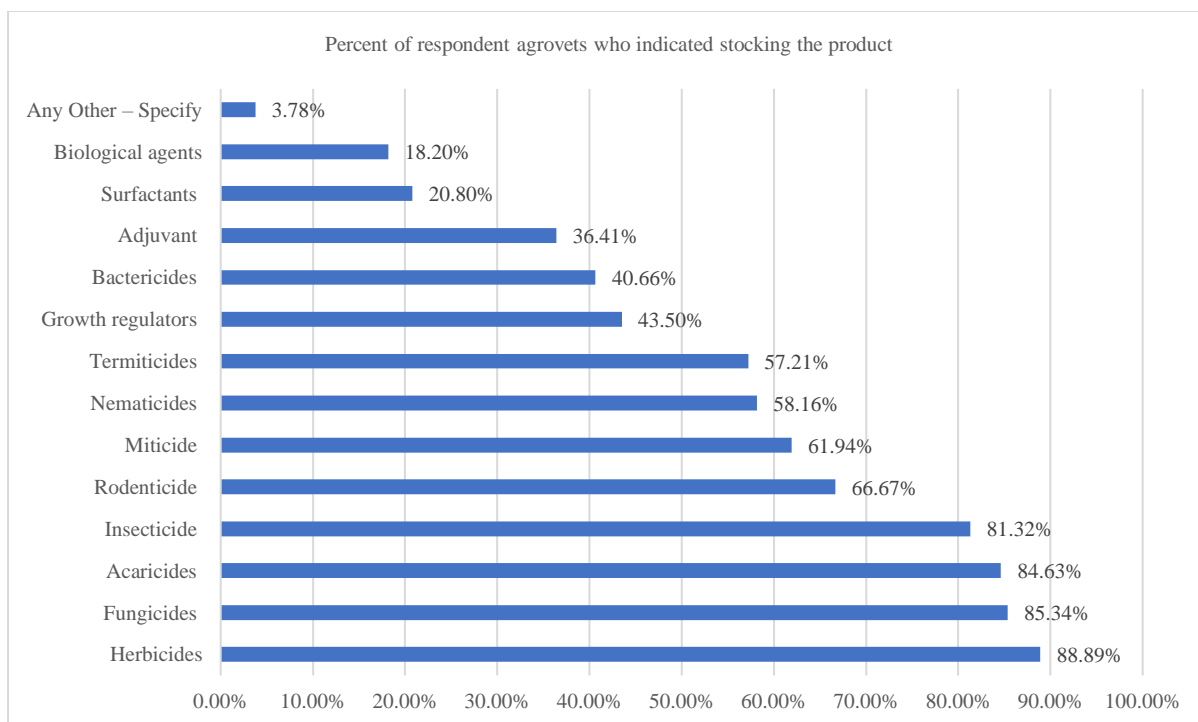


Chart 23: Type of pest control products stocked by agrovets

The rest of this chapter focuses on the survey results pertaining to stockists (agrovets) awareness of counterfeit pest control products, stockists (agrovets) behaviour in relation to matters of counterfeit pest control products, pest control products users' behaviour and complaints and stockists (agrovets) awareness of programs on counterfeit pest control products.

6.2 STOCKISTS (AGROVETS) AWARENESS OF COUNTERFEIT PEST CONTROL PRODUCTS

6.2.1 Level of awareness on the presence of counterfeit pest control products

The overall agrovet awareness on the presence of counterfeit pest control products was 88.43%. However, the degree of awareness varied across the respondents, with the majority of respondents (37.12%) indicating a moderate level of awareness whilst only 7.57% of respondents indicated a very high level of awareness and 19.15% of respondents indicated a high level of awareness. These findings indicate that the prevalence of counterfeit goods may be partly spurred on by a lack of high-level awareness of the presence of these goods. This demonstrates a need for more awareness creation initiatives to improve awareness levels of counterfeit pest control products in the market.

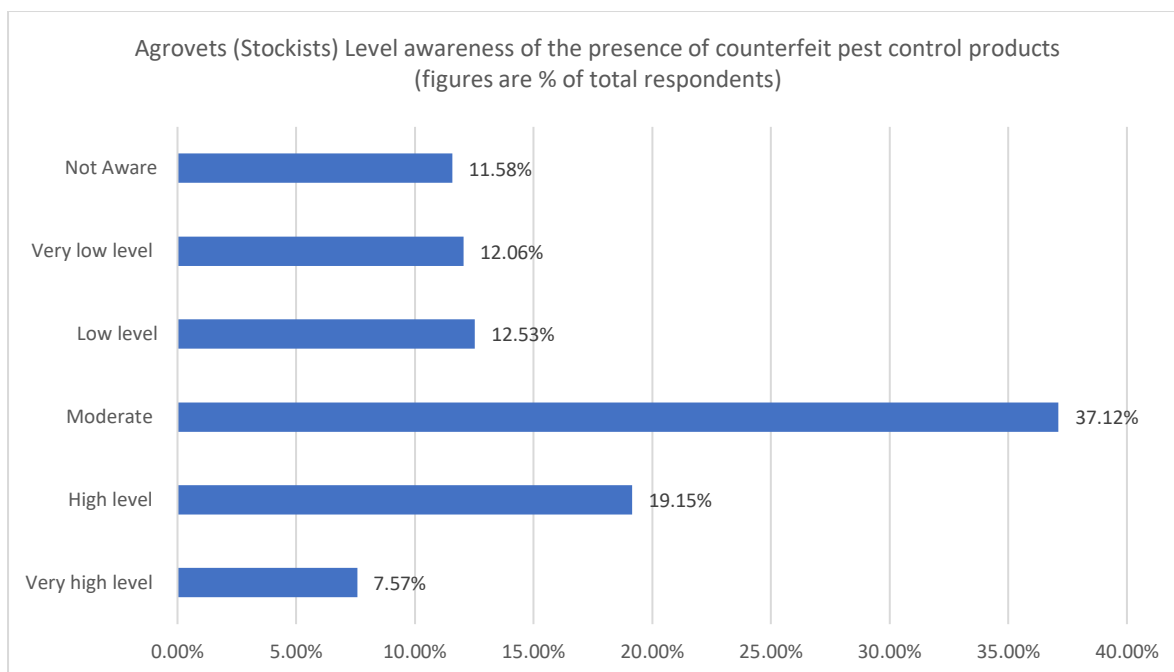


Chart 24: Level of awareness on the presence of counterfeit pest control products

6.2.2 Extent to which agrovets can tell that a pest control product is a counterfeit product at sight or when buying

Agrovets ability to tell counterfeit pest control products at sight or when buying is very important in the fight against counterfeit products. These agrovets are the outlets through which the bulk of the pest control products get to the users (farmers and households). Ability of agrovets to tell counterfeit pest control products at sight or when buying from distributors is therefore a key defense of the economy against this vice. The survey used the Likert scale to establish the extent to which agrovets can tell counterfeit pest control product at sight or when buying. The respondents had the following options to choose from in the scale – To a large extent, to some extent and not at all. The respondents also had a choice to abstain from this question.

The survey yielded very encouraging results because agrovets who indicated ability to tell counterfeit pest control products at sight or when buying were 73.28%. Majority of them (53.19%) indicated ability to tell counterfeit pest control products at sight or when buying ‘to some extent’ while those indicated ‘to a large extent’ accounted for 20.09%. Whilst these results are promising, there is still room for improvement as 16.13% of agrovets indicated not being able to identify these counterfeit goods. This underscores the need for training of agrovets to enable all scores to be ‘to a large extent’ in the Likert scale. This should be pursued swiftly given the already established magnitude and prevalence of counterfeit pest control products in the country.

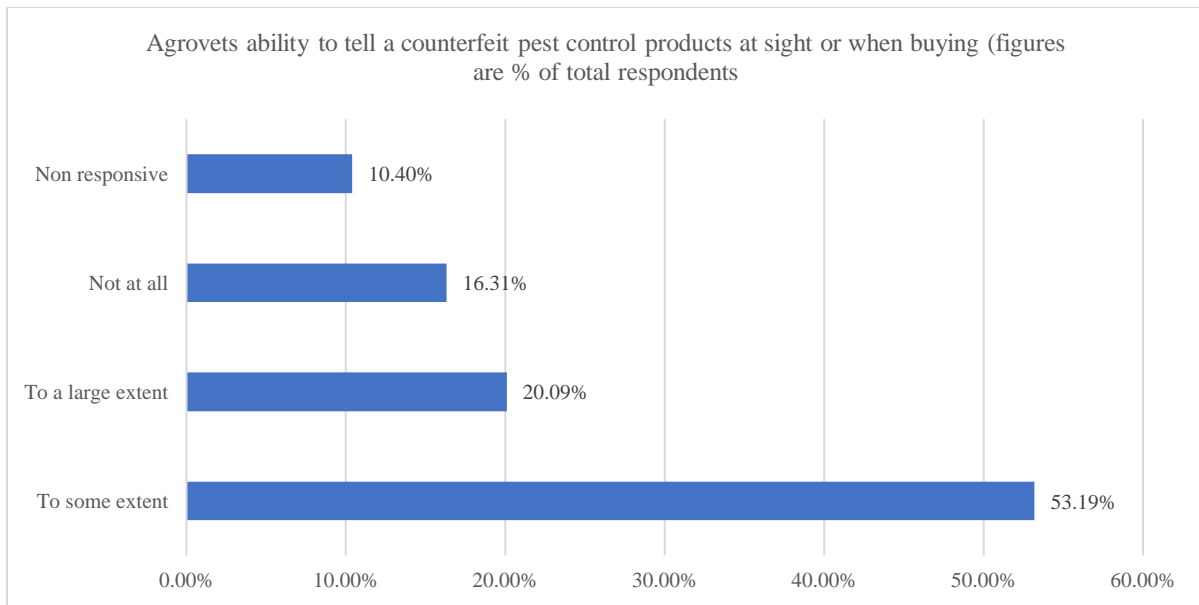


Chart 25: Extent to which Agrovets are able to tell that a pest control product is a counterfeit at sight or when buying

6.2.3 Source of counterfeit pest control products

The agrovets indication of their awareness of presence of counterfeit pest control products dictated the need to know the source of these counterfeit products. Knowledge about the source of counterfeit pest control products helps in the understanding the role of source market in driving counterfeit pest control products in Kenya. It also helps in drawing strategies to combat the vice.

According to the agrovets, the domestic market is the lead source counterfeit pest control products. This view was held by 39.80% of the respondents. Foreign countries were also significant sources of these products, as evidenced in the chart below, where 32.40% of the respondents supported this view. This view about foreign countries being a source of counterfeit pest control products is consistent with the findings on the international trade estimate of the magnitude of illicit pest control products, which includes counterfeits. It is also consistent with the findings from the manufacturers and distributors who indicated that counterfeits of their pest control products originate from foreign countries.

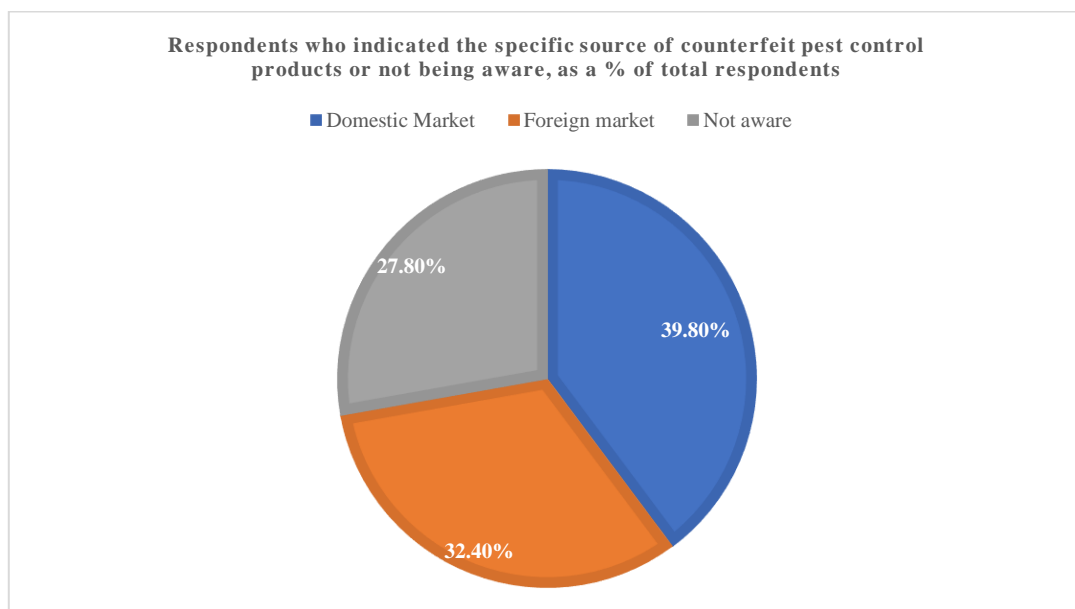


Chart 26: Source of counterfeit pest control products

6.2.4 Negative effects to the economy arising from the use of counterfeit pest control products

Counterfeit pest control products have been documented by OECD (2020), OSCE (2015), FAO (2011) among many other studies and reports as having negative effects to the economy. In this survey, agrovets’ awareness of these effects was assessed. The results of their response is as provided in the chart below. Loss of farm productivity ranked first with 69.98% of the respondents citing this as an adverse effect to the economy. This was followed by

- *Loss of money because of ineffective pest control products (60.76% of respondents)*
- *Lost sales opportunity by companies/business (56.97% of respondents)*
- *Lost Government Revenue Opportunity (47.28% of respondents; and,)*
- *Lost investments opportunities (43.26% of respondents.)*

As illustrated in the chart below, the respondents that indicated ‘other negative effects’, other than ones listed in the survey instrument were 7.8% of total respondents. The ‘other negative effects’ were specified to include the following: *affecting fertility of the soil, arrests and being charged (termicides), death of farmers and animals, effect on people’s health, food insecurity, frustration to customers, poor health, adverse effects on environment, increased resistance from the pests, loss of business, loss of cattle, loss of confidence from the farmers, loss of customers, loss of reputation, loss of trust of the product.*

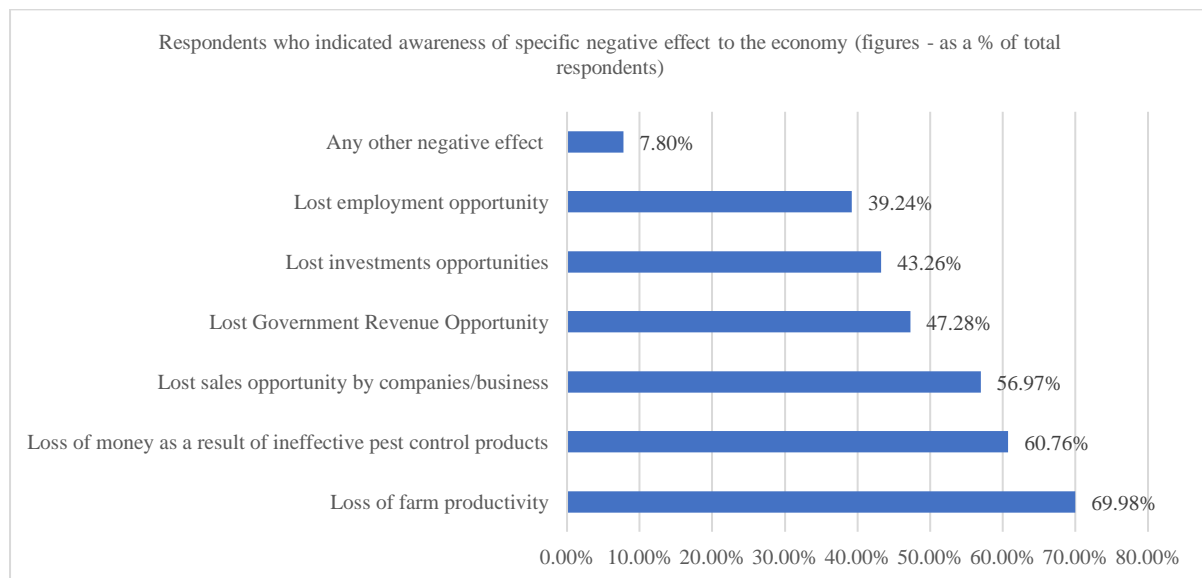


Chart 27: Negative effects to the economy arise from the use of counterfeit pest control products

6.2.5 Awareness of legal consequences of stocking counterfeit pest control products

The survey results, in response to a question that required the respondents to indicate their awareness of ‘legal consequences of stocking counterfeit pest control products’ are very encouraging. This is because of the finding that out of the total respondents, 98.26% indicated awareness of specific legal consequences, all of which fall in the purview of the legal action that is anticipated in the course of enforcement of the various legislations on counterfeit (PCPB and ACA). The chart below provides details of these legal consequences, where arrest is the lead, with 29.51% of respondents indicating awareness of this particular consequence. This is followed by license revocation and heavy fines where 15.63% and 14.58% of the total respondents, respectively indicated awareness of these consequences.

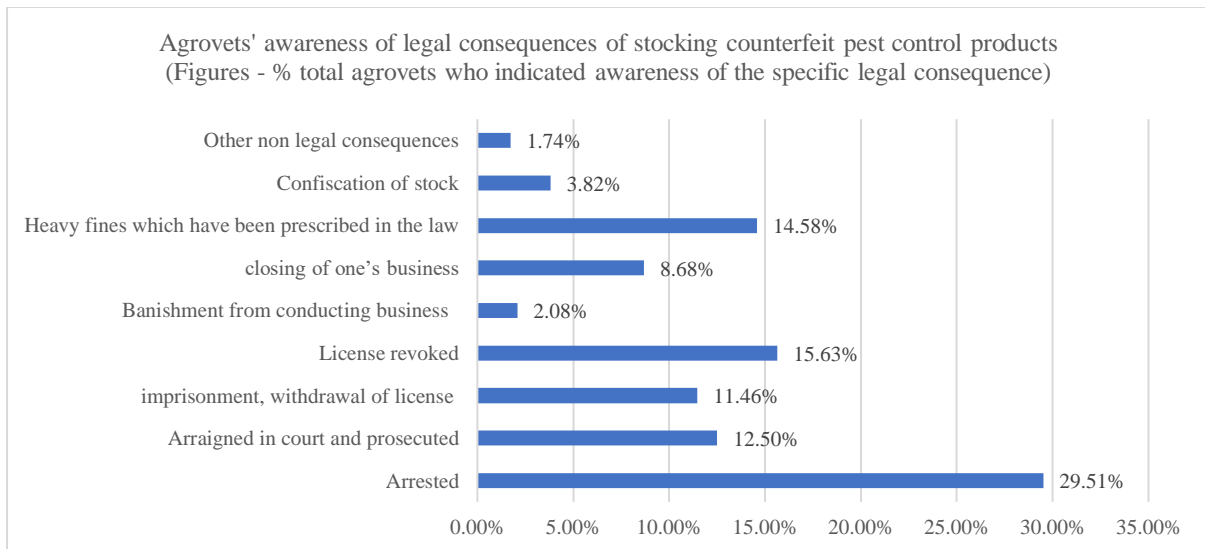


Chart 28: Awareness of legal consequences of stocking counterfeit pest control products

6.3 STOCKISTS (AGROVETS) BEHAVIOR IN RELATION TO COUNTERFEIT PEST CONTROL PRODUCTS

6.3.1 Level of awareness of the existence of unlicensed stockists or shops that could be selling counterfeit pest control products in Kenya

Unlicensed stockists are not regulated and therefore provide counterfeit pest control product distributors with a convenient retail partner. To curb the prevalence of counterfeit pest control products it is important to also eliminate these unlicensed stockists. Awareness of who they are and where they are located is a first step to doing so. The survey set out to establish these facts by asking respondents to indicate whether they were aware of unlicensed stockist or shops that could be selling counterfeit pest control products in Kenya.

Over half of the respondents (52.4%) indicated being aware of the existence of unlicensed agrovets. This result is indicative of the widespread presence of unlicensed stockists who are more likely to stock counterfeit pest control products. The rest of the respondents indicated not being aware of unlicensed stockists (46%) or not sure (2%).

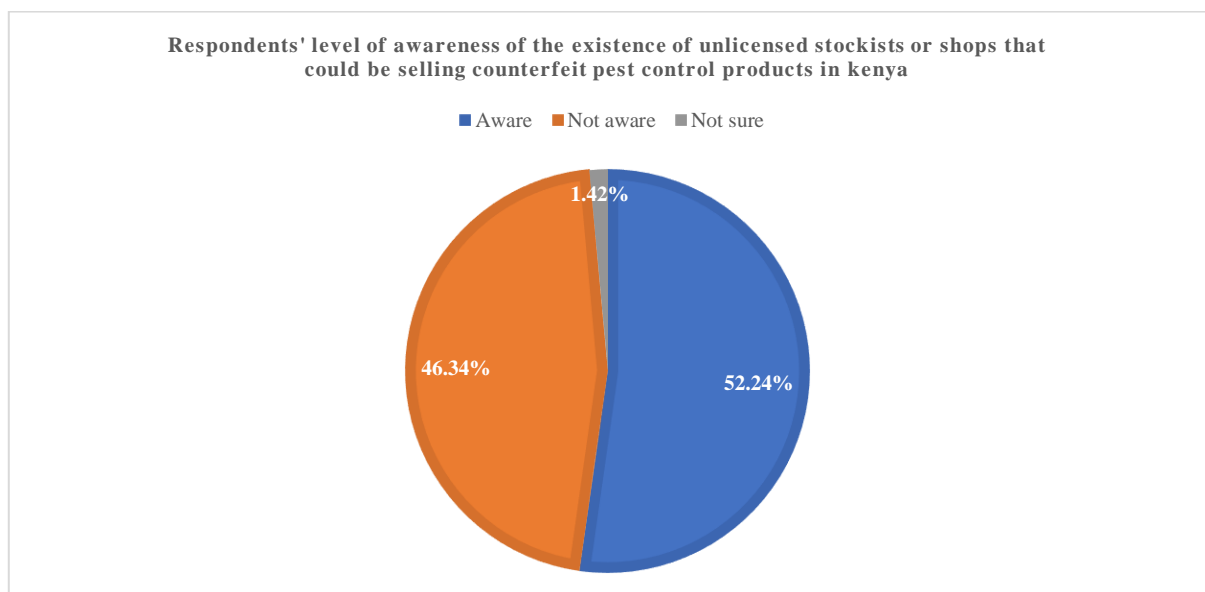


Chart 29: Level of awareness of the existence of unlicensed stockists or shops that could be selling counterfeit pest control products in Kenya

6.3.2 Counties and location of the unlicensed stockists or shops

Lead counties in unlicensed stockists/agrovets

Out of the 34 sample counties, incidents of unlicensed stockist/agrovets²² featured in the following 16 counties where the average of respondents who indicated awareness of these outlets was 4.35%: *Kilifi, Taita-Taveta, Marsabit, Makeni, Nyandarua, Kiambu, Uasin Gishu, Laikipia, Bomet, Bungoma, Busia, Homa Bay, Tharaka-Nithi, Migori, Embu, Kisii, Kakamega, Meru, Kajiado, Kirinyaga, Narok, Nairobi, Nakuru.*

Further analysis of this indicator on unlicensed stockists revealed concentration in sixteen counties, where their average was above the averaged of 4.45%. Top among these counties where incidents of unlicensed stockists was high are Nakuru, Narok and Nairobi. This helps define PCPB county programs for cracking on unlicensed stockist.

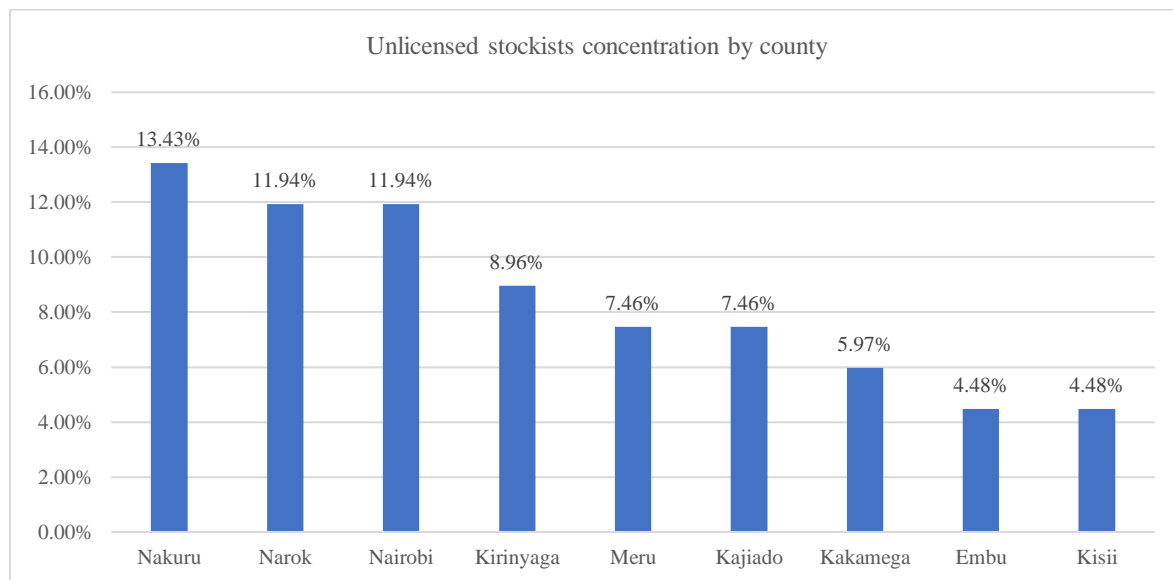


Chart 30: Unlicensed stockists concentration by county

The stockists who indicated awareness of the existence of unlicensed stockist were asked to give the locations where such stockists could be found. As indicated in the chart below, 85% of the respondent who indicated being aware of unlicensed stockist also indicated being aware of the location of these stockists – specific counties and in some cases towns and areas, or general awareness of their location across the counties. It is important to note that hawkers, although accounting for 5% of the respondents who indicated awareness of unlicensed vendors, are also featured as unlicensed outlet for the pest control products. These results will help in targeting areas for reinforcing compliance with requirement for licensing of agrovets and introducing measures to curb proliferation of the unlicensed outlets.

²² These are stockists who are not licensed to operate

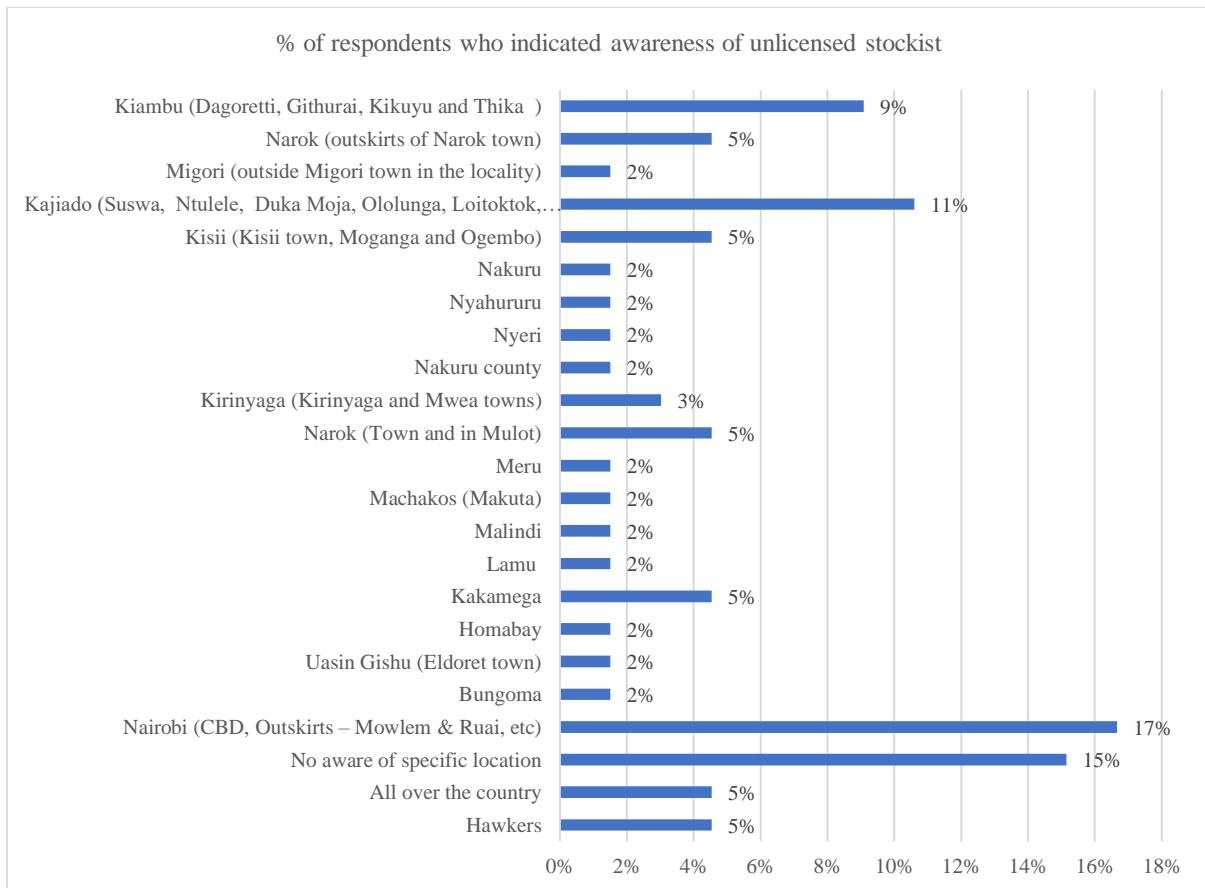


Chart 31: Location of unlicensed stockists or shops

6.3.3 Type of pest control products that are stocked by the unlicensed stockists or shops

According to 17.65% of total respondents, the most counterfeited pest control products that are stocked by unlicensed stockist are insecticides. This is followed by acaricides, herbicides and fungicides. It is also worth noting these stockists also stock the rest of the products as evidenced by proportion of the respondents in the chart below.

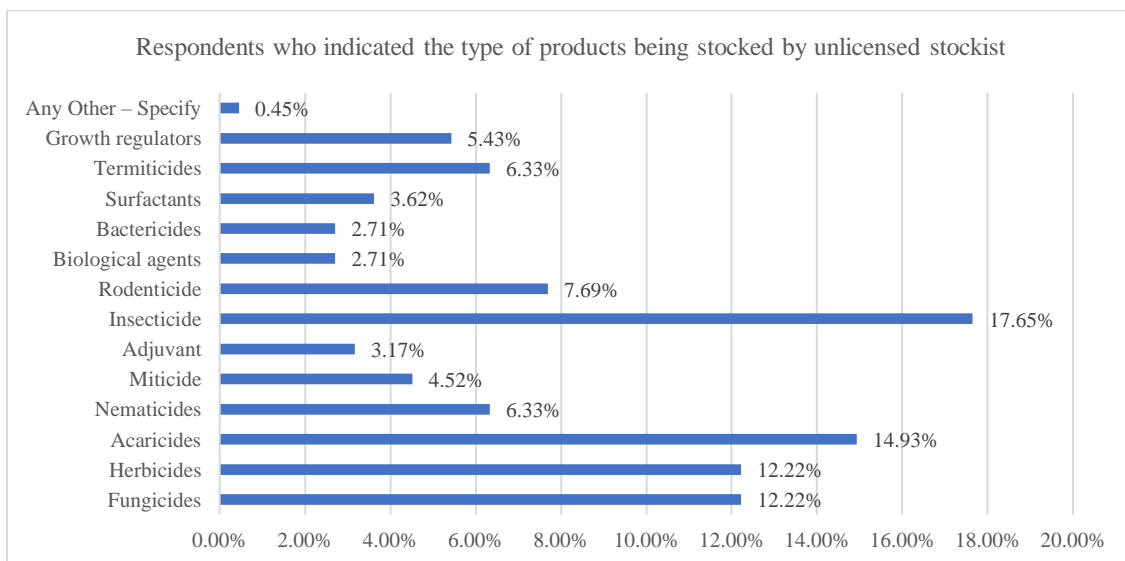


Chart 32: Type of pest control products that are stocked by the unlicensed stockists or shops

6.3.4 Reasons that may have made the unlicensed stockists to sell the counterfeit pest control products

Most of the respondents (44.80%) were nonresponsive on the factors driving the demand for counterfeit pest control products. This notwithstanding, the factors that drove demand for the sale of counterfeit pest control products by unlicensed stockist included low price, product popularity and ease of availability.

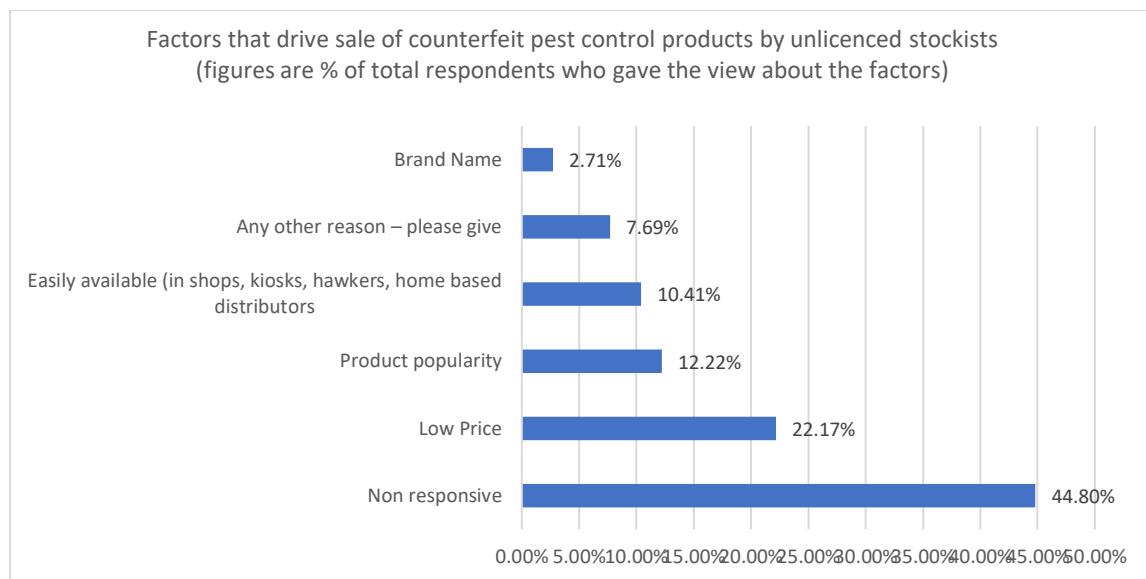


Chart 33: Factors that drive sale of counterfeit pest control products by unlicensed stockists

6.3.5 Possible sources of counterfeit pest control products that are stocked by the unlicensed stockists

Most of the respondents (53.85%) were nonresponsive on the source of the counterfeit pest control products that were being stocked by unlicensed stockists. However, the few respondents who responded to this question gave the following as the possible sources: traders (16.29%), home based network of distributors ((10.86%), manufacturers/formulators (9.05%), other agrovets (7.24%) and online platforms/shops (2.71%).

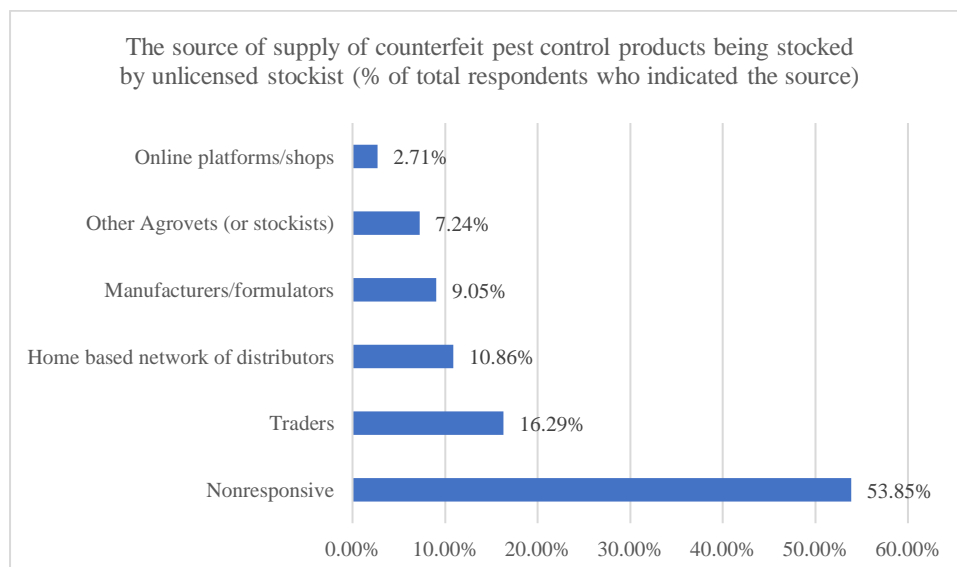


Chart 34: The source of supply of counterfeit pest control products being stocked by unlicensed stockist

6.3.6 Level of awareness of the existence of licensed stockists or shops that could be selling counterfeit pest control products in Kenya

There was little awareness among the respondents on the existence of licensed stockists or shops that could be selling counterfeit pest control products in Kenya. An overwhelming majority of respondents (66.19%) indicated that they were not aware of any licensed stockists that could be selling counterfeit pest control products. However, and as illustrated in the chart below, 31.21% of respondents indicated awareness of the existence of licenced stockists selling counterfeit pest control products in Kenya.

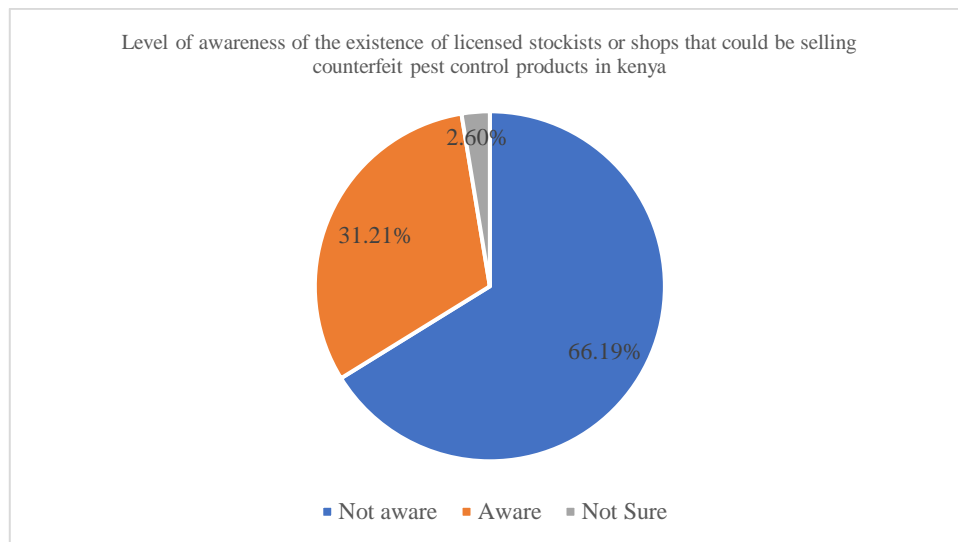


Chart 35: Level of awareness of the existence of licensed stockists or shops that could be selling counterfeit pest control products in Kenya

6.3.7 Location of the licensed stockists or shops

The respondents who indicated being aware of licensed stockist or agrovets who stock counterfeit pest control products proceeded to indicate their location. As evidenced in the chart below, most are located in Nairobi county, followed by Kisii, Kirinyaga and Kiambu. Other counties that also featured prominently are Narok, Nakuru, Mombasa, Kakamega and Uasin Gishu. Although this is respondents' perception which may not necessarily reflect the reality, given the magnitude of counterfeit as evidenced by seizures and firms' sales losses as well as extent of illicit trade, there is need for fact finding through intelligence services and local level informers to establish actual status and crack down on such outlets.

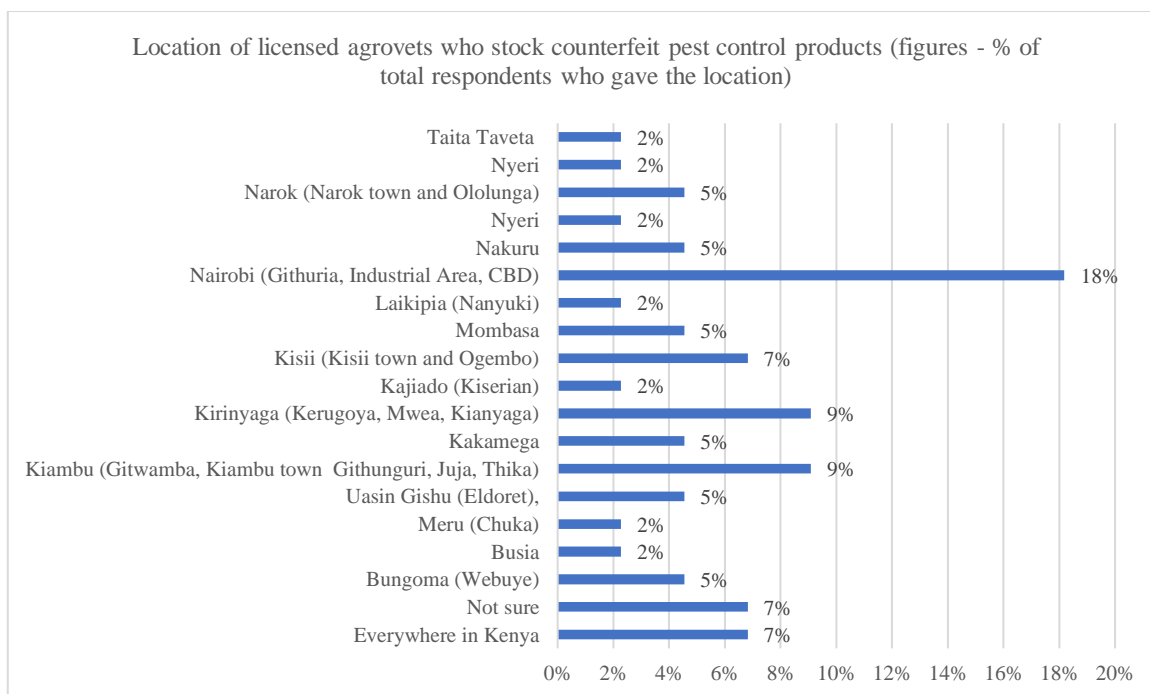


Chart 36: Location of licensed agrovets who stock counterfeit pest control products

6.3.8 Type of counterfeit pest control products that are stocked by the licensed stockists or shops

The most popular counterfeit pest control products that are stocked by licensed stockist are herbicides, according 18.18% of total respondents. This is followed by acaricides, fungicides and insecticides. It is also worth noting that these stockists also stock the rest of the products as evidenced by proportion of the respondents in the chart below.

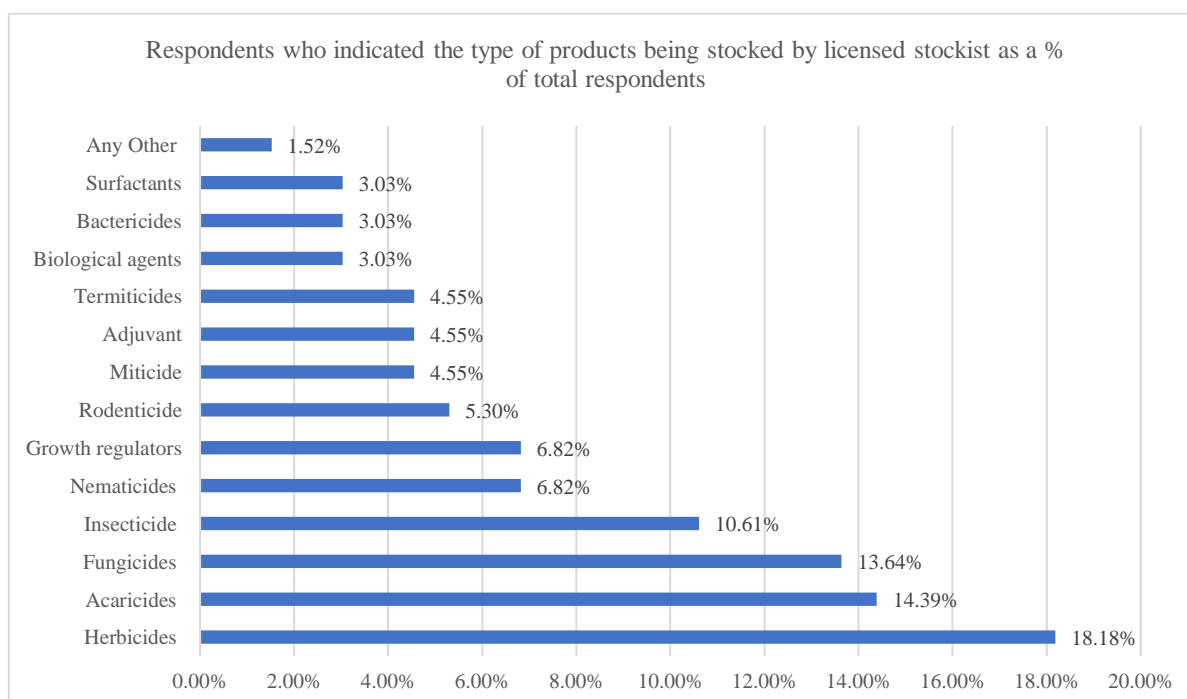


Chart 37: Type of counterfeit pest control products that are stocked by the licensed stockists or shops

6.3.9 Reasons that may have made the licensed stockists to sell the counterfeit pest control products

Most of the respondents (46.97%) were nonresponsive on the factors driving the demand for counterfeit pest control products in licensed stockists' outlets. This notwithstanding, however, there were a few respondents who identified the factors that drove demand for the sale of counterfeit pest control products by licensed stockists. These factors included low price, product popularity, ease of availability and brand name.

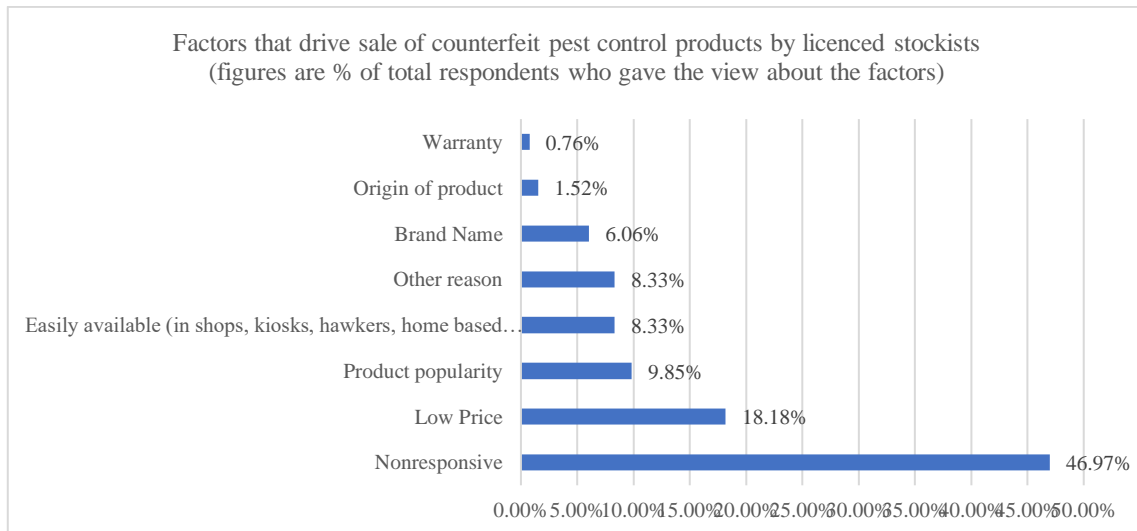


Chart 38: Factors that drive sale of counterfeit pest control products by licenced stockists

6.3.10 Possible sources of counterfeit pest control products that are stocked by the licensed stockists

Majority of the respondents (57.58%) who indicated awareness of stocking of counterfeit pest control products by licensed stockist, were nonresponsive on the question seeking to establish the source of these products. However, the few who responded to this question gave the following as the possible sources: traders (12.12%), manufacturers/formulators (11.36%), other agrovets (9.85%) home-based network of distributors ((5.30%), and online platforms/shops (3.79%).

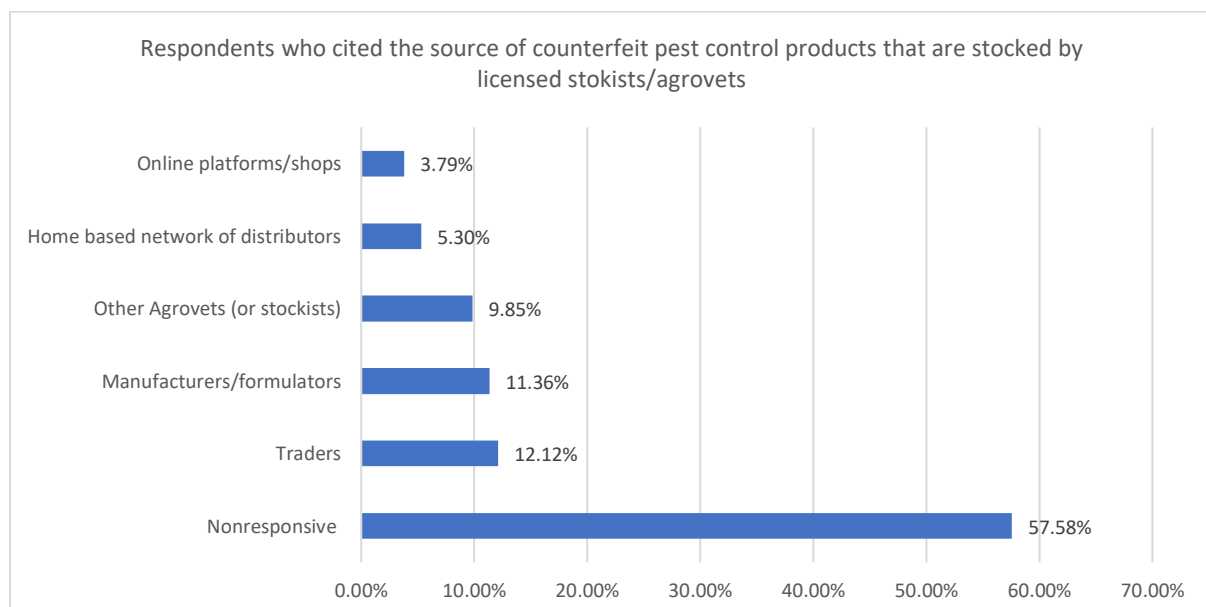


Chart 39: The source of supply of counterfeit pest control products being stocked by licensed stockists

6.3.11 Measures to discourage or discontinue stocking of counterfeit pest control products for unlicensed and licensed stockists (agrovets)

In view of the evidence of counterfeit pest control products being stocked by licensed and unlicensed stockist/agrovets, the respondents recommended the following remedial measures for consideration in addressing the threat that these products pose on the Kenyan economy: -

- a) Training on counterfeit pest control products
- b) Trace and stop the counterfeits at source
- c) Strengthen registration and enforcement of licensing of agrovets, distributors and manufacturers to avoid middlemen in vending of pest control products
- d) Stockists to be keen when sourcing their stocks and to always get their products directly from manufacturers
- e) Sensitization among stockists in order to create awareness on counterfeit pest control products
- f) Revoke the licenses of stockists/agrovets who stock counterfeit pest control products
- g) Prompt reporting of incidents of counterfeit pest control products
- h) Regular inspection and market surveillance from time to time
- i) Raiding and closure of unlicensed outlets
- j) Prosecuting those found stocking counterfeit pest control products
- k) Proper branding of the products by the companies and create awareness of such products
- l) Products should be purchased directly from the manufacturer and should be made affordable in order for other small stockists to purchase
- m) Pest control board should come up with strict measures and heavy penalties on those stocking counterfeits
- n) People should buy products from a licensed stockist, PCPB should develop a portal on all accredited stockist with unique identifier numbers that can be checked online before one chooses to buy products from any stockist/agrovets
- o) PCPB to have offices to enhance monitoring and market surveillance
- p) Strengthen regulation of manufacturer and distribution to address any loophole that could be used to infiltrate counterfeit pest control products through these crucial lifecycle entry points
- q) Lower cost of production to discourage proliferation of counterfeit producers
- r) KEPHIS to carry out more inspection on the use of pest control products seeking to ensure non-infiltration of counterfeits
- s) Government Multi-Agency Team on counterfeits should come up with counterfeit pest control products program aimed at coordinated approach in eliminating these products from the Kenyan market
- t) Advertisement to create public awareness on counterfeit pest control products and their negative impact, especially on productivity and losses and where to get genuine products

6.3.12 Agrovets who indicated having stocked counterfeit pest control products in Kenya

The survey had a direct and candid question seeking to establish whether the licensed agrovets (*who the target for this survey*) had ever stocked counterfeit pest control products. In response, 65.01% of the total respondents indicated that they had never stocked counterfeit pest control products. However, as illustrated in the chart below, 16.31% of them indicated having stocked these counterfeit products. A further 11.58% were nonresponsive to this question, while 7.09% were unsure if they had done so before, perhaps because of an inability to identify these counterfeit pest control products.

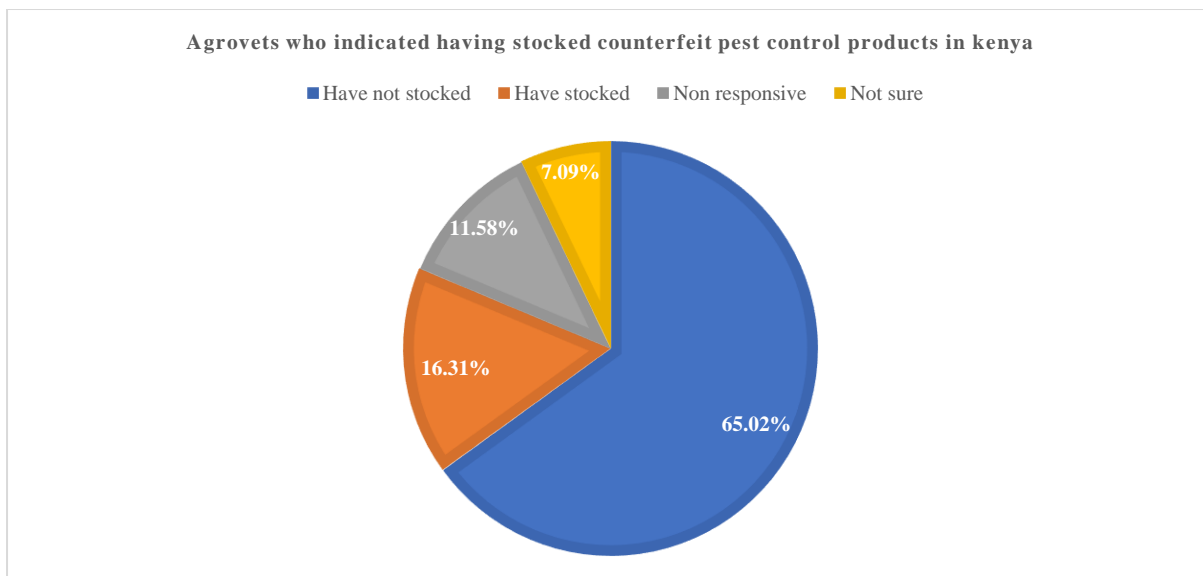


Chart 40: Agrovets who indicated having stocked counterfeit pest control products in Kenya

6.3.13 Type of products that Agrovets who indicated having stocked counterfeit pest control products in Kenya may have stocked

The most stocked counterfeit pest control products by the agrovets (69 in number) who declared having ever stocked these products was herbicides, stocked by 17.39% of the agrovets. As illustrated in the chart below, this was followed by acaricides, insecticides and termiticides. Whatever the reason that prompted these agrovets to stock counterfeit pest control products, the message coming from this finding is that there is risk that counterfeit pest control products are being vended in licensed agrovets.

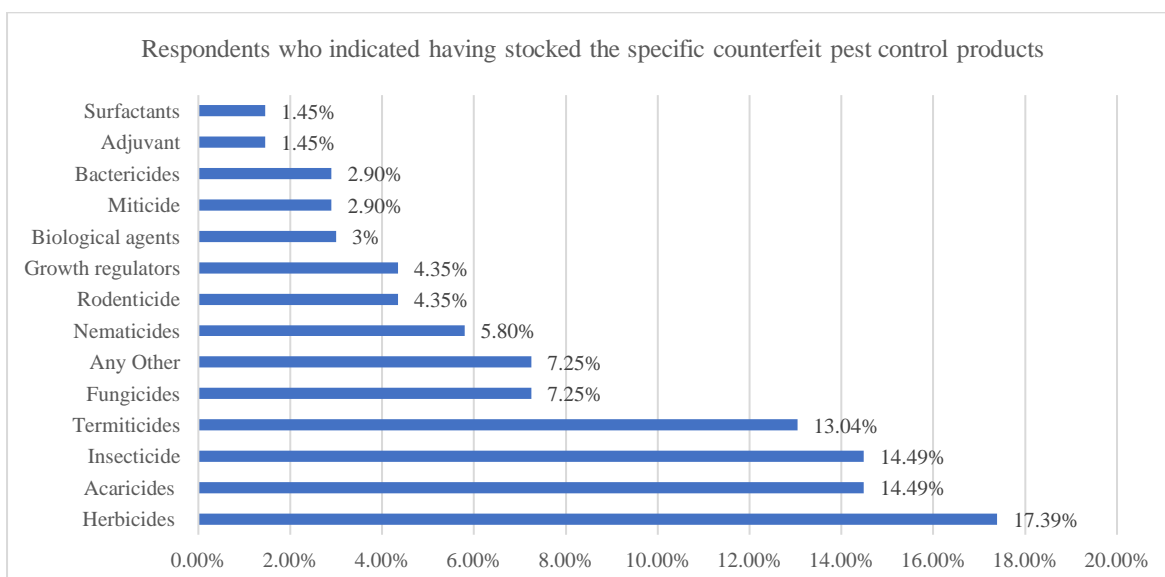


Chart 41: Type of pest control products that are stocked by agrovets who declared having stocked the counterfeit pest control products

6.3.14 Agrovets prior awareness that the stocked products were counterfeits

The stocking of counterfeit pest control products was driven by a lack of awareness and inability to tell a counterfeit from a genuine product at sight or when buying for stocking. This result emanates from the fact that 50.72% respondent agrovets who had declared having stocked counterfeit pest control products in response to the question whether they had prior knowledge that the products were counterfeit said they had no prior awareness. However, a small fraction of respondents (8.70%) indicated a prior awareness that the products that they were stocking were counterfeits. The rest of the respondents, who accounted for 40.78% of agrovets who indicated having stocked counterfeits chose

to be nonresponsive on this question. This silence could as well mean that they had prior knowledge that the products were counterfeit but chose to be silent on subject.

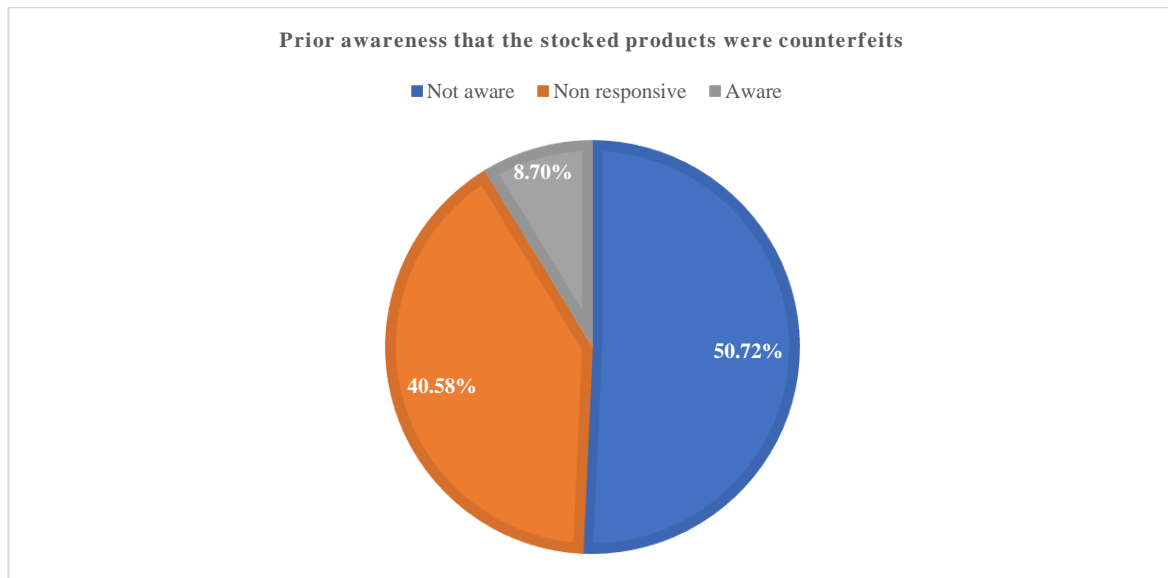


Chart 42: Prior awareness that the stocked products were counterfeits

6.3.15 Possible reasons that made the respondent stockists stock the counterfeit pest control products

The lead reason that made licensed agrovets who declared having ever stocked counterfeits was brand name (33.33%) and low price (33.33%). This was followed by origin of the product (16.67%) and ease of availability (16.67%). Besides working on awareness as a deterrent factor to discourage stocking of counterfeit pest control products in licensed agrovets, the above four factors need to be addressed through regulation and good industry practice.

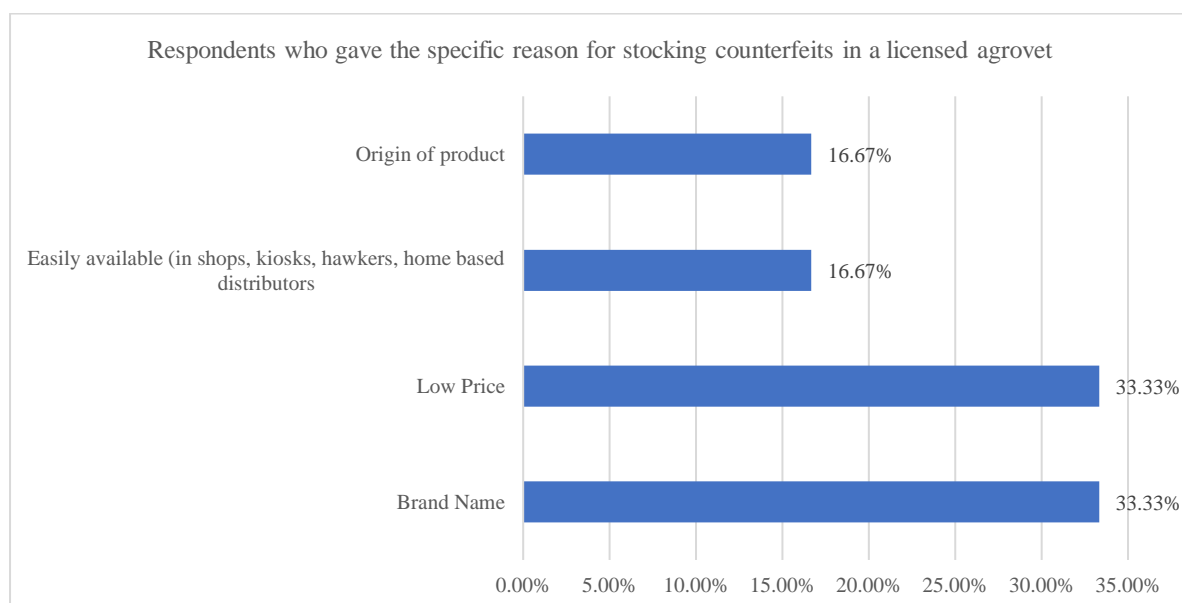


Chart 43: Possible reasons that made the respondent stockists stock the counterfeit pest control products in licensed agrovets

6.3.16 Possible sources of counterfeit pest control products that are stocked by the responded stockists

Traders emerged as the lead source of counterfeit pest control products that are stocked by licensed agrovets. This is according to 33.33% of the licensed agrovet who indicated having ever stocked the

counterfeits. The other sources were manufacturers/formulators (16.67%) and home-based network of distributors (16.67%). It is however worth noting that 33.33% of the licensed agrovets who indicated having ever stocked counterfeits chose to be nonresponsive on this question. Silence could as well be interpreted as encouraged by the need not to disclose the source, especially if the business is rife and profitable. In a nutshell this finding indicates that there is domestic source of counterfeit pest control products that are retailing in some licensed agrovets, driven by the earlier mentioned reasons. The war on counterfeit pest control products should devise ways of reigning on these sources with a view to drying up the domestic supply of these products.

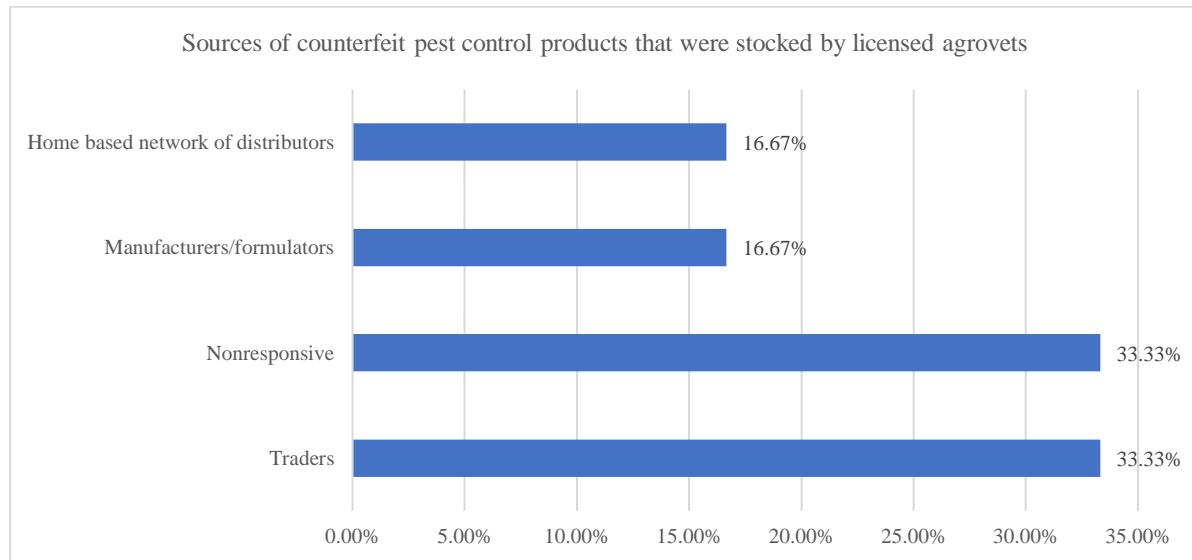


Chart 44: Possible sources of counterfeit pest control products that are stocked by the responded stockists

6.3.17 Likelihood of respondent stockists who indicated having stocked counterfeit pest control products to stock these products in the future

The agrovets who indicated having stocked counterfeit pest control products in their licensed outlets were categorical that they will not be knowingly stocking these counterfeit products. This view was held by 82.98% of these agrovets. There was however a small percentage of these agrovets, who accounted for 5.44%, who indicated that they would knowingly stock these products in the future. The larger picture in this finding is that licensed agrovets who have ever stocked pest control products did not do so knowingly and have no future plans to stock these products knowingly. This revelation should be used as an asset to stop stocking of counterfeits in licensed agrovets through education, training, awareness creation and partnership distributor/manufacturers supplier network with agrovets that ring fences the licensed agrovets from infiltration of peddlers of counterfeit pest control products. This policy measure will also dry up the source of counterfeit pest control products for the few licensed agrovets who hubber plans to stock these products knowingly.

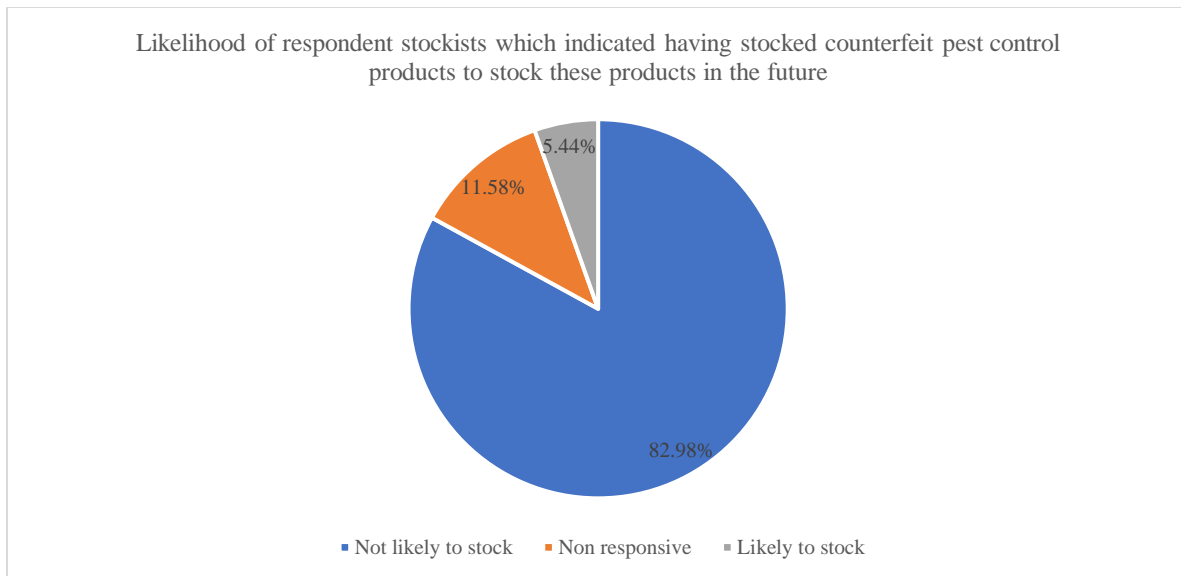


Chart 45: Likelihood of respondent stockists which indicated having stocked counterfeit pest control products to stock these products in the future

6.3.18 Possible reasons that will be considered by respondent stockists in stocking counterfeit pest control products in the future

The most compelling reason among the agrovets who indicated stocking counterfeit products was ‘product popularity’. This was a reason given by 31.25% of the agrovets who indicated having stocked counterfeit products in their licensed premises. Brand name (29.17%) was the next compelling reason, followed by origin of the product (14.58%) and low price (12.50%), and ease of product availability (10.42%) in that order.

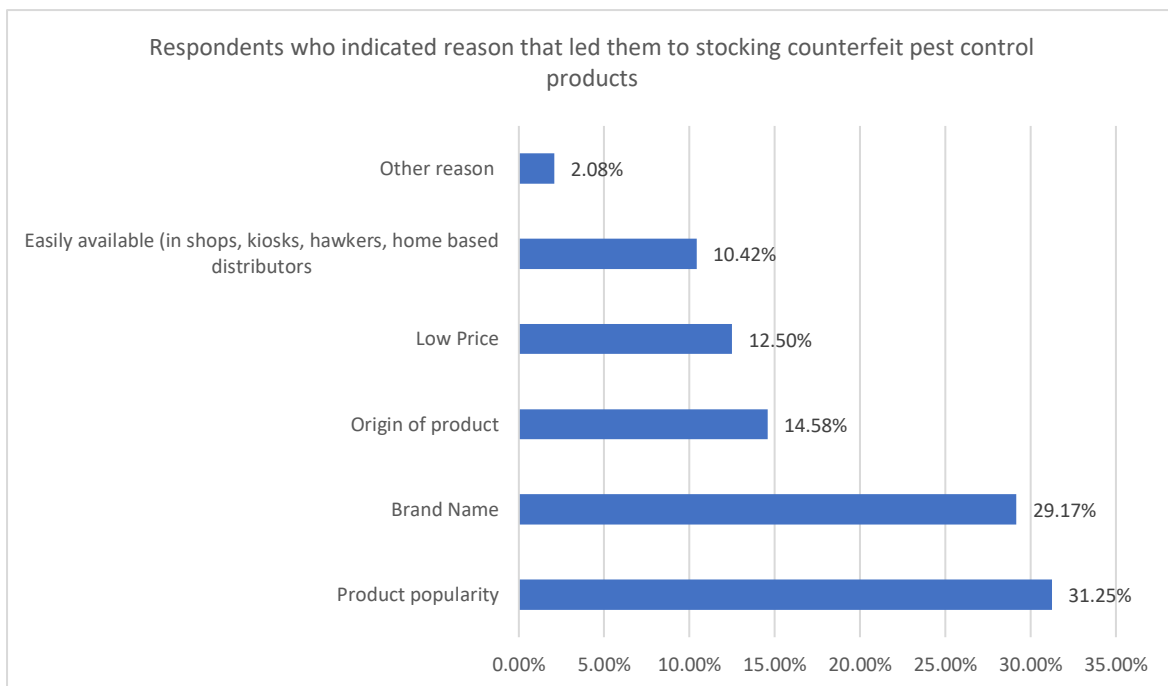


Chart 46: Possible reasons that will be considered by respondent stockists in stocking counterfeit pest control products in the future

6.4 PEST CONTROL PRODUCTS USERS BEHAVIOUR AND COMPLAINTS

6.4.1 Users/buyers reading of labels before purchase

According to 42.32% of the respondent, users/buyers always read the labels of pest control products before they purchase. On the other hand, 40.66% of the respondents indicated that users/buyers of the

pest control products sometimes read the label before purchase. Overall, therefore, readership of labels by users/buyers before purchase is quite good. This is a good finding because users and buyers' labels readership can be used as a good defence against entry of counterfeit pest control products into the industry. This is assuming they are trained and can tell counterfeit products at sight or before buying.

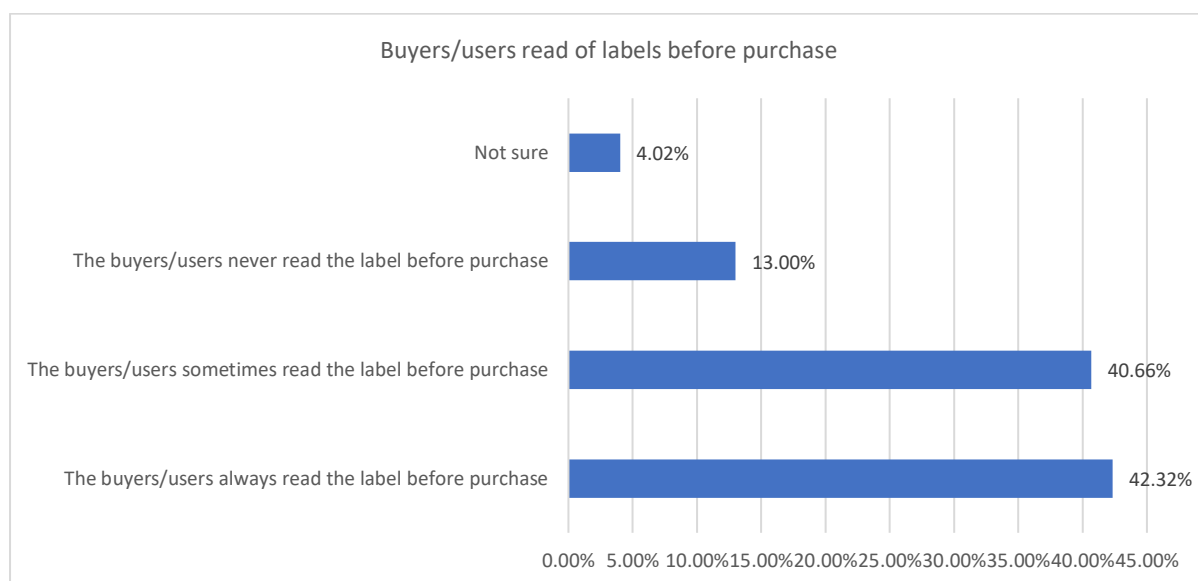


chart 47: Users/buyers reading of labels before purchase of pest control products

6.4.2 Users complaints reported to agrovets

Majority of the agrovets (81.56% of the respondents) indicated not receiving complaints from users on incidents of counterfeit pest control products. However, about 18.44% indicated having received complaints on incidents of counterfeit pest control products from the users.

6.4.3 How the users' complaints were handled by the respondents

Of the agrovets who indicated receiving complaints the ways they handled these complaints included:

- a) Forwarded the complaint to the manufacturer
- b) Reported to the supplier
- c) Reported to PCPB
- d) Advised consumers to try a different product
- e) Advised consumers to buy from licensed agrovets
- f) Advised consumers on how to differentiate counterfeit products from original products

6.4.4 Where Agrovets reported complaints received from the users

Agrovets reported the complaints they received from consumers to distributors (43.59%) of the subject product, manufacturers (28.21%) of the subject products, the PCPB (11.54%), the police 6.41%, ministry of agriculture 2.56%.

6.5 STOCKISTS (AGROVETS) AWARENESS OF PROGRAMS ON COUNTERFEIT PEST CONTROL PRODUCTS

6.5.1 Government agencies (regulators) program/initiatives for management and control of counterfeit pest control products

Awareness of Government initiatives or programs to combat counterfeit pest control products

Awareness of Government initiatives to combat counterfeit pest control products among respondent agrovets was high as evidenced by 60.05% of the respondents who indicated being aware of such initiatives. The rest of the respondents indicated unawareness of such programs (28.37%) or chose to be non-responsive to this question (11.58%). The latter part of the results demonstrate need for more education on Government initiatives combating counterfeit goods.

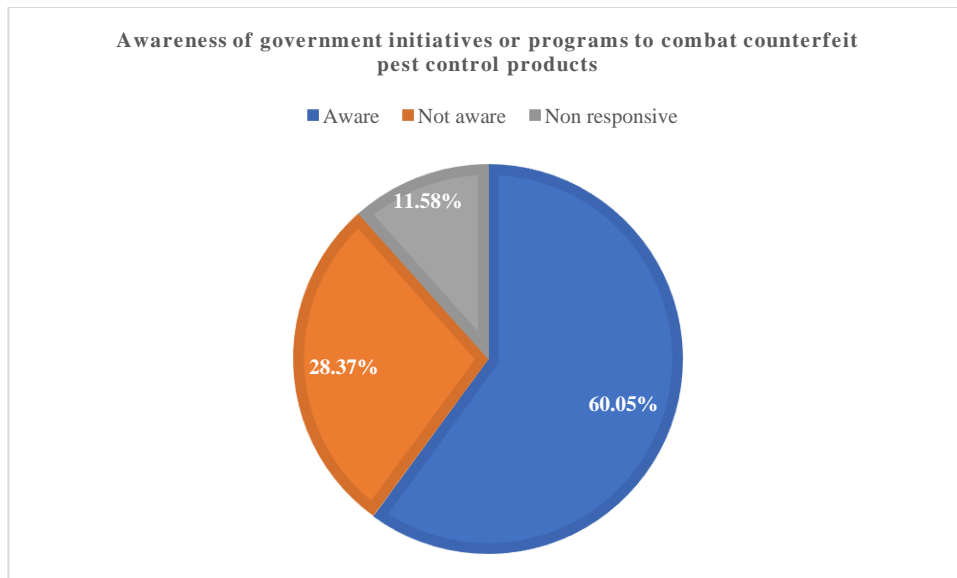


Chart 48: Awareness of Government initiatives or programs to combat counterfeit pest control products

Government Agencies and Institutions that according to Agrovets/respondents run initiatives or programs to combat counterfeit of pest control products

Of the agrovets who indicated a prior knowledge of Government initiatives to combat counterfeit pest control products, majority of them indicated the Pest Control Products Board (83.86%) as one of the Government agencies running these programs. Kenya Bureau of Standards came in second at 46.46% followed by Kenya Plant Health Inspection Services at 44.09%. The rest of the results are in the chart below.

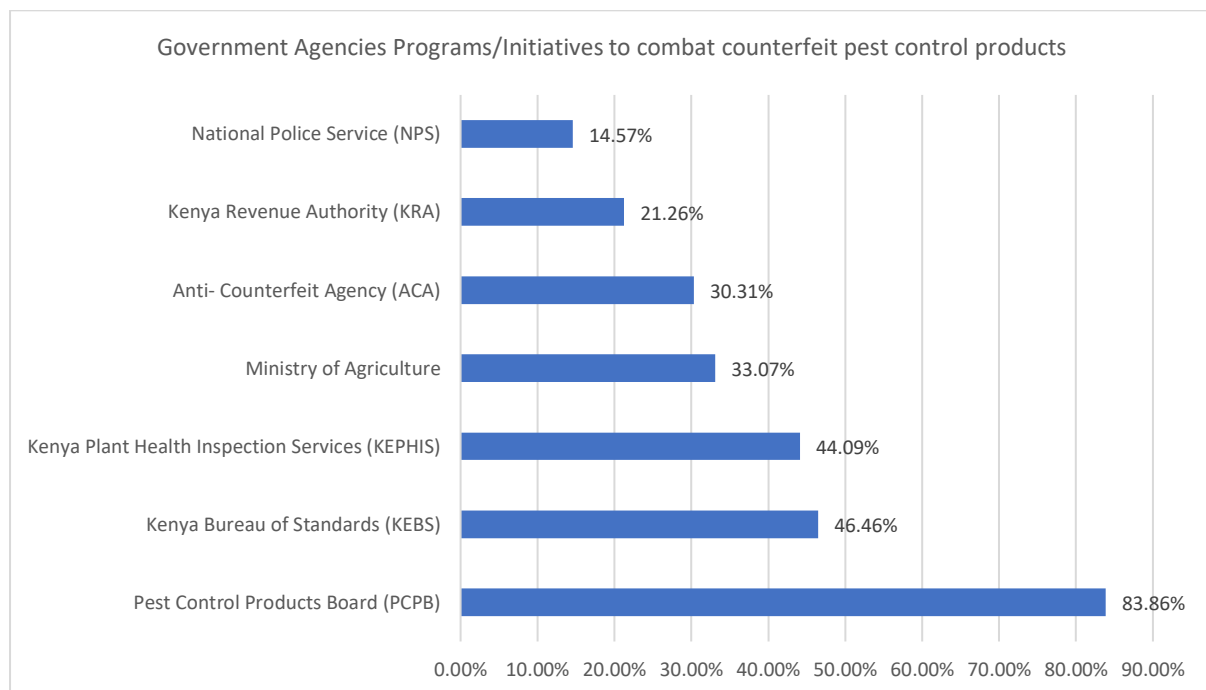


Chart 49: Government Agencies and Institutions that according to Agrovets/respondents run initiatives or programs to combat counterfeit of pest control products

Respondents’ recommendations for Government initiatives to combat counterfeit pest control products

Of the respondents who indicated a willingness to recommend Government initiatives to combat counterfeit pest control products, the recommendations given are as follows:

- a) Education program for stockists geared towards equipping them with skills to tell counterfeit pest control products
- b) Education program on counterfeit pest control products targeting users
- c) Educate farmers (ukulima bora program) on counterfeits and how to tell the difference.
- d) Educating the people to differentiate between counterfeit and genuine products
- e) Organizing of seminars in the rural areas
- f) Advertisement program through radios and televisions to create awareness on counterfeit pest control products targeting users
- g) Program for ensuring that all pest control products being imported into Kenya are checked if original or fake
- h) Restrict kiosks and hawkers from selling pest control products. License only agrovets.
- i) Anti-counterfeit program targeting counterfeit pest control products with improved collaboration between Government Agencies responsible
- j) Create a special anti-counterfeit police unit
- k) Create awareness and Ensure quality checks are done before the products get to the market
- l) Develop task forces to eradicate cartels in farming products as a whole
- m) Develop bar code authentications monitor and survey high risk sectors like agriculture
- n) Enforcement of strict regulatory measures
- o) Withdrawal of offending products from market

6.5.2 Private sector program/initiatives for management and control of counterfeit pest control products

Awareness of Private Sector initiatives or programs to combat counterfeit of pest control products

Apparently, private sector programs/initiatives outreach among agrovets is quite low. This is according to 61% of the respondent agrovets who indicated unawareness of private sector programs/initiatives to combat counterfeit pest control products. Only 27.42% of the respondent agrovets indicated being aware of private sector programs/initiatives to combat counterfeit pest control products. These findings demonstrate need for private sector programs/initiatives outreach among the agrovets with a view to educating them on what private sector has evolved to assist agrovets and users tell what counterfeit pest control products are at sight or when buying.

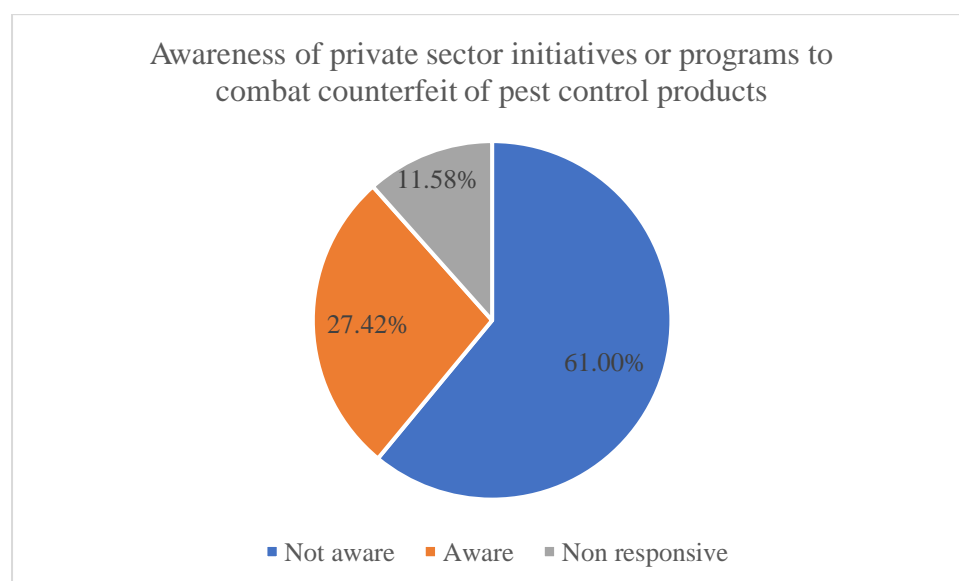


Chart 50: Awareness of Private Sector initiatives or programs to combat counterfeit of pest control products

Private Sector Institutions that according to Agrovets/respondents run initiatives or programs to combat counterfeit of pest control products

According to 61.21% of the respondents, the Agrochemical Association of Kenya was the most recognised private organisation with regards to running awareness creation initiatives on counterfeit pest control products. This was followed by Fresh Produce Exporters Associations of Kenya. (FPEAK) – 9.48% and Kenya Flower Council (KFC), according to 9.48% and 8.62% of the total respondents. Other organizations that featured as running programs/initiatives to combat counterfeit pest control products were as follows: -

- a) Agro dealers
- b) Apollo agriculture
- c) Bayer East Africa
- d) Busia agro dealers association
- e) Coopers, Kenya seed
- f) High Chem
- g) KenAgro
- h) Kenya Association of Manufacturers
- i) Kenya Farmers Association (KFA)
- j) Department for Veterinary Department Services
- k) Local manufacturers
- l) Norbrook
- m) World vision

Respondents' recommendation for Private Sector initiatives to combat counterfeit pest control products

Of the respondents who indicated a willingness to recommend private sector programs/initiatives to combat counterfeit pest control products, the recommendations given are as follows:

- a) AAK should always educate their members on counterfeit pesticides
- b) AAK should have seminar to all its members and ensure they do not stock counterfeit pesticides
- c) Advertisement program through radios and televisions to create awareness on counterfeit pest control products targeting users
- d) Revitalizing commercial adverts bearing information on counterfeits
- e) Advice members to not buy from counterfeit companies
- f) Create awareness among farmers/members
- g) Educate manufacturers on importance of undertaking scrupulous business activities
- h) Clear labelling of products comprehensible product description
- i) Educate the stockist on how to identify counterfeit pest control product
- j) Support and work in line with government policies
- k) Training on legal procedures to take in case they identify counterfeit pest control product
- l) Reporting to the government for action

7.0 DEMAND FOR COUNTERFEIT PEST CONTROL PRODUCTS

The survey on user demand for pest control products was designed to bring out information on the prevalence of counterfeit pest control products in Kenya and to obtain the respondents views on the use and effects of counterfeit pest control products on users. The user scope of demand included:

- Knowledge of counterfeit pest control products
- Users purchase of counterfeit products and reasons
- Users purchase of counterfeit pest control products knowingly/unknowingly
- The factors that influence users to purchase counterfeit pest control products
- Source of counterfeit pest control products
- Effects of counterfeit pest control products on the users
- Pest control products users' views on effectiveness of the counterfeit management and control programs
- Future plans to purchase counterfeit pest control products

In total, 446 users participated in this survey. As illustrated in the chart below, farmers made up the majority of respondents as they accounted for 83.86% of user. Spray service providers accounted for 8.74%, commercial users such as Rentokil accounted for 4.93% and those who did not fit in either of the above categories accounted for 2.47%.

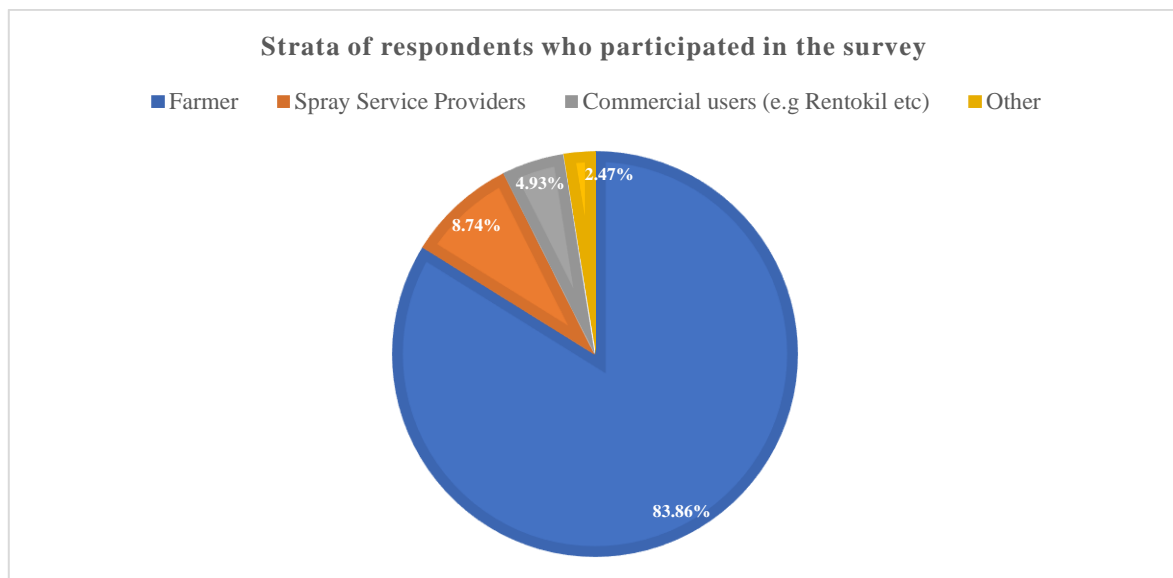


Chart 51: Strata of respondents who participated in the survey

The lead pest control product that 61.43% of users indicated using is herbicides. This was followed by acaricides (50.67%), insecticides (41.47%), fungicides (34.75%), rodenticides (24.66%) and miticides (20.85%). The users also use the whole range of the pest control products but the number that uses these products is rather low as evidenced in the chart below.

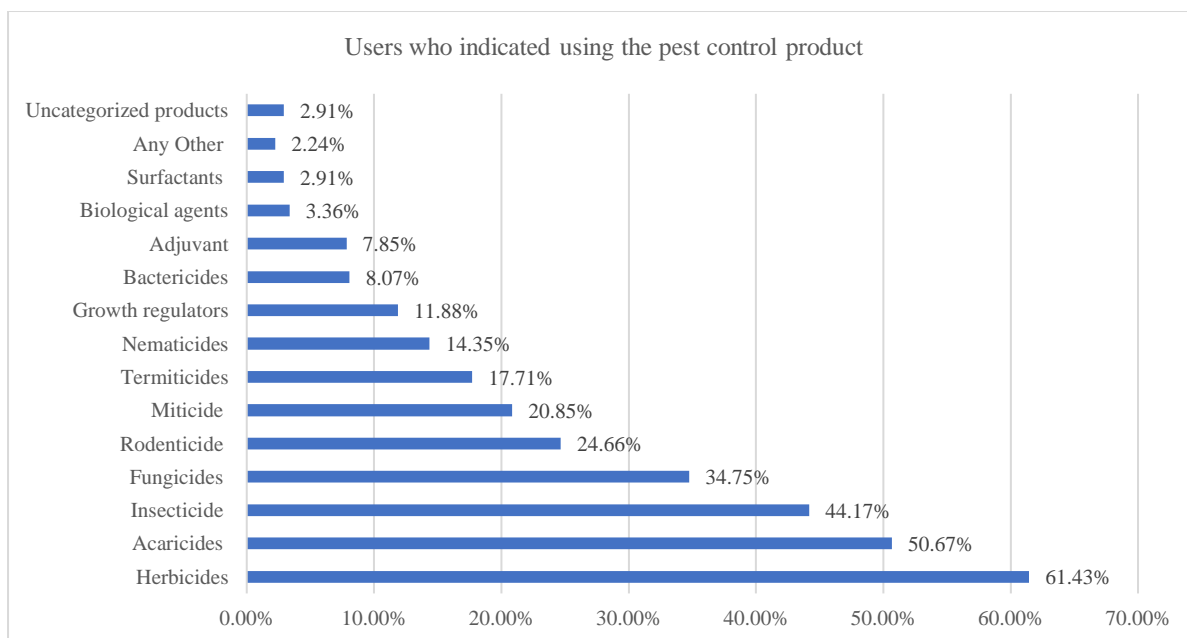


Chart 52: Types of pest control products used by respondents

7.1 USER AWARENESS OF COUNTERFEIT PEST CONTROL PRODUCTS

7.1.1 Level of awareness on the presence of counterfeit pest control products

Awareness of presence of counterfeit pest control products was quite among the users as illustrated by 86.10 % of respondents who indicated being aware of the presence of counterfeit pest control products in Kenya. However, the degree of awareness varied between very low and very high with the majority of respondents (32.06%) indicating a moderate level of awareness. Only 6.28% of users indicated a very high level of awareness of the presence of counterfeit pest control products. Those who indicated moderate, low or very low level of awareness were the majority accounting for 69.35% of the total respondents. The remaining, 13.90% were categorical they were not aware of the presence of these products.

Given the revealed magnitude and prevalence of counterfeit and illicitly traded products as identified by manufacturers, distributors and agrovets who participated in the survey and assessment of international trade-based inflows of illicitly traded pest control products the user low level of awareness can only be explained by their inability to distinguish between counterfeits and genuine pest control products. This underscores the need for urgent training and awareness among the users on counterfeit pest control products so that to complete the cycle of the war against this vice.

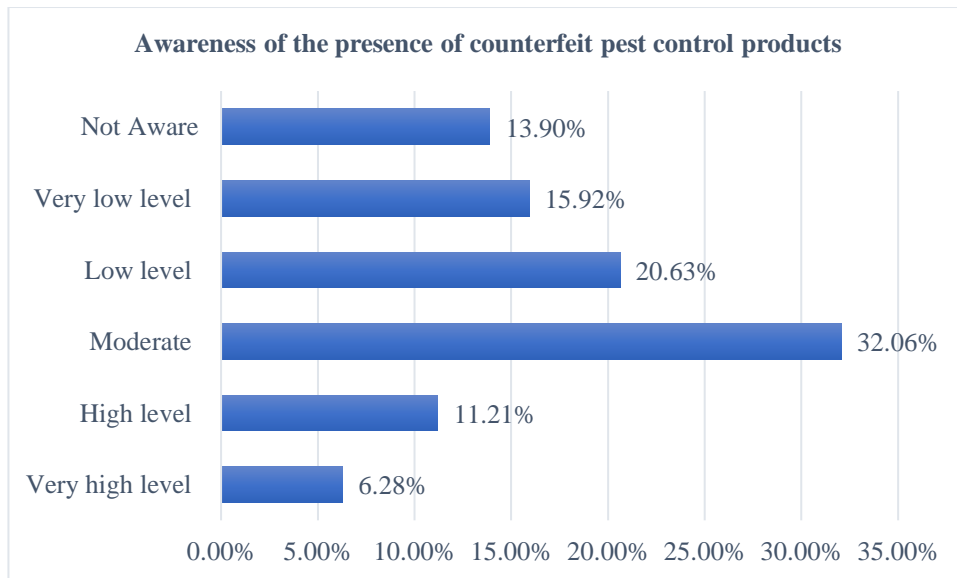


Chart 53: User awareness of the presence of counterfeit pest control products

Analysis of awareness among the 34 sample counties where the survey took place shows awareness to be above average of 40% in all the counties except Bomet, Kericho and Machakos where as indicated in the chart below awareness was less than 40%. The high level of awareness in all the other forty counties should be harnessed as a resource for combating counterfeits through awareness creation and skills on how to tell the counterfeit pest control products. The high level of awareness will form the force to drive away the counterfeits with increase ability and knowledge to tell or identify the products.

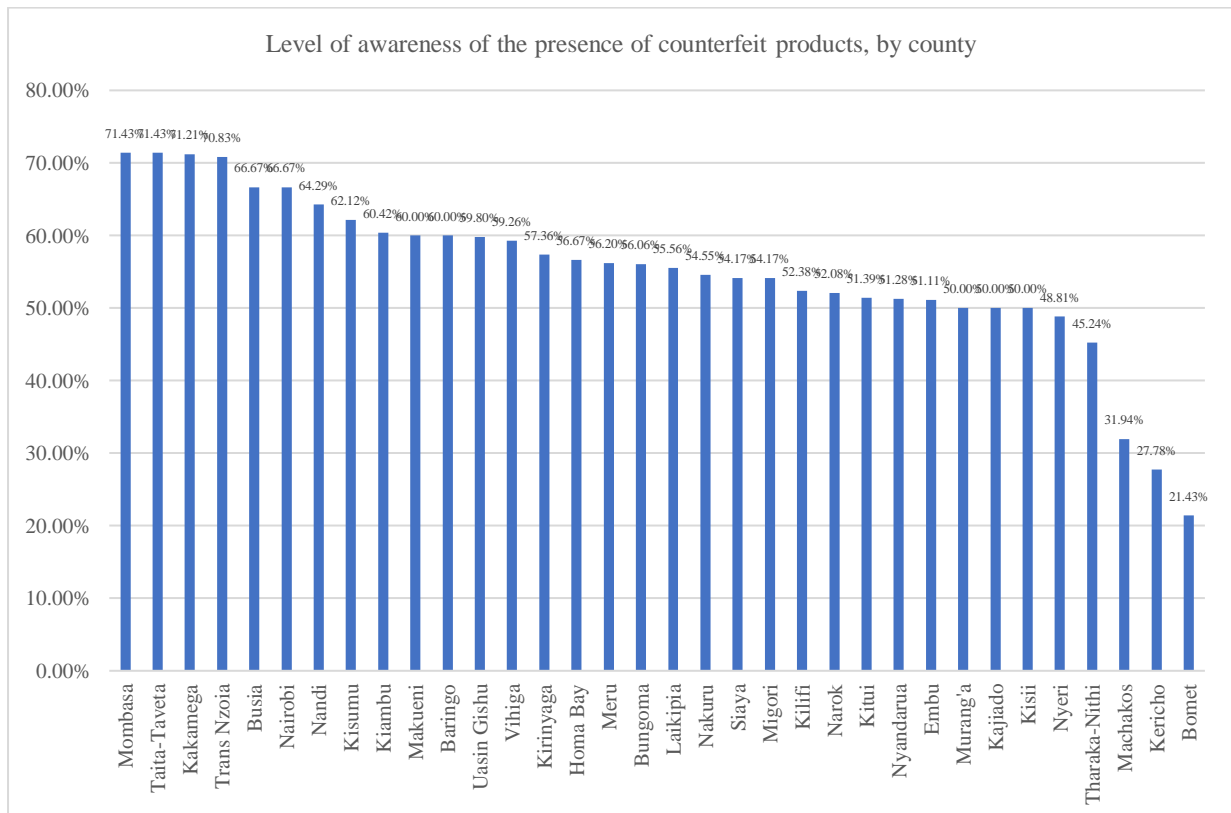


Chart 54: Level of awareness of the presence of counterfeit products

7.1.2 Source of counterfeit pest control products

Domestic market was given as the main source of these products by 46.26% of the respondents, followed by foreign markets. Although the “not aware” constituent of respondents was significant at 22.45% the message is clear on where counterfeit pest control products, from the eyes of the users, are coming from. These are the sources that need to be flushed out through policy and regulation among other myriad of measures aimed at drying up counterfeit pest control products from the Kenyan market.

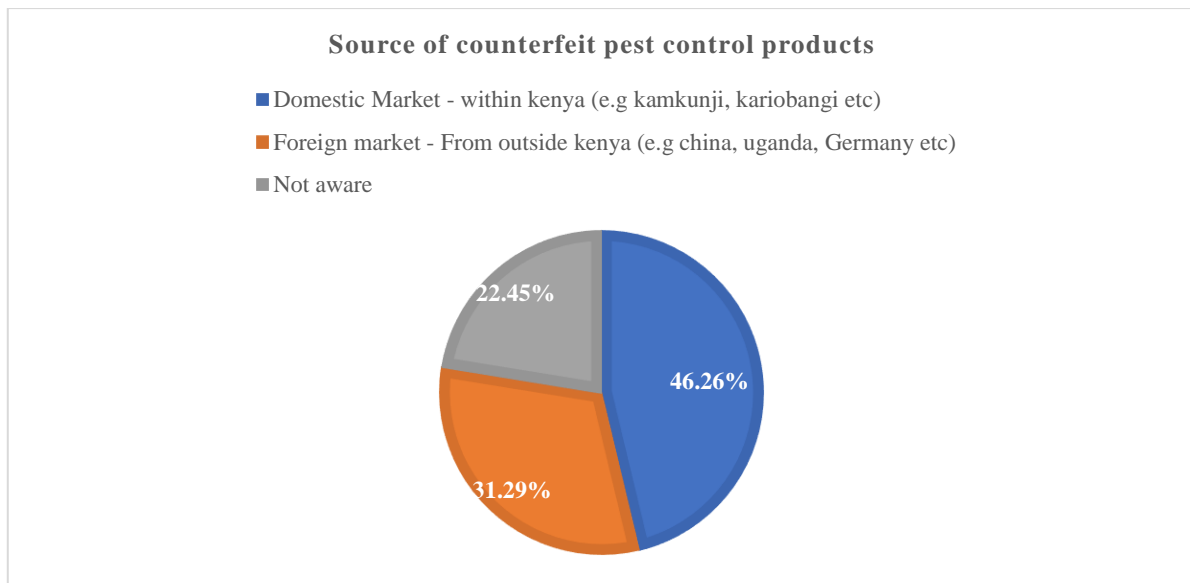


Chart 55: Source of counterfeit pest control products

7.1.3 Ability of users to identify a counterfeit pest control product at sight or when buying

Majority of the users (54.26%) indicated having the ability to identify counterfeit pest control products at sight or when buying. Of the users who indicated having this ability 44.17% were able to do so to some extent and 10.09% to a large. This notwithstanding, a significant 31.84% of the respondents were categorical that they did not have ability to identify counterfeit pest control products at sight or when buying. A further 13.09% were nonresponse on this question. The overall picture from this analysis is that level of users ability to identify counterfeit pest control products at sight or when buying is not good and therefore needs to be addressed through a universal user training program to impart the skills necessary to enable them to identify counterfeit pest control products at sight or when buying.

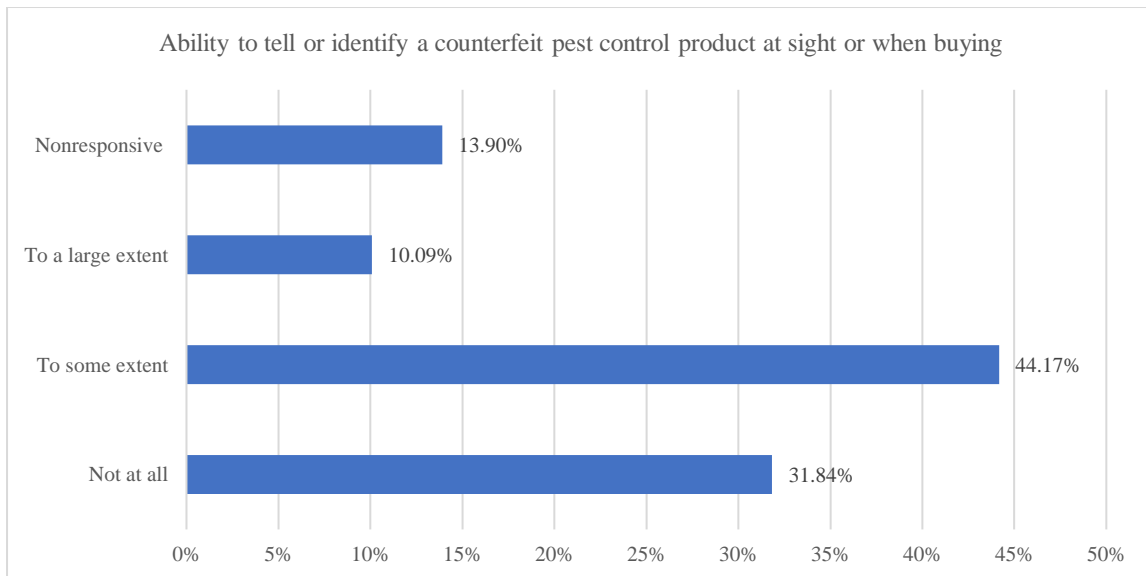


Chart 56: User ability to identify a counterfeit pest control product at sight or when buying

Analysis of user ability to tell or identify a counterfeit pest control product at sight or when buying by county yielded an average of 58.25%. Out of the 43 sample counties, the following were below this national average: *Mombasa, Kilifi, Meru, Tharaka-Nithi, Embu, Machakos, Nyandarua, Kiambu, Trans Nzoia, Uasin Gishu, Laikipia, Nakuru, Kajiado, Kericho, Bomet, Kakamega, Vihiga, Bungoma, Kisumu, Kisii*. These counties need to be targeted in programs of educating users on how to tell or identify counterfeit pest control products at sight or when buying.

Lessons on how best to build capacity on users to tell or identify counterfeit pest control products at sight or when buying could be learnt from collaboration with the following 16 counties where their average was above the national average: *Taita-Taveta, Kitui, Makeni, Nyeri, Kirinyaga, Murang'a, Nandi, Baringo, Narok, Kakamega, Vihiga, Busia, Siaya, Homa Bay, Migori, Nairobi*. The best performing counties on this indicator, as illustrated in the chart below, are Makeni, Nyeri and Taita Taveta.

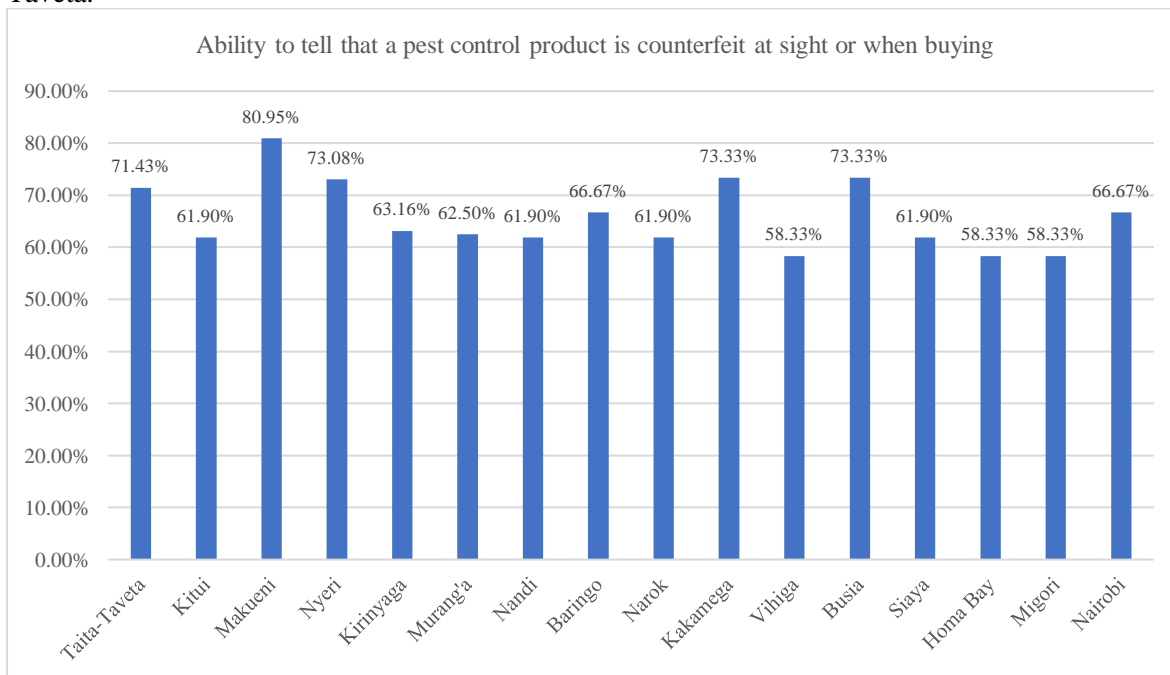


Chart 57: Ability to tell that a pest control product is counterfeit at sight or when buying

7.1.4 Where knowledge to tell or identify a counterfeit pest control product at sight or when buying was acquired

Of the respondents who indicated an ability to identify a counterfeit pest control product ‘to some extent’ or ‘to a large extent’, majority (29%) gave advertisement as the main source of this knowledge. This was following by sensitization (17%), experience (16%) and seminars (12%). The rest of the sources of knowledge are as indicated in the chart below. The fact that they rank low should not deter developing programs around them on merit basis.

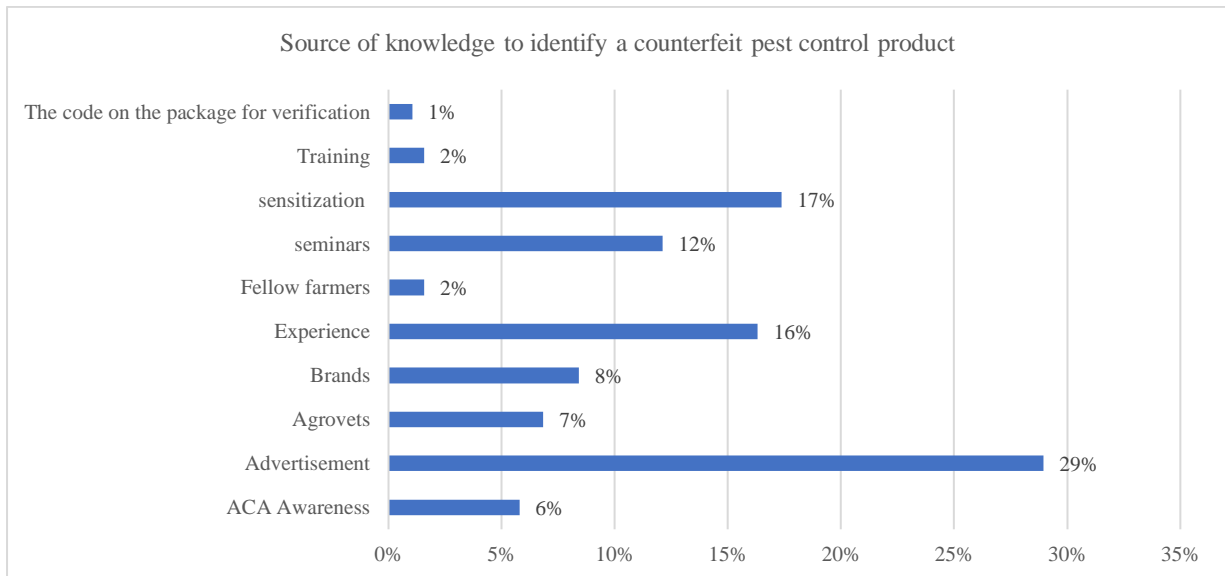


Chart 58: Source of knowledge to identify a counterfeit pest control product

7.1.5 Negative effects to the economy arising from the use of counterfeit products

According to 70.18% of the total respondent users, the lead negative effect on the economy was loss of farm productivity. This was followed by financial loss as a result of ineffective pest control products (54.71%), loss of sales opportunity by companies/businesses (31.17%), lost Government revenue opportunity (30.27%), lost investment opportunities (27.13%), loss of employment opportunities (24.66%). As further illustrated in the chart below, a host of other negative effects were listed by 15.92% of the respondents. These include the following:

- *Loss of farm fertility*
- *Arise of diseases, reduces number of farmers*
- *Can cause burns to crops*
- *can kill or cause harm when used badly*
- *causes health effects to users*
- *deaths from inhalation of this pesticides (counterfeit)*
- *Do not work as expected*

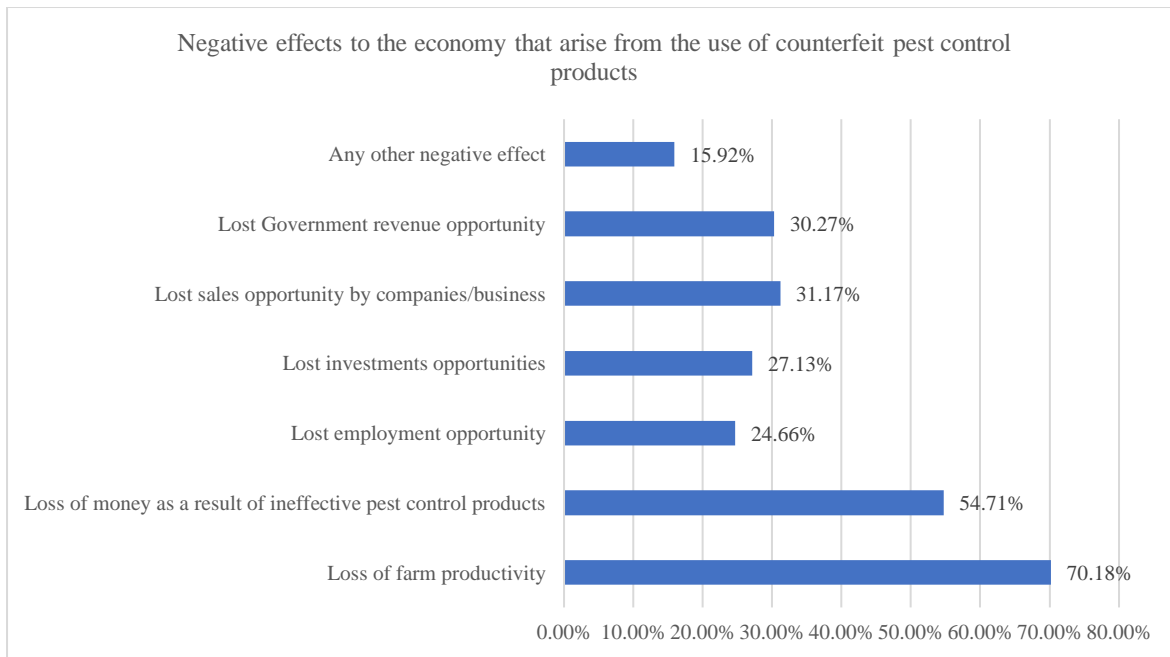


Chart 59: Negative effects to the economy arising from the use of counterfeit products

7.1.6 Awareness of the legal consequences of buying counterfeit pest control products

Majority of respondents (56.28%) indicated that they were not aware of the legal consequences of using counterfeit pest control products. This low level of awareness of the legal consequences is a concern in the fight against counterfeit pest control products because it suggests that the current legal deterrents are not adhered to because they are not known.

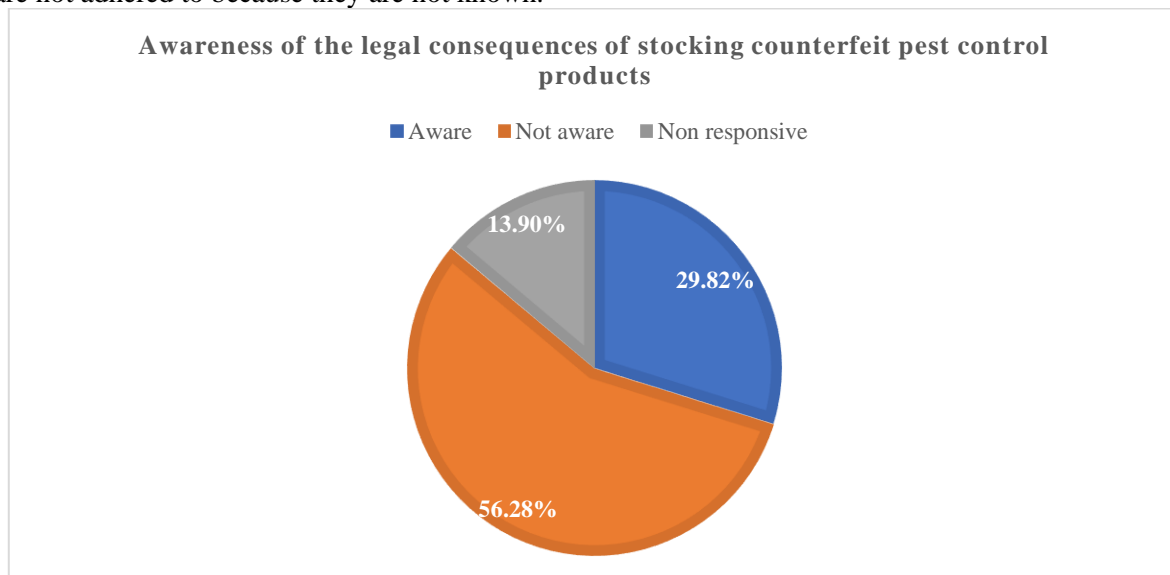


Chart 60: Awareness of the legal consequences of stocking counterfeit pest control products

7.1.7 Legal consequences of buying counterfeit pest control products

Of the respondents who indicated an awareness of the legal consequences of stocking counterfeit pest control products, the list of consequences they stated are as follows:

- Arrest and prosecution
- Fines and penalties
- Conviction in a court of law

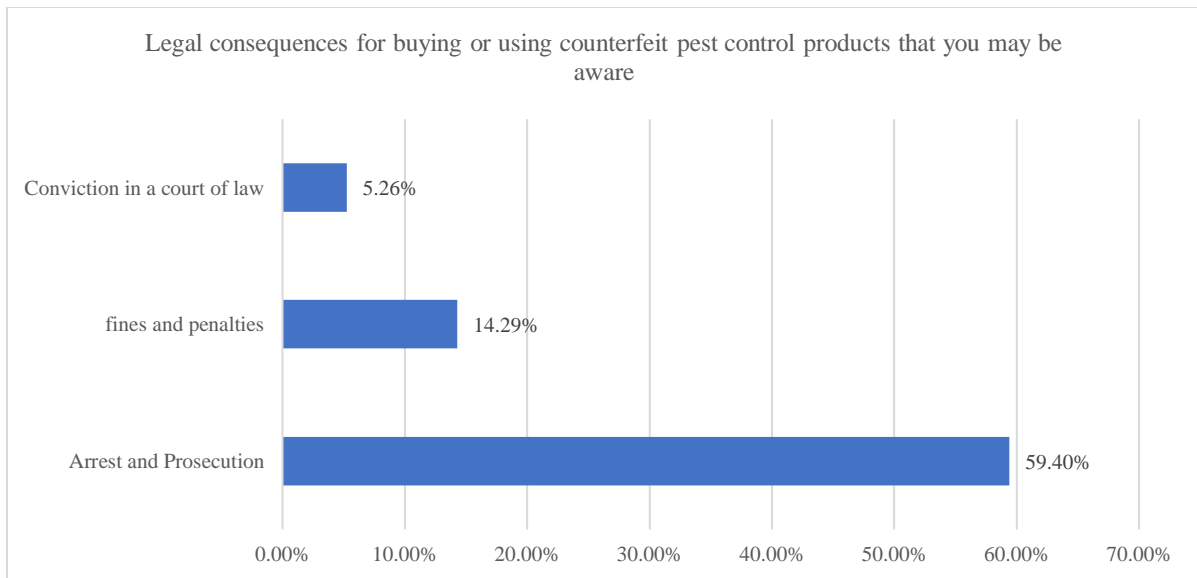


Chart 61: Legal consequences for buying or using counterfeit pest control products that you may be aware

7.2 USER BEHAVIOUR IN RELATION TO COUNTERFEIT PEST CONTROL PRODUCTS

7.2.1 Purchase of counterfeit pest control products

Majority of the respondents (37.89%) indicated that they had never purchased counterfeit pest control products. However, a significant 24.22% of the total respondents indicated that they had purchased counterfeit pest control products. Though this is a minority, we notice the category that indicated they were not sure was equally significant, accounting for 24.22% of total respondents. This number could easily have also bought counterfeits but were unaware, especially because of the already identified weakness in users' ability to tell that a product was counterfeit at sight or when purchasing.

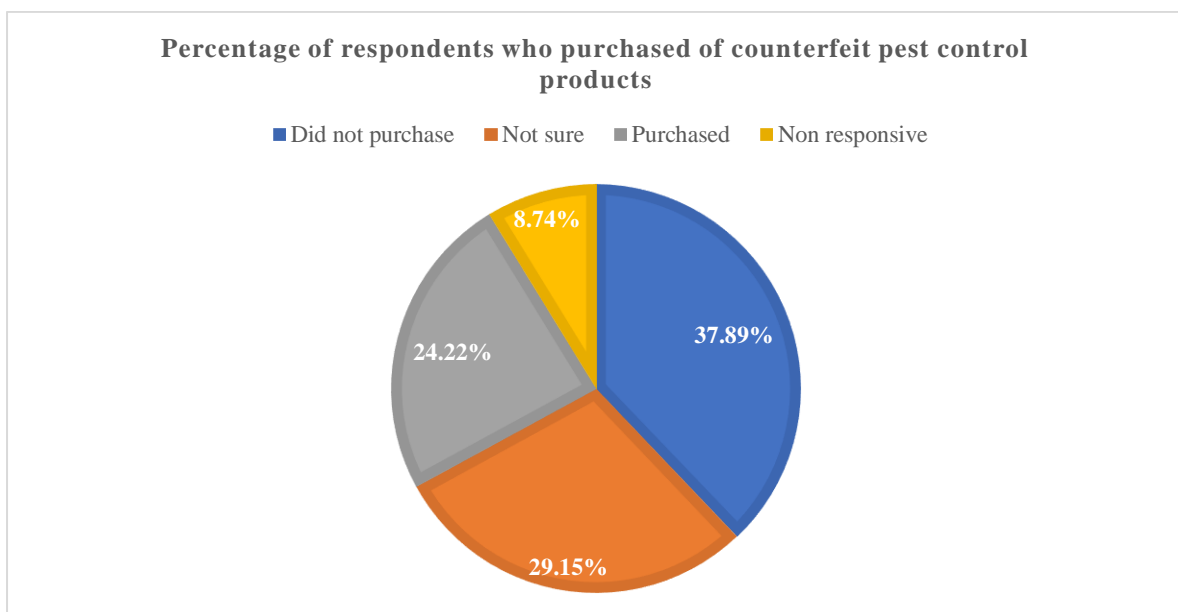


Chart 62: Percentage of respondents who purchased counterfeit pest control products

7.2.2 Location where users indicated purchasing counterfeit pest control products

Analysis of users purchases of counterfeit pest control products by counties shows eight counties, as illustrated in the chart below to be the primary counties where these purchases took place. Nakuru took

lead, with 12.94% of the respondents who indicated having ever purchased counterfeits being from Nakuru. This was followed by Kirinyaga (10.59%), Nairobi (7.06%) and Embu (5.88%).

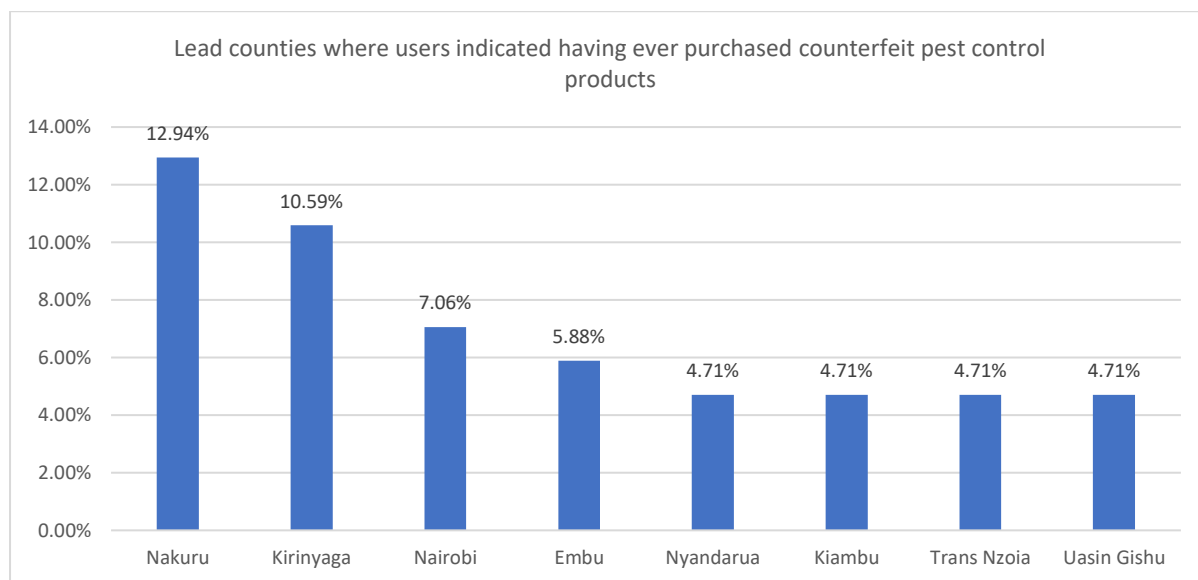


Chart 63: Lead counties where users indicated having ever purchased counterfeit pest control products

7.2.3 Type of counterfeit pest control products that were purchased

The most purchased types of counterfeit pest control products were herbicides (24.07%), acaricides (17.59%), insecticides (16.67%), rodenticide (11.11%) and other products (5.56%). The products that feature under 'other products' are as follows: -

- Dewormer
- Lava used to kill cockroaches
- Maize seeds products
- Public health chemicals

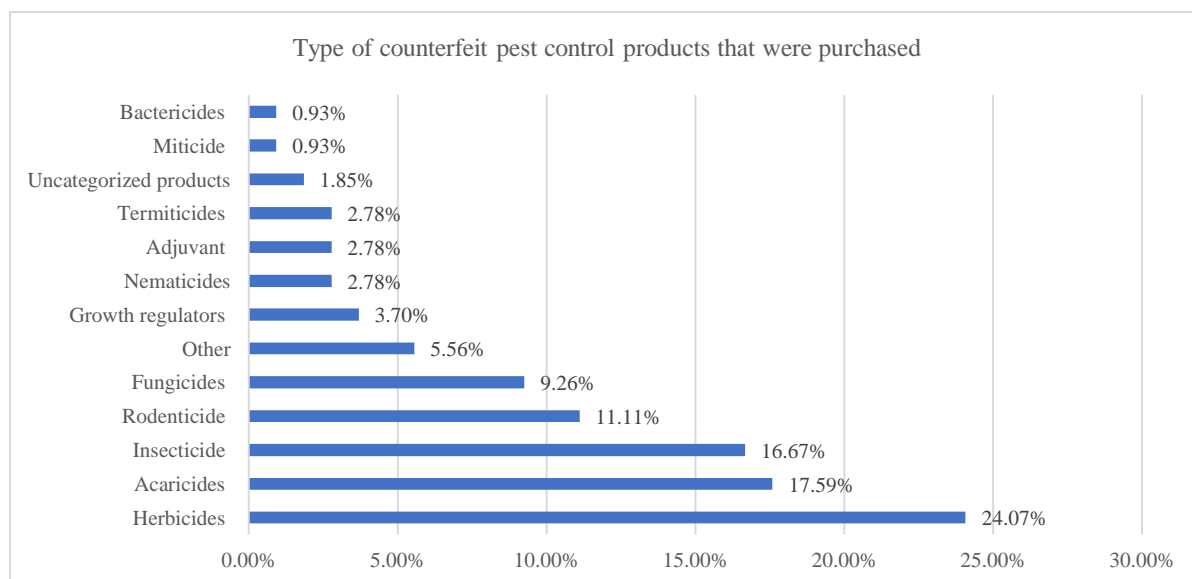


Chart 64: Type of counterfeit pest control products that were purchased by respondents

7.2.4 Awareness at the time of purchase that the product was a counterfeit good

Of the respondents who indicated having ever purchased counterfeit pest control products, majority, (83.70%) indicated that they were not aware at the time of purchase that the products were counterfeits.

This suggests that the purchase of counterfeit pest control products is not premediated and driven by prior awareness.

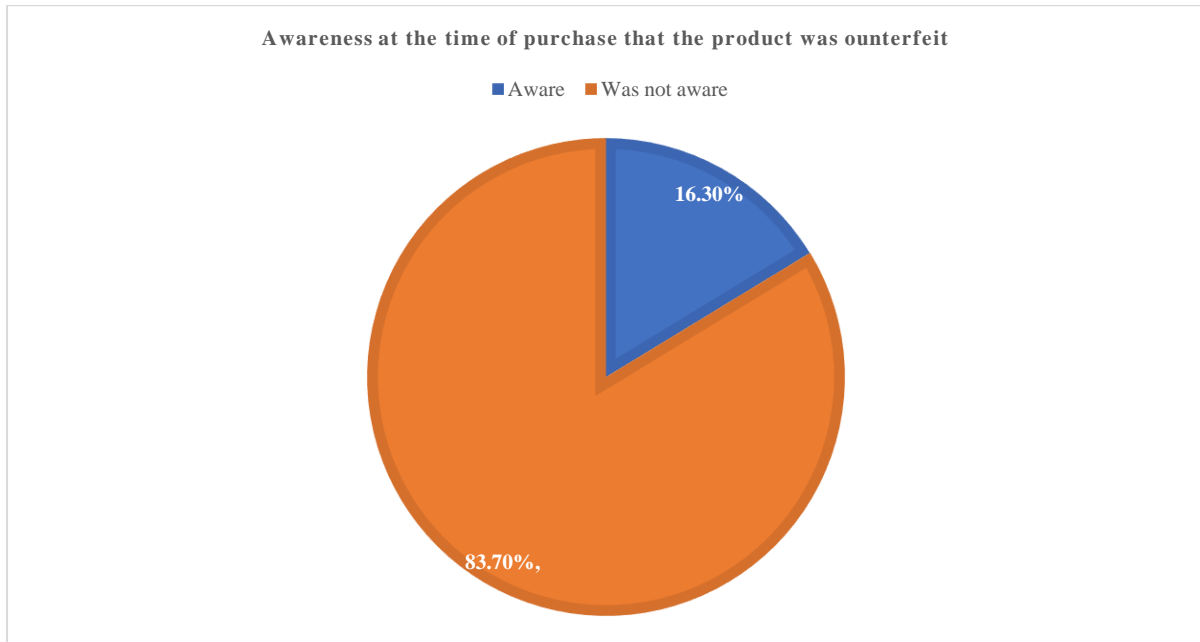


Chart 65: Respondents awareness at the time of purchase that the product was a counterfeit good

7.2.5 Reasons for purchase of counterfeit pest control products

The lead reason that prompted purchase of counterfeit pest control products was ‘ease of availability (in shops, kiosks, hawkers and home-based distribution)’. This is according to 46.62% of the respondents who attached this reason to their purchase of the counterfeits. Low price (40%) and product popularity (13.33%) were the other reasons that motivated purchase of counterfeit pest control products.

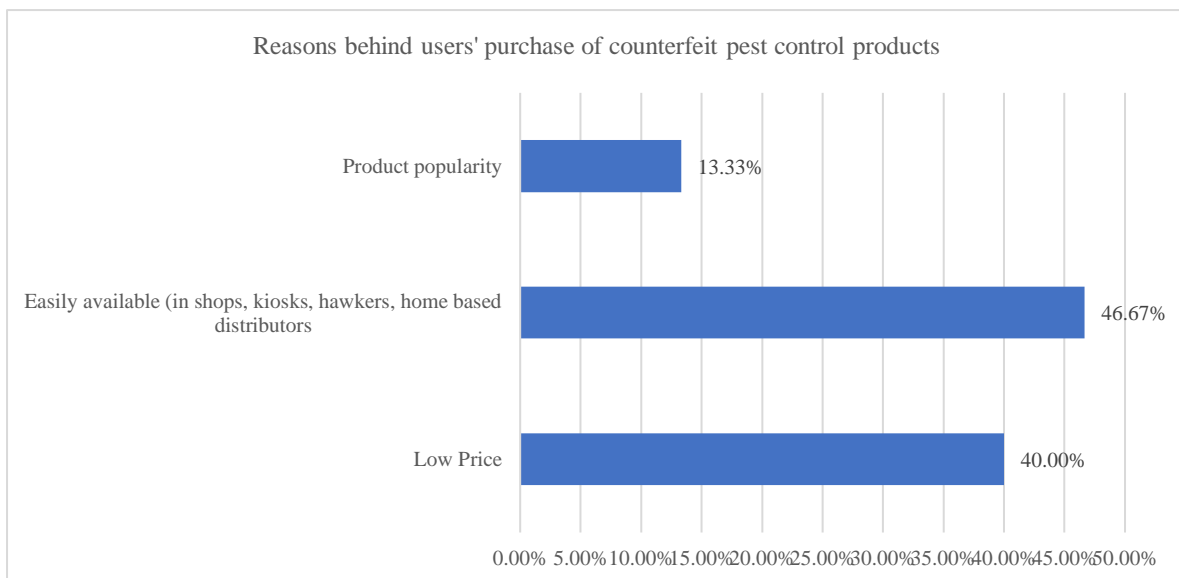


Chart 66: Respondents reasons for purchase of counterfeit pest control products

7.2.6 Reading of labels on packages before buying the products

Brand labels are one of the ways users can be able to ascertain the validity of a product before purchase. As a result, respondents were asked if they read the labels of the pest control products and though the majority (47.53%) said they always read the label a significant 30.77% said they only sometimes read the label while 18.16% said they never read the label. These results demonstrate a gap in users’ awareness on the role that labels can play in ensuring they do not purchase a counterfeit product.

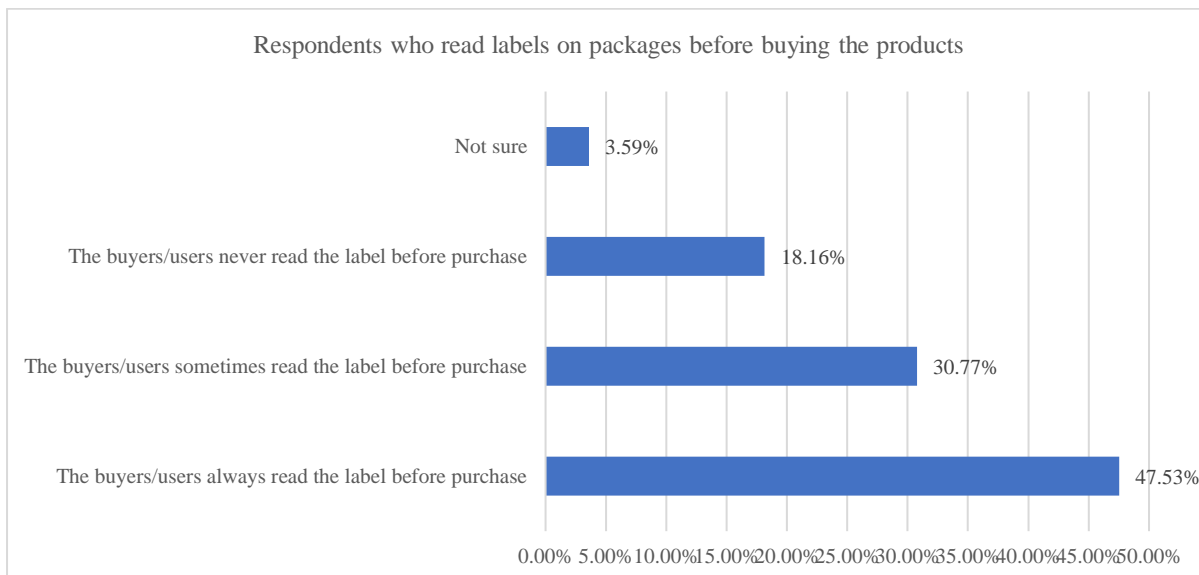


Chart 67: Percentage of respondents who read labels on packages before buying the products

7.3 USER COMPLAINT ON ENCOUNTERED CASES OF COUNTERFEIT PEST CONTROL PRODUCTS

7.3.1 User reporting of encounters of counterfeit pest control products

The fight against counterfeit pest control products is a multi-stakeholder fight where even the users have the opportunity to play a role through reporting cases of counterfeit products to bring the attention of relevant authorities to the issue. Unfortunately, 77.35% of respondents who had encountered counterfeit goods did not report these cases whilst only 11.43% did.

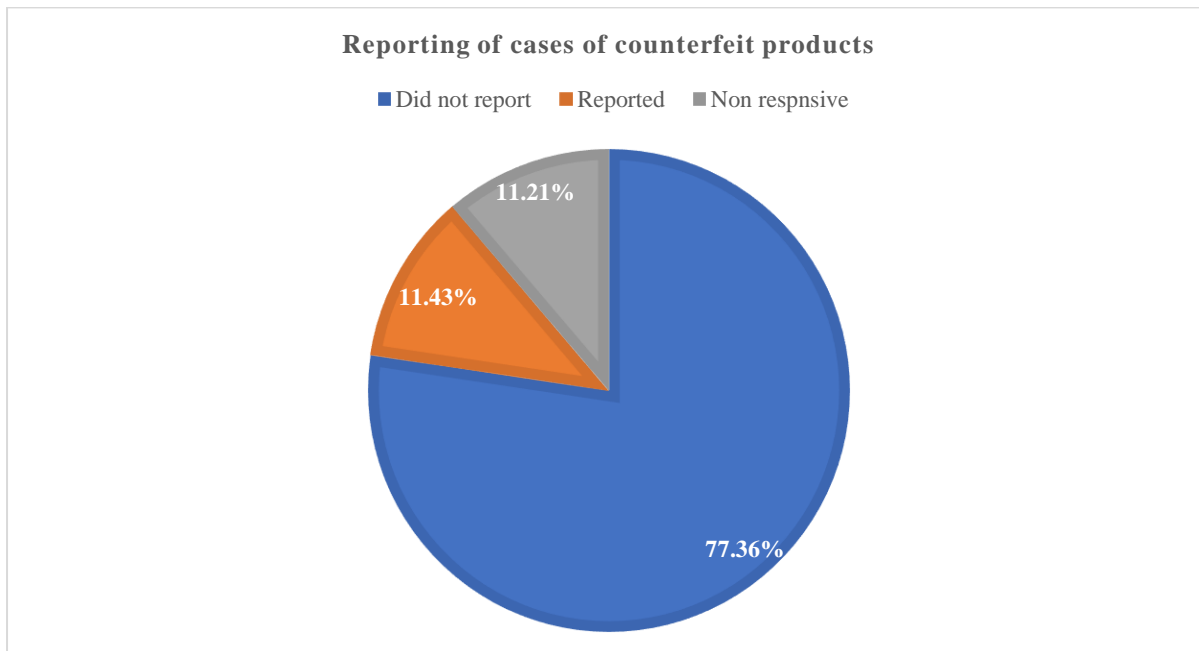


Chart 68: User reporting of encounters of counterfeit pest control products

7.3.2 Where complaints of counterfeit pest control products were reported

The few respondents who indicated having reported incidents of counterfeit pest control products did so through the reporting channels that are provided in the chart below. The lead channel is ‘extension officers’, where 43.59% of the respondents reported using this channel of reporting. This was followed by distributors (28.21%) and the police (28.21%) and PCPB (11.54%). As illustrated in the chart below, manufacturers and Ministry of Agriculture, as well as AAK officers featured. Other category of

reporting channels where 7.69% of the respondents reported incidents of counterfeit pest control products were: -

- *The number on the product packaging*
- *Agrovets attendant who sold the product*
- *Livestock office*

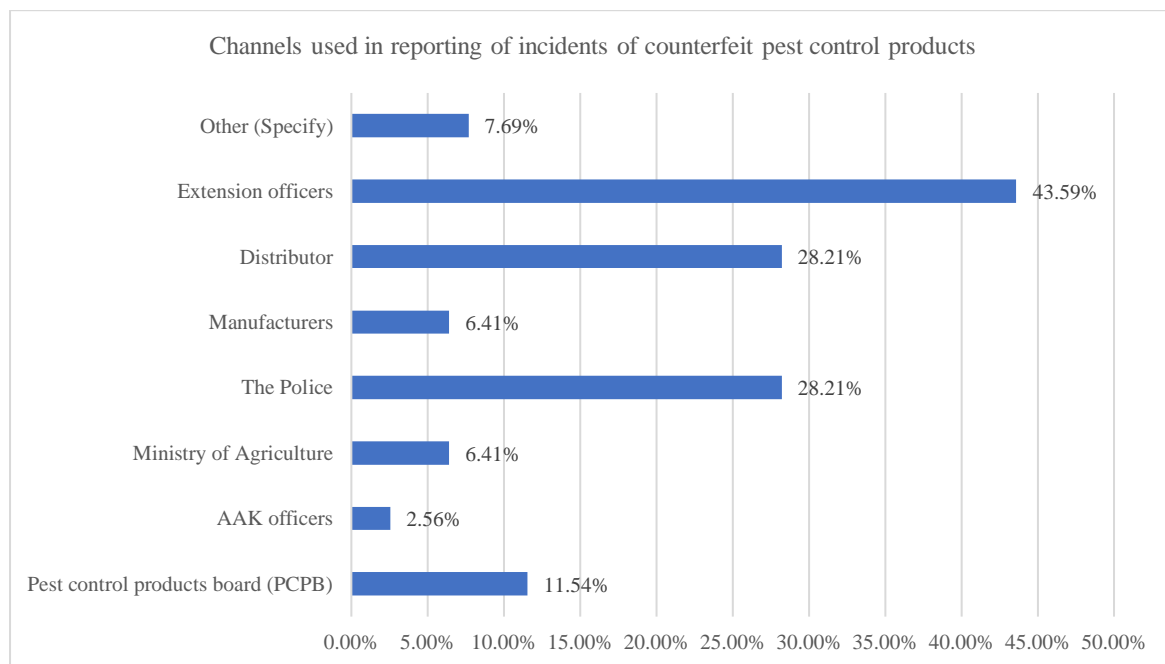


Chart 69: Channels used in reporting of incidents of counterfeit pest control products

7.3.3 Why users chose not to report complaints of counterfeit pest control products

The users who chose not to report complaints on counterfeit pest control products gave the following as reasons for not reporting (*verbatim from users' responses*): -

- Did not know who to report to*
- I did not know where to report*
- Even if I report authorities always ignore or are bribed to let the products be stocked*
- Fear of being swindled*
- Because whoever sold to me was hawker*
- I bought it intentionally*
- I could not access the local authorities and lack of enough evidence of the counterfeit of chemical*
- Because the Agrovets I bought was my relative's*
- I did not see it as a big deal*
- I did not know the procedure*
- I choose to buy another one*
- If you to the police, they say that they don't deal with such cases*
- It is time consuming and not effective in the long run*
- it was a home-based supply product*

The above responses are useful in working out a program for enhancing users reporting of incidents of counterfeit pest control products, especially on where and who to report these incidents.

7.4 USER AWARENESS PROGRAMS ON COUNTERFEIT PEST CONTROL PRODUCTS

7.4.1 User awareness of Government Agencies programs/initiatives for management and control of counterfeit pest control products

An overwhelming majority of respondents (91.03%) indicated that they were aware of Government programs geared towards combating the prevalence of counterfeit pest control products in the market.

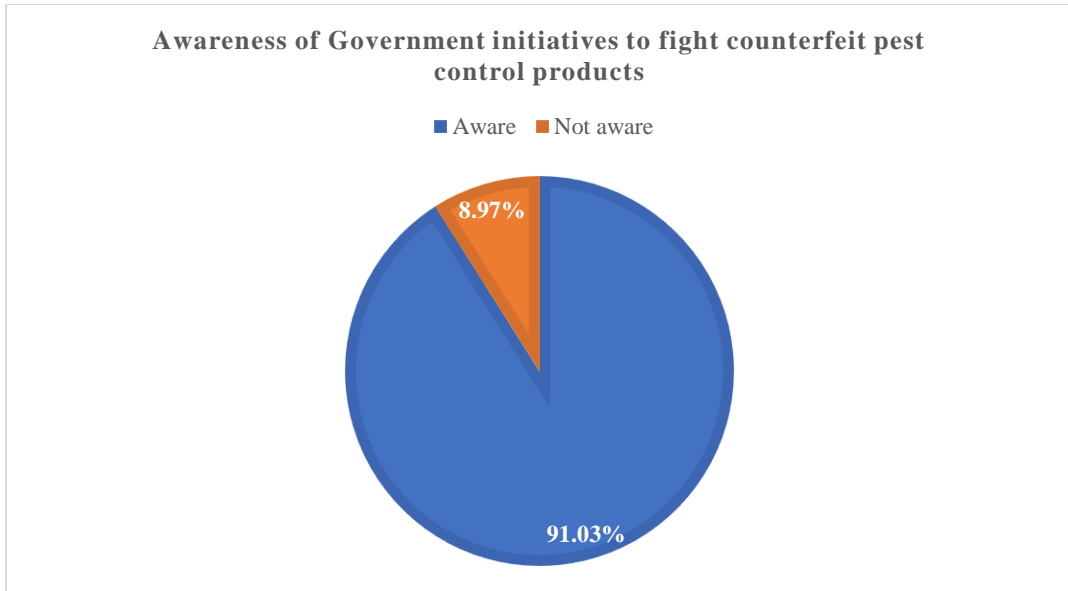


Chart 70: Respondents' awareness of Government programs/initiatives being pursued to fight counterfeit pest control products

The respondents named eight Government Agencies when asked about their awareness of Government Agencies running programs and initiatives to combat counterfeit pest control products. These organizations are as indicated in the chart below. The organization that featured prominently was PCPB, where 26.85% of the respondents indicated being aware of the programs and initiatives that the Board was running. This was followed by KEBS (19.95%), KEPHIS (13.55%), Ministry of Agriculture (9.36%), ACA (8.87%), National Police Services (7.88%), KRA (6.16%) and NEMA (5.19%). Although NEMA was cited by respondents as having programs/initiatives to fight counterfeit, NEMA clarified during the presentation of this report to the stakeholders that it does not have such programs. Instead, NEMA provides guidance on the management and disposal of counterfeit waste. Once a product is declared counterfeit or contra-band, NEMA provides guidance on the management and disposal of the product. This service could have been confused with programs/initiatives to combat counterfeits.

Under 'other' Government Agencies category which 1.48% of the respondents indicated awareness of the programs and initiatives in combating counterfeit pest control products were the following: -

- *County inspections*
- *Kenya Veterinary Board*
- *Nandi tea estate*

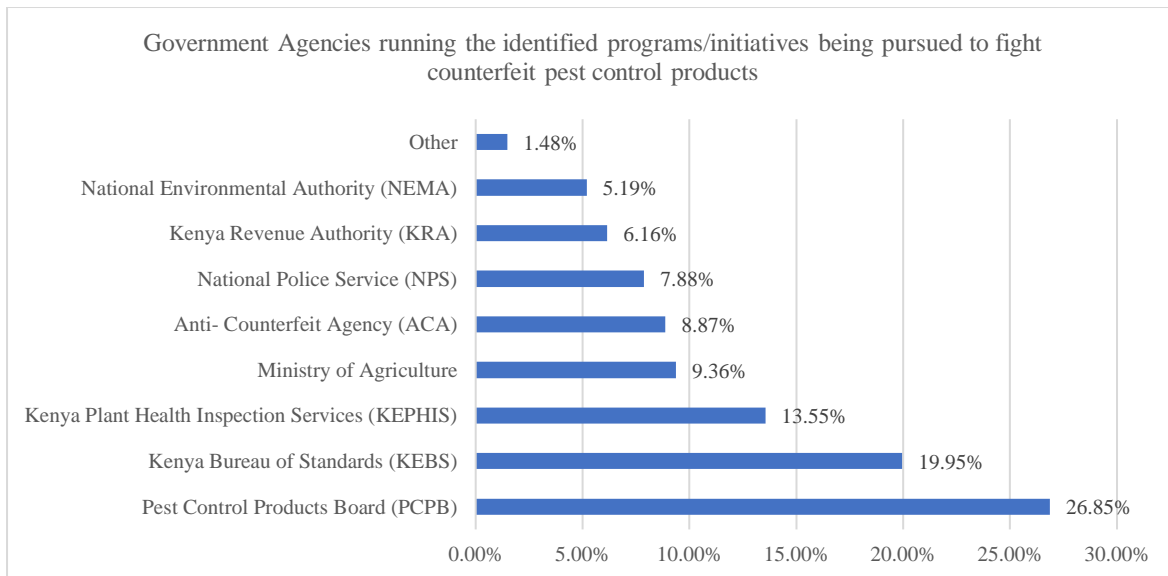


Chart 71: Government Agencies running the identified programs/initiatives being pursued to fight counterfeit pest control products

Respondents gave several recommendations on potential initiatives and programs for Government Agencies to implement in the fight against counterfeit pest control products. These recommendations include:

- Educating users on how to identify counterfeit pest control products
- Awareness creation programs through radio and TV advertisements
- Make reporting platforms more easily accessible to encourage more users to report counterfeit products
- Regular inspection of stockists
- Closer collaboration with the private sector in anti-counterfeit programs and initiatives

7.4.2 User awareness of private sector programs/initiatives for management and control of counterfeit pest control products

In the case of private sector initiatives, most of the respondents (60.99%) reported that they were unaware of any such programs. Only 27.42% reported a prior knowledge of these initiatives and 11.58% did not respond to the question. These results are significant because they show a clear need for private sector led programs to improve their awareness creation initiatives on counterfeit pest control products.

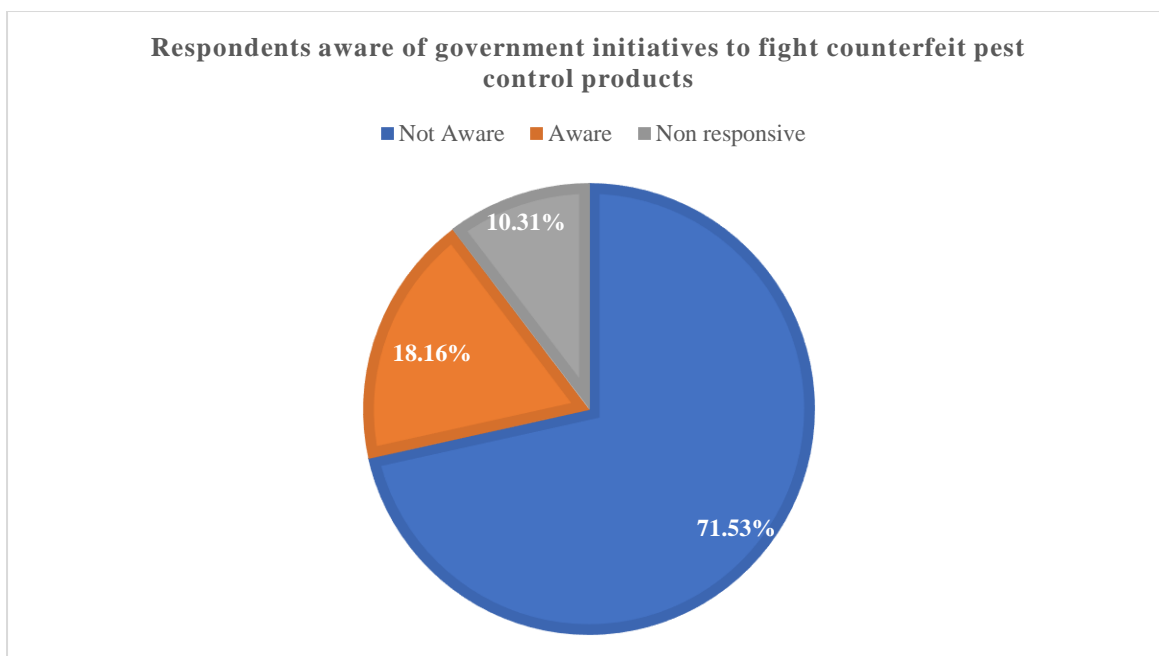


Chart 72: Respondent awareness of private sector programs/initiatives being pursued to fight counterfeit pest control products

The respondents named three private sector associations when asked about their awareness of Private Sector Associations running programs and initiatives to combat counterfeit pest control products. These organizations are as indicated in the chart below. The organization that featured prominently was AAK, where 61.73% of the respondents indicated being aware of the programs and initiatives that the Association was running. This was followed by KFC (11.11%) and FPEAK (9.88%).

Under ‘other’ Private sector organizations category which 17.28% of the respondents indicated awareness of the programs and initiatives in combating counterfeit pest control products were the following: -

- a) *Agrochemical companies*
- b) *AMIRAN*
- c) *Croplife*
- d) *Kenya Farmers Association*
- e) *Local Manufacturers*
- f) *One Acre Fund*
- g) *Rentokil Ltd*
- h) *Sygenta*
- i) *Tuinuane FARMERS group*
- j) *Ultra Vetis*

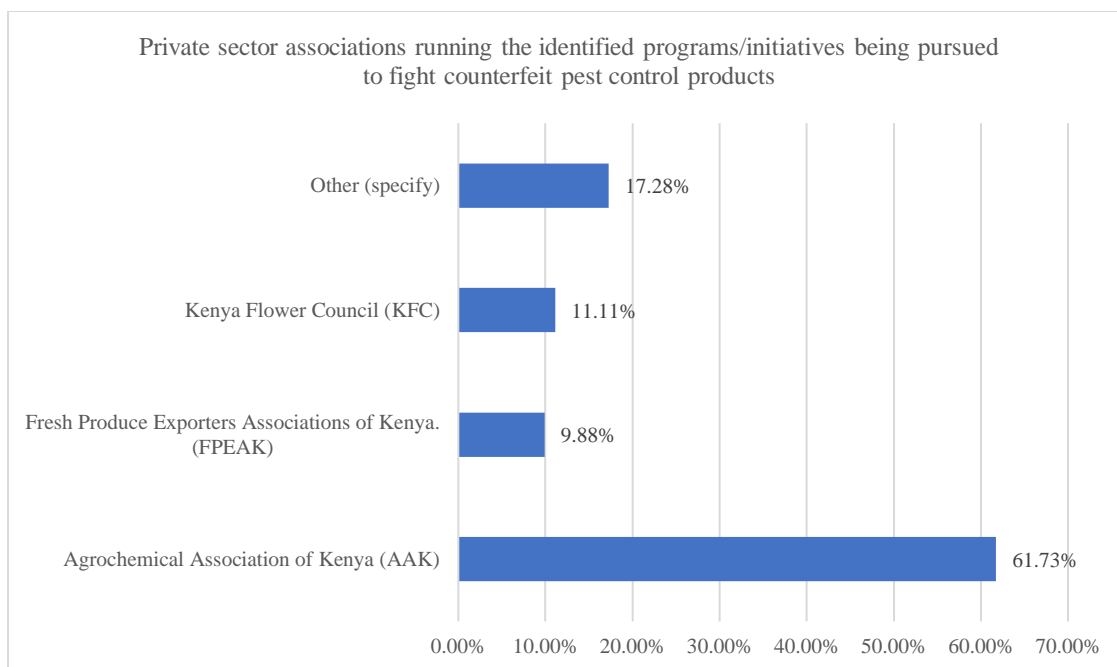


Chart 73: Private Sector organizations the identified programs/initiatives being pursued to fight counterfeit pest control products

Respondents gave several recommendations on potential initiatives and programs for the Private Sector to implement in the fight against counterfeit pest control products. These recommendations include:

- a) *AAK should ensure their members get certified agrochemicals from manufacturers to ensure the farmer or end user access genuine products*
- b) *Act as a watchdog in ensuring the policies in place are implemented*
- c) *Develop a forum of working together from manufacturer to the suppliers, agrovets and finally farmers*
- d) *Collaboration with government agencies, especially ACA*
- e) *Conduct trainings and extension services*
- f) *Create awareness about counterfeit pest control products*
- g) *Dissemination of information through more adverts*
- h) *Educate farmers on counterfeit products*
- i) *Facilitate for user training*
- j) *Farmer's forums with the manufacturers*
- k) *Field surveillance of Pest Control Products*
- l) *Have field days to product users*
- m) *Forums at the interior parts of the country in educating the farmers*
- n) *Help identify counterfeits through more research for government to act upon*
- o) *Help in enhancing training and sourcing for complaints to prosecute*
- p) *Informing the public about the counterfeit pest control products*
- q) *Workshops on products in the market*

8.0 MANAGEMENT AND CONTROL OF THE COUNTERFEIT PEST CONTROL INDUSTRY IN KENYA

8.1 Rationale for effective management and control of pest control products industry

The pest control products industry in Kenya plays a key role in the country's economic development through the contribution of agricultural sector to Gross Domestic Product (GDP), exports, employment and provision of livelihood to millions of people who dependent on the sector directly or indirectly. The industry supports agriculture sector through pest control products that are aimed at ensuring optimal production of crops for domestic market and exports.

Counterfeit of pest control products, as already demonstrated in this study, poses a key threat to the contribution of agriculture to the GDP. Decrease in productivity, which was confirmed by respondents as one of the negative impacts will lead to reduced agricultural produce. This reality puts millions of people at risk of food insecurity and high food prices. Other challenges that the economy is prone to, as already documented include environmental degradation (EOCD (2020)²³, putting human health at risk, loss of productivity, unfair competition, sales losses (OECD, 2011), loss investments (ACA, Feb 2020), food insecurity (OECD Dec.2018), loss of government revenues (ACA Feb 2020), among many other negative effects.

The threat that counterfeit pest control products pose to any economy can be avoided through effective management and control of pest control products. The framework for effective management and control of these products is detailed below. The same framework is used to assess the effectiveness of the current and past efforts in management and control of pest control products in Kenya.

8.2 International best practice system for management and control of pest control products

The threat of the rapidly increasing trade in counterfeit pest control products has led to the evolvement of methods designed to counter this trade and bring it to an end. The lead in these efforts has been Organization for Economic Co-operation and Development (OECD)²⁴, Organization for Security Cooperation in Europe (OSCE)²⁵ and Food and Agricultural Organization (FAO)²⁶ whose efforts have led to the specification and definition of parameters that need to be embraced in any country's system for management and control of pest control products. The parameters, as adopted from OSCE (2015) and OECD (2018) are as follows: -

1. Prevention

- a) Pesticide registration
- b) Customs clearance
- c) Logistics and sales
- d) Waste and pesticide packaging disposal
- e) Raising awareness
- f) Interaction with business

2. Preparation

- a) Joint raids
- b) Quarantine warehouses
- c) Raising awareness
- d) International cooperation

²³ OECD (2020): *Trade and Environment Working Paper N°1* © OECD 2020

²⁴ OECD (13 December, 2018): *Best Practice Guidance to Identify Illegal Trade of Pesticides - Series on Pesticides No. 99 JT03441225*

²⁵ *Counteraction to counterfeit and contraband pesticides Methodology (OSCE)*
<https://croplife.org/wp-content/uploads/2016/01/OSCE-Counteraction-to-Counterfeit-and-Contraband-Pesticides.pdf>

²⁶ *FAO (2011): International Code of Conduct on the Distribution and Use of Pesticides Guidelines for Quality Control of Pesticides*

3. Response to reported or detected incidents of counterfeits

4. Guidelines to Identify Illegal trade of Pesticides

- a) Manufacture
- b) Export
- c) Transportation
- d) Import
- e) Sale/Retail Distributors (wholesalers/retailers)
- f) Disposal Pesticide packaging

To appreciate the relevance of these parameters to the fight against counterfeit or management and control of pest control products with an aim of limiting access or trade in counterfeit products in any country, further elaboration, as outlined in OSCE (2015) and OECD (2018), are provided in the table below.

Table 17: International Best Practice parameters for management and control of pest control products

Parameter/Area of control	Rationale/Explanation
Prevention	According to OSCE, ' <i>Prevention stands for an integrated system that would minimize the chance of counterfeit pesticides resurfacing at any stage of the pesticide life cycle: registration, customs clearance, logistics and trade, pesticide entry, and waste and packaging disposal</i> '. This forms a critical pillar of assessing effectiveness of existing or past practice in the management and control of pest control product.
Pesticide registration	This refers to a national registration system backed by law for registration of all pest control products. It ensures that only registered products are offered for sale or are in use in the country. It is therefore a crucial parameter in the assessment of the pest control product management and control system.
Customs clearance	This refers to the existence of a collaborative arrangement/information exchange between customs authorities, pest control products regulators and businesses for purposes of profiling risk products and interception of such products at the point of entry.
Logistics and sales	This refers to an effective system to monitor pesticide circulation. In recognition that pesticides are hazardous goods, the best practice requirement dictates that ' <i>their transportation should be handled by certified carriers along the approved routes. Information about these routes and their supervision can help to identify illegal producers and serve the police as an efficient instrument for planning anticounterfeit operations</i> '. It is therefore a crucial parameter to have in a national pest control products management and control system. It therefore forms the basis for assessing effectiveness of the management and control system that is in place.
Waste and pesticide packaging disposal	A system for collection and disposal of pesticide packaging and outdated pesticides is one of the main counterfeit preventive mechanisms. For this, national technical regulations on pesticide distribution should be updated with mandatory triple rinsing instructions (at the distribution location with consequent pressure rinsing in the field) and container piercing (to avoid possible reuse). This will allow the proper disposal of pesticide containers, except for non-disposable packaging, because of its material, or discarding the packaging of the water-insoluble pesticides. By proper waste disposal (old and counterfeit pesticides) criminal business will be cut short of the ways to repack and to introduce their counterfeit products on the market.
Raising awareness	The lack of awareness of the risks associated with the use of counterfeit pesticides is one of the underlying reasons for their prevalence on the market. To change this, there is need for a strong awareness campaign with active involvement of local authorities, media and civil society organizations. This is one of the core elements of the anti-counterfeit strategy. If successful, the campaign will help to decrease significantly the demand for cheap illegal pesticides.

Parameter/Area of control	Rationale/Explanation
Interaction with business	Close interaction with responsible businesses that are ready to stand up and protect their interests, will help in detecting illegal counterfeit supply channels and facilitate new opportunities for anti-counterfeit measures.
Preparation	Criminal businesses despite all the preventive measures will continue their attempts to market their counterfeit pesticides. Preparation measures aim to create effective operational mechanisms to counteract these illegal efforts.
Joint raids	Joint raids by inspection officers, security services of the responsible businesses, and law enforcement agencies proved to be quite an effective good practice. It allows not only seizing counterfeit pesticides in circulation, but also detecting illegal supply and marketing channels.
Quarantine warehouses	The purpose of preparation measures is to make it impossible for arrested counterfeit pesticides to resurface on the market. These measures include construction of specialized protected quarantine warehouses. Counterfeit toxic agrochemicals should be stored in such warehouses during investigation and court proceedings, up to the point when they are sent for disposal. It is also important to underline the need to make use of financial instruments (insurance, trust funds with self-regulated organizations, grants/loans from international financial institutions or direct state funding), as well as to introduce appropriate legal procedures for waste disposal. This will help to reduce storage time of counterfeit pesticides at specialized storage facilities and minimize the chances of those counterfeit goods returning to the market.
Raising awareness	Obligatory coverage on arrested counterfeit pesticides and involvement of civil activists in the monitoring of storage conditions are no less important integral parts of the preparatory phase. These measures will significantly decrease the chance of any deals struck by criminals with corrupt law enforcement officers and will help to avoid counterfeit pesticides once again entering the market.
International cooperation	Operational intelligence information exchanged within the framework of international cooperation between customs and law enforcement agencies of the countries producing and supplying pesticides will help to detect and eliminate marketing channels for counterfeit pesticides. For this purpose, the countries should have operational forces within their law enforcement agencies, which focus on such crimes, and constantly build up their capacities.
Response	These are the steps which law enforcement and controlling agencies should be taking when faced with detected counterfeit pesticides. These steps need to be regulated on the national level by internal codes of procedure and Criminal Procedure Code. At the same time, arrested products must be transferred to specially protected warehouses, where they should stay throughout the investigation until they are sent for disposal. Special attention should be paid to securing sample integrity and enforcement of safety procedures for handling hazardous materials. Customs and law enforcement officers involved in seizure procedures should undergo proper training and, depending on the nature of an operation, should have proper personal protection equipment.
Guidelines to Identify Illegal trade of Pesticides	
Manufacture	As a good practice in discouraging manufacture of counterfeit pest control products, the national regulatory authority is required to have up-to-date lists of pesticides manufacturing and storage facilities in order to enable inspections at all manufacturing and storage sites. The manufacturers are required to keep record the details of manufactured and stored pesticides and to keep prescribed records for a period of at least 5 years.
Inspectors	Dedicated team of inspectors with requisite skills and knowledge about counterfeit pest control products.
Export	Competent authority is required to keep an up-to-date list of operators exporting pesticides from their territory in order to facilitate the identification of pesticide exports and further inspection of exporters. The list of exporters should be set up in a way that ensures individual consignments can be linked to exporters by national competent regulatory authorities. The manufacturers are required to keep record the details of manufactured and stored pesticides and to keep prescribed records for a period of at least 5 years.

Parameter/Area of control	Rationale/Explanation
Transportation	
Pre-arrival	<p>With suitable pre-arrival information, the time during transportation can provide authorities in the destination country with the opportunity to perform checks on consignments before they arrive at points of entry, and hence facilitate the detection of suspicious consignment worthy of further investigation on arrival.</p> <p>In order to facilitate such pre-arrival checks, information can be transmitted by the exporting country to the importing country. This pre-arrival information may include: invoices; material data safety sheets (MSDS); export certificates, electronic export information, and; (if available) packaging lists.</p> <p>Pre-notification of consignments received through the single window customs system, where implemented, can also be used to identify suspicious consignments prior to arrival. Suitable information sharing provisions for the main regulatory authorities involved may be needed to facilitate this.</p> <p>Pre-arrival checks should enable a pre-arrival risk-profiling through the use of a system connected to the risk-based analysis (ideally a keyword-based search) which is used for the identification of suspicious consignments at the moment of import.</p>
In transit	The transit status of a consignment has considerable impact on the ability of authorities to take action against illegal pesticides within the consignment. National laws and their interpretation may have a further impact.
Import	The import stage is a critical stage in the supply chain as illegal pesticides can be prevented from entering economic zones or countries at this stage. Control and inspection of pesticides at the border is therefore crucial.
Sale/Retail Distributors (wholesalers/retailers)	National competent regulatory authorities should maintain up-to-date lists of distributors of pesticides (wholesalers and retailers) in order to facilitate inspections. To ensure that lists are current and complete, consideration may be given to authorization requirements for distributors.
Education	Distributors should be educated in the identification of illegal pesticides. This should include easily identifiable common features of illegal pesticides such as packaging and labels; higher risk channels; documentation/traceability issues; and price. This education should include information on the risks and hazards of illegal pesticides; the possible penalties for the storage or distribution of them, and how distributors can notify authorities of suspicious pesticides or activity.
Use professional users	<p>National competent regulatory authorities should maintain up-to-date lists of professional users of pesticides. This list should include the details of any identified previous cases of the use of illegal pesticides by professional users.</p> <p>Professional users should be required to record the details of bought, stored and used pesticides and to keep these records for a period of at least 5 years.</p>

8.3 The state of the system for management and control of pest control products in Kenya

8.3.1 Basis for determining the state of the system for management and control of pest control products in Kenya

The OSCE and OECD framework for best practice parameters for management and control of counterfeit pest control products was used in the assessment of the effectiveness of Kenya's past and current efforts to manage and control the counterfeit pest control products in the country. These parameters were factored in the survey instrument (Annex 1 that Government Agencies identified through consultations with PCPB and AAK were deemed to have a role in the management and control of pest control products. Specifically, the parameters in these survey instruments are as follows: -

Preventing system

- Pest control products Registration
- Customs Clearance

- Logistics and sales
- Waste and pest control products packaging disposal
- Raising awareness
- Interaction with business
- Joint raids
- Quarantine warehouses
- Raising awareness on cases counterfeit pest control products
- International cooperation

Response

Protocols on response to incidents of detected counterfeit pest control products

Control of production and trade

- Manufacturing and storage facilities
- Dedicated Inspectors for management and control of pest control products
- Export
- Pre arrival
- In transit
- Sale/Retail Distributors (wholesalers/retailers)
- Education
- Use Professional users

8.3.2 Government Agencies responsible for management and control of pest control products in Kenya and focal pest control products

Government Agencies responsible for management and control of counterfeit pest control products

Following consultations with PCPB and AAK at the inception phase of the study, six Government Agencies were identified as possible Agencies with mandate that touch on counterfeit pest control products. These Agencies are as follows: -

- a) Pest Control Products Board (PCPB)
- b) Anti- Counterfeit Agency (ACA)
- c) Kenya Revenue Authority (KRA)
- d) Kenya Bureau of Standards (KEBS)
- e) Kenya Plant Health Inspection Services (KEPHIS)
- f) National Environmental Authority (NEMA)²⁷
- g) National Police Service (NPS)

The survey results indicated, based on the response from these institutions, that only two of them had mandate on counterfeit pest control products. These two Agencies are: -

- Pest Control Products Board (PCPB)
- Anti- Counterfeit Agency (ACA)

A brief on each of these institutions and the legislation that gives them mandate on counterfeit pest control products is as provided below.

a) Pest Control Products Board

Pest Control Products Board (PCPB) is the competent authority in the management and control of pest control products in Kenya. It draws its mandate from Pest Control Products Act (Cap 346). In

²⁷ NEMA provides guidance on the management and disposal of counterfeit waste. Once a product is declared counterfeit or contra-band, NEMA provides guidance on the management and disposal of the product

pursuit of this mandate, PCPB has the following ongoing activities, which the institution has also been articulating in the past:

Present Activities

1. **Inspection of premises** dealing in pest control products for product certification (non-complying products including Counterfeits are seized)
2. **Investigations** of cases of non - complying pest control product in order to identify the sources of the illegal products/Counterfeits and prosecution of cases.
3. **Quality monitoring** - Laboratory analysis/post registration surveillance – provides a basis for detection of counterfeits
4. **Approval** of labels and packaging materials
5. Distribution of Information materials e.g. Anti-counterfeit brochures
6. Awareness Creation Activities: in forums such as shows, Exhibitions & field days, and Targeted Trainings of the following groups; Stockists, farmer, Spray Service Providers and Pest Control Operators. These trainings equip the target audience on information for identification of genuine products.

Collaborative Activities

1. Border sensitization forums of other stakeholders (national police service, Kenya Bureau of standards, Port health and customs) done collaboratively with AAK
2. Anti-Counterfeit Authority programs. (Roadshows and sensitization meetings)
3. Multi-agency team on illicit trade – campaigns against counterfeit products

Past Activity

TV program (Shamba shape up) aired on citizen TV (2014-2016)

Challenges faced in execution of the mandate

1. Inadequate number of inspectors.
2. Porous borders that result in smuggling of products from other countries.
3. Emerging issues (development of resistance & withdrawal of old molecules by EU & other countries).
4. Unregulated dealers in pest control products (hawkers and hardware shops).
5. Limited collaboration with partner government enforcement agencies
6. Limited use of technology in fight against counterfeiting.

Notwithstanding the above activities and challenges as provided by PCPB as an input to this study, the survey, undertook an assessment of PCPB system for management and control of pest control products using international best practice parameters. The results of this assessment are provided below in Section 8.3.3 to 8.3.7.

b) Anti-Counterfeit Authority (ACA)

The Anti-Counterfeit Authority (ACA) draws its mandate on counterfeit pest control products from Anti-Counterfeit Act No.13 of 2008.

Pest Control Products that are management and control of the Government Agencies

All the above three Government Agencies that indicated having mandate to manage and control pest control products indicated the following products as products falling under their purview:

- n) Fungicides - a chemical that destroys fungus
- o) Herbicides - also commonly known as weedkillers, are substances used to control unwanted plants²⁸
- p) Acaricides - are pesticides used to kill ticks and mites
- q) Nematicides – are chemical used to control/eradicate nematodes

²⁸ Selective herbicides control specific weed species, while leaving the desired crop relatively unharmed, while non-selective herbicides (sometimes called total weedkillers in commercial products) can be used to clear waste ground, industrial and construction sites, railways and railway embankments as they kill all plant material with which they come into contact

- r) Miticide - any chemical substance used to control mites or ticks (especially species that damage ornamental or food plants)
- s) Adjuvant - is a substance that enhances performance of pesticide.
- t) Insecticide – is a substance used for killing insects
- u) Rodenticide - a poison used to kill rodents
- v) Biological agents
- w) Bactericides – products that control bacteria
- x) Surfactants - that improve pesticides activity/performance
- y) Termiticides - for control of termites
- z) Growth regulators - that promote or inhibit growth

This finding underscores the need for collaboration among the Government Agencies to ensure harmony in the implementation of their mandate. Going by PCPB indication during this study that there is ‘limited collaboration with partner government enforcement agencies’ this need is even more urgent, a matter that this study has picked in the recommendation and action plan.

8.3.3 Effectiveness of preventive system for management and control of counterfeit pest control products in Kenya

The parameters that were used assess effectiveness of the preventive system were registration of pest control products, customs clearance protocols, logistics and sales, waste and packing disposal, raising awareness, interaction with business, joint raids, quarantine protocols, raising awareness on incidences of counterfeit and international cooperation. The assessment sought to establish the extent to which the preventive system has embraced this international best practice in prevention of trade in counterfeits. The findings for each of these parameters are as detailed below.

Pest control products Registration

Mandate to register pest control products

Registration of pest control products is aimed at ensuring that only registered products are offered for sale or are in use in the country. The survey sought to establish which Government Agencies had legal mandate to register pest control products. In response to this question, PCPB indicated having mandate to register pest control products. **This dual role in registration goes against international best practice where registration is supposed to be confined to the Competent Authority.** The gravity of this lapse is underscored by PCPB’s observation during the survey that one of the key challenges is ‘limited collaboration with partner Government enforcement agencies’.

Registration system

A registration system that facilitates timely registration of pest control products for ease of referencing, that would ease identification of suspected illegal or unregistered products is a mandatory requirement from an international best practice point of view. In response to the question of whether it had ‘a registration system for pest control products’ PCPB indicated that they did not have such a system. We however established existence of registered pest control products on the website (<https://www.pcpb.go.ke/crops/>; <https://www.pcpb.go.ke/biopesticides-on-crops/>) implying that the response was a pointer to a weak registration system rather than lack of one. This weakness is reflected in PCPB’s indication of ‘limited use of technology’ as one of the key challenges it was facing. This is therefore a pointer to the need to review the current registration system as a tool for management and control of pest control products in the face of threat from counterfeits.

Requirement for uniform registration for original and generic products

Facilitating distinction of original and generic products is considered a prudent disclosure practice in the international best practice for registration of pest control products. The two Agencies who indicated having mandate to register pest control products, in response to the question whether they had a requirement for uniform registration for original and generic, responded in the affirmative. Therefore, both Agencies meet this requirement, implying that once the issue of dual registration and the challenge on the weak PCPB registration system is met, there already exists a policy on uniform registration of original and generic pest control products.

System for audit of registered brands/products for expired registration or removal from the approved list of pest control products

Efficacy in management and control of pest control products is enhanced by a system for audit of registered brands for expired registration or removal from the approved list of pest control products. In response to the question on whether such a system was in place, **PCPB indicated that it did not have the system for audit of registered brands/products for expired registration or removal from the approved list of pest control products.**

Sharing of the current list of registered pest control products with Customs Authority, Kenya Revenue Authority, ACA and National Police Force

Sharing of the current list of registered control products with Customs Authority, and other Government Agencies mandated to fight counterfeits in pest control products is the other important parameter in the good practice reigning on trade in counterfeit pest control products. An assessment of whether the competent authority, PCPB was adhering to this practice revealed it was, because in response to this question, it indicated that it shares the list with Customs Authority, ACA and the National Police Force.

Customs Clearance

International best practice in managing threat from illicitly trade products through international trade advocates for customs clearance protocols that entail collaborative arrangement/information exchange between customs authorities, pest control products regulators and businesses for purposes of profiling risk products and interception of such products at the point of entry. This is because customs clearance provides a gateway to imported or exported pest control products. Customs control towards detection and detention of illegally traded pest control products is aided, among other things by: -

- Automated Risk Management System (ARMS) geared towards assisting with the right choice of customs inspection mode
- Exchange of information between the Competent Authority and Customs
- Early warning system tool on supplies to inform customs services about consignments in terms of country of origin, countries of consignment and destination, as well as countries of transit

In response to the questions on whether the above systems and arrangement are in place, PCPB responded in the affirmative, thereby indicating the presence of a system for detection, interception and detention of illegally traded pest control products by customs. The efficacy of this arrangement is however put to question by the huge discrepancy in data on seized counterfeit pest control products between 2017 and 2019, as reported in the Section 4.0 of this report (Magnitude and Prevalence of Counterfeit Pest Control Products) which stood at KES4.8million, reported sales losses from counterfeited products sold in the domestic market, which stood at KES608million and illicit trade in pest control products in 2019 which was estimated using international trade method to be KES4.4billion in 2019.

Logistics and sales

Trade in counterfeits is aided by existing logistics and sales framework that other goods that are not subject to control uses. In recognition that are pesticides hazardous goods, the best practice requirement dictates that *'their transportation should be handled by certified carriers along the approved routes. Information about these routes and their supervision can help to identify illegal producers and serve the police as an efficient instrument for planning anticounterfeit operations'*. It is therefore a crucial parameter to have in a national pest control products management and control system. The survey sought to establish existence of these recommended logistics and sales protocols for deterring trade in counterfeits by checking whether: -

- There is a national system of monitoring distribution and sale of pest control products
- Transportation of pest control products is done by certified carriers along approved routes

In response, the Competent Authority, PCPB indicated that there was a national system of monitoring distribution and sale of pest control products in the country. As for certified carriers, PCBP was nonresponsive, meaning that there lacks a clear policy or system on certified carriers for pest control products.

The efficacy of the national system of monitoring distribution and sale of pest control products is however put to question by the widespread distribution of counterfeited products that, as noted by manufacturers (chapter 5 of this report) resulted to sales losses in 43 counties. Similarly, also, responses from agrovets and users of pest control products (chapters 6 and 7 of this report) attested on the widespread presence of counterfeit pest control products in the country, puts the efficacy of this system into question. This is an indicator of the need for deep analysis of the system to establish its strength and weaknesses in light of the magnitude and prevalence of counterfeit pest control products in the country.

Waste and pest control products packing and disposal

A system for collection and disposal of pesticide packaging is crucial in management of counterfeit challenge. According to the international best practice in management and control of pest control products, this is ensured by the following: -

- a) Existence of a system for collection and disposal of pest control products packaging and outdated pest control products
- b) Existence of technical regulation on pest control products distribution
- c) Technical regulation that embraces the following provisions on best practice on management of waste and pest control products: -
 - *Mandatory triple rinsing instructions (at the distribution location with consequent pressure rinsing in the field); and*
 - *Container piercing (to avoid possible reuse)*

The survey, through the response by PCPB, revealed that other than technical regulation on distribution of the pest control products, all the other parameters on waste, packaging and disposal of pest control products, as itemized above, are in place. This presents a good platform for fighting counterfeit trade. However, given the revealed magnitude of this trade, there may be need to review the mechanism for waste and disposal, with a view to establishing efficacy and areas of improvement. This should also include work on developing technical regulations for distribution of pest control products.

Raising awareness

Presence of counterfeit pest control products, as established during the survey among users and agrovets (sections 6.0 and 7.0 of this study), is largely explained by ignorance or lack of awareness about these products. The international best practice advocates need for a strong awareness campaign with active involvement of local authorities, media and civil society organizations. This is considered as one of the core elements of the anti-counterfeit strategy. It is projected that if successful, the campaign would help to significantly decrease the demand for counterfeits pest control products, including illegal pesticides.

To establish Kenya's ranking with regard to awareness raising on counterfeit pest control products, the survey sought to find out the following:

- Whether the respondents had a program for raising awareness on counterfeit pest control products;
- Whether awareness campaigns were run with active involvement of local authorities, media and civil society organizations

The two Agencies, PCPB and ACA responded by indicating that they have awareness programs on counterfeit pest control products. However, only PCPB indicated running awareness programs with the active involvement of local authorities, media and civil society organizations. Whereas this response makes these Agencies get a score in this international best practice, the presence of counterfeit as well as illegally traded pest control products in Kenya points to the inadequacy of the awareness program in

terms of outreach to users and other stakeholders. This situation needs to be remedied through strengthening of the awareness programs on counterfeit pest control products.

Interaction with business

International best practice standard as espoused by OSCE, advocates for *'close interaction with responsible businesses that are ready to stand up and protect their interests'*. Underscoring this practice, OSCE notes that it *'will help in detecting illegal counterfeit supply channels and facilitate new opportunities for anti-counterfeit measures'*.

It was therefore imperative, following on this international practice to assess Kenya's practice, by specifically establishing the following:

- Whether any of the respondent Government Agencies had a program of engagement/interaction with manufacturers/formulators, distributors and other businesses in the pest control products value chain or life cycle; and
- The specific business associations that the respondents had such interaction within the course of management of counterfeit pest control products.

In response, PCPB indicated that it engaged with business associations across the pest control value chain or life cycle. The business associations that the Agencies listed as associations they had engaged with are as follows:

- d) Agrochemicals Association of Kenya (AAK)
- e) Kenya Association of Manufacturers (KAM)
- f) Kenya Private Sector Alliance (KEPSA)

This is good report in the fight against counterfeit pest control products. However, because of the revealed presence and magnitude of counterfeit pest control products, there is need to audit this framework of engagement with a view to strengthening and transforming it to a robust weapon for the fight against trade in counterfeited pest control products.

8.3.4 Effectiveness of the preparation system

Despite all the preventive measures, as outlined above, it has been noted that criminal activities will continue the attempts to market their counterfeit pesticides. Preparation measures aim to create effective operational mechanisms to counteract these illegal efforts. The international best practice parameters to existence and effectiveness of a country's preparation system, following OSCE and OECD (2018) are as follows: joint raids, quarantine warehouses, raising awareness on cases of counterfeit pest control products and International cooperation. The status of these parameters in Kenya was determined during the survey and the results are as detailed below: -

Joint raids

The international best practice standard for combating counterfeit pest control products advocates for 'Joint raids of inspection officers, security services of responsible businesses, and law enforcement agencies' noting that these raids have proven quite effective wherever the practice has been embraced and implemented. The selling point for this parameter is that it does not only allow seizing counterfeit pesticides in circulation, but also detecting illegal supply and marketing channels.

In a bid to establish the situation in Kenya regarding joint raid as a good practice, the survey sought to establish:

- Whether respondent Agencies conducted joint raids in response to reported counterfeit pest control products incidents, with other Government Agencies and affected businesses of inspection officers; and
- The names of other Government Agencies and Businesses or Business Associations that have been enjoined in the joint raids.

The results were quite encouraging because all two Government Agencies whose mandate touch on counterfeit pest control products indicated having conducted joint raids with other Government Agencies and business in response to incidents or reported cases of counterfeit pest control products. The Government Agencies and Businesses engaged in the joint raids included the following: ACA, KRA Customs, NPS, KEBS DCI and brand owners. This strength needs to be built upon through review and strengthening in response to the revealed magnitude and prevalence of counterfeit and illegally traded pest control products.

Quarantine warehouses

As alluded to by OSCE (2015, p.20), the purpose of preparation measures is to make it impossible for arrested counterfeit pesticides to resurface on the market. These measures include construction of specialized protected quarantine warehouses. The international best practice as espoused by OSCE (2015) advocates that counterfeit toxic agrochemicals be stored in such warehouses **during investigation and court proceedings, up to the point when they are sent for disposal**. Use of financial instruments (insurance, trust funds with self-regulated organizations, grants/loans from international financial institutions or direct state funding), as well as to introduction of appropriate legal procedures for waste disposal is strongly advocated. This, it is noted, will help to reduce storage time of counterfeit pesticides at specialized storage facilities, and minimize the chances of those counterfeit goods returning to the market.

It is in the above context that quarantine warehousing as an international best practice parameter for good practice in management and control of pest control was picked and used to assess efficacy of Kenya's practice. Consequently, the survey sought to establish:

- Whether there are specialized protected quarantine warehouses for storage of seized counterfeit pest control products pending investigation and court proceedings and secured to ensure against these products leaking to into the market; and
- How many such warehouses have been constructed and are in day-to-day use

PCPB, in response to the above questions, indicated that it has a total of five (5) specialized protected quarantine warehouses for storage of seized counterfeit pest control products pending investigation and court proceedings and secured to ensure against these products leaking into the market. This is a plus in the country's war against counterfeit pest control products. However, in view of the magnitude and prevalence of counterfeit and illegal pest control, there is merit to review the efficacy of the system surrounding management of the seized products that are stored under these warehouses and also whether the storage capacity is sufficient, including personnel to manage the warehouses, given the crucial role that they play in ensuring that seized products do not find their way into the market as investigation and court cases are going on. This review could also explore possibilities of introducing use of financial instruments (insurance, trust funds with self-regulated organizations, grants/loans from international financial institutions or direct state funding) with a view to reducing storage time of counterfeit pesticides at specialized storage facilities and minimizing the chances of those counterfeit goods returning to the market.

Raising awareness on cases of counterfeit pest control products

Obligatory media coverage of seized or arrested counterfeit pest control products, where civil activists as well as businesses are involved is one of the international best practice in the fight against counterfeits. It is projected that such coverage will significantly decrease the chance of any deals struck by criminals with corrupt law enforcement officers and will help to avoid counterfeit pesticides once again entering the market.

The survey, noting the significance of this measure among the international best practice arsenals for combating trade in counterfeit and illegal pest control products, sought to establish the extent it had been embraced in Kenya. This was established through determining; -

- Whether obligatory media coverage, as a policy and practice, of arrested products, including involvement of private sector in the publicity of these incidents was in place; and

- The number of such obligatory coverages undertaken between 2017 and 2019

PCPB responded by indicating that there was provision for obligatory media coverage of seized or arrested counterfeit pest control products, which includes involvement of civil activists and businesses. It is the only Agency among the three that indicated having mandate on counterfeit pest control products that indicated having this obligatory media coverage. On how many coverages had been undertaken between 2017 and 2019, PCPB was nonresponsive, indicating that the data may not have been readily available at the time of the survey. Given the severity of incidents of counterfeit and illicitly traded pest control products in Kenya, it is recommended that a review of the policy and practice of obligatory coverage be undertaken with a view to strengthening and monitoring the number of such events and outcomes, including dissemination of information from these coverages for future reference.

International cooperation

International cooperation between customs and law enforcement agencies of the countries producing and supplying pest control products and those importing these products is another parameter in the OSCE (2015) array of parameters that define good practice in the management and control of pest control products. This cooperation facilitates operational intelligence information exchanged which ultimately help in the detection and elimination of marketing channels for counterfeit and illicitly traded pest control products. For this purpose, OSCE recommends that countries should have operational forces within their law enforcement agencies, which focus on such crimes, and constantly build up their capacities.

In view of the power of ‘international cooperation’ as a strategy for combating trade in counterfeit and illicit pest control products, the survey sought to establish the extent to which this practice has been embraced in Kenya. The survey set out to determine this by: -

- a) Establishing whether there is an operational intelligence information exchange between Customs Authority and PCPB and equivalent agencies in the countries that Kenya imports pest control products.

PCPB responded in the affirmative, meaning that there exists an operational intelligence information exchange between Customs Authority and PCPB and equivalent agencies in the countries that Kenya imports pest control products. This policy and practice is laudable, because it makes Kenya have a score on this international best practice parameter. However, in view of the magnitude and prevalence of counterfeit and illegal pest control products, where in some cases the countries of origin of these products have been revealed in this study, there is need to review this international cooperation framework, with a view to strengthening it as part of the strategies to address the challenge the country is facing from trade in counterfeit and illicitly traded products.

8.3.5 Effectiveness of the system for response to incidents of counterfeit pest control products in Kenya

Timely response, with precision, to reported or intelligence identified incidents of counterfeit pest control products is considered among the international best practice parameters for management and control of pest control products. In view of this, the response measures and steps need to be regulated on the national level by internal codes of procedure and Criminal Procedure Code in order for this good practice to bare fruits. These steps include provision that arrested products must be transferred to specially protected warehouses, where they should stay throughout the investigation until they are sent for disposal. Special attention should be paid to securing sample integrity and enforcement of safety procedures for handling hazardous materials. Customs and law enforcement officers involved in seizure procedures should undergo proper training and, depending on the nature of an operation, should have proper personal protection equipment

The survey sought to establish the extent to which system for response had been instituted in Kenya’s framework for management and control of pest control products. This was done by determining: -

- a) Where there was a regulation outlining steps to be taken in response to reported/detected incidents of counterfeit pest control products; and

- b) Whether the following steps/requirements are captured in the regulation:
- i) *All arrested counterfeit pest control products be transferred to specially protected warehouses*
 - ii) *Secure integrity of sample/exhibits*
 - iii) *Customs and law enforcement officers involved in seizure procedures should undergo proper training*
 - iv) *Customs and law enforcement officers involved in seizure procedures have proper personal protection equipment*

The three Government Agencies, PCPB, ACA and NEMA indicated that the above response provision for reported incidents of counterfeit pest control products was in place and that it was enshrined in regulatory framework that also provided for: -

- i) All arrested counterfeit pest control products be transferred to specially protected warehouses
- ii) Secure integrity of sample/exhibits
- iii) Customs and law enforcement officers involved in seizure procedures should undergo proper training

The three Agencies also affirmed that the customs and law enforcement officers involved in seizure procedures had adequate training and had access to proper personal protection equipment for use during response missions.

This standard, which is already in the Kenya framework for management and control of pest control products is commendable as it makes the country have a score in this international best practice parameter. Given the potential of legally backed response to incidents of counterfeits in combating trade in counterfeit and illicit pest control products and the magnitude and prevalence of trade in these products, it is recommended that the entire framework of response be reviewed, with a view to strengthening and making it responsive to the challenge that the country is facing in increased trade in counterfeit and illegal pest control products.

8.3.6 Effectiveness of the system for management and control of production and trade of counterfeit pest control products in Kenya

Manufacturing and storage facilities

International best practice in management and control of pest control products requires that national competent regulatory authorities maintain up-to-date lists of manufacturing and storage facilities (*e.g. National List of Active Registered Foreign and Domestic Pesticide and/or Device-Producing Establishments*) in order to enable inspections at all manufacturing and storage sites (OECD 2018). Authorization requirements for manufacturing and storage facilities is advocated to ensure that lists are current and complete.

Further, this international best practice standard requires the records and details of manufactured and stored pesticides be kept for a period of at least 5 years. Such records should include: pesticide name; destination country; pesticide composition (distinguishing the active substance and co-formulants); date of manufacture; name and address of manufacturer(s) of active substance; date(s) of acquisition of active substance; name and address of manufacturer(s) of co-formulant(s); date(s) of acquisition of co-formulant(s); date of manufacture of pesticide; batch number; type of packaging used; name and address of purchaser; date of sale / goods out.

Manufacturing and storage facilities form a key part of the pest control products industry in Kenya. It was therefore imperative in this study to assess the extent to which the above good practice had been embraced as a Kenyan best practice standard. This was determined through establishing whether PCPB, as the National Competent Authority: -

- a) Maintains up-to-date lists of pest control products manufacturing and storage facilities in order to enable inspections at all manufacturing and storage sites
- b) Whether manufacturers are required to record the details of manufactured and stored pest control products and to keep these records for a period of at least 5 years.
- c) Whether the records include the following details: -

- *Name of the pest control product*
- *Destination country (in case of products destined for export)*
- *Pest control products composition (distinguishing the active substance and co-formulants)*
- *Date of manufacture*
- *Name and address of manufacturer(s) of active substance*
- *Date(s) of acquisition of active substance*
- *Name and address of manufacturer(s) of co-formulant(s)*
- *Date(s) of acquisition of co-formulant(s)*
- *Date of manufacture of pest control products*
- *Batch number; type of packaging used*
- *Name and address of purchaser*
- *Date of sale / goods out*

PCPB responded in the affirmative to the above questions on international best practice in management and control of pest control products. This means that PCPB has an up-to-date list of manufacturing and storage facilities of pest control products. It further means that the facilities are required to keep records and details of the pest control products being manufactured or stored at the facilities for at least 5 years. The details include the following: name of the pest control products; destination country; pesticide composition (distinguishing the active substance and co-formulants); date of manufacture; name and address of manufacturer(s) of active substance; date(s) of acquisition of active substance; name and address of manufacturer(s) of co-formulant(s); date(s) of acquisition of co-formulant(s); date of manufacture of pesticide; batch number; type of packaging used; name and address of purchaser; date of sale / goods out.

The above score on best practice on manufacturing and storage facilities is definitely a strong point in the country's regime for management and control of pest control products. Despite this positive point, there is need to review this system of registration and control of manufacturing and storage facilities in view of the revelation in this study that the magnitude of counterfeit and illicit pest control products is quite high. This review will be looking at the entire system of registration and inspection for compliance.

Dedicated inspectors for management and control of pest control products

Inspectors to enforce legislation on pest control products are foreseen in OECD (2018) as part of the good practice parameters in the management and control of pest control products. This best practice standard foresees dedicated team of inspectors with requisite skills and knowledge about counterfeit pest control products.

The status on Kenya's situation regarding inspectors of pest control products was assessed through determination of: -

- Whether there was a dedicated office for undertaking inspection and surveillance of pest control products
- The number of inspectors are deployed to the inspectorate office (position as at 30 June 2020)
- Adequacy of the current number of inspectors
- The optimal number of inspectors
- Whether the inspectors have undergone training on management and control of counterfeit pest control products

PCPB, in response to the above issues on inspectorate for pest control products, confirmed that there is a dedicated office and team charged for inspection of pest control products across the industry. Throughout the country, it is PCPB alone that has a dedicated inspectorate for pest control products because as revealed in the responses ACA indicated having no dedicated team of inspectors specifically dealing with pest control products. The total number of PCPB inspectors was given as 18. This was the figure in June 2020 against the optimal level of 30 inspectors. From this finding, it emerges that the

team of inspectors is inadequate, a challenge that could have contributed to the rise in the level of counterfeit and illicitly traded pest control products.

PCPB indicated that the current team of inspectors are well trained on management and control of counterfeit pest control products. The only trading that they need is enhancement of their capacity is training on 'Investigations and prosecution skills'. Given the magnitude and prevalence of counterfeit and illicit pest control products, this training should be prioritized.

Export

International best practice in management and control of pest control products requires that there be a competent authority to keep an up-to-date list of operators exporting pesticides from their territory to facilitate the identification of pesticide exports and further inspection of exporters. OECD (2018), while expounding on this best practice parameter, guides that the list of exporters should be set up in a way that ensures individual consignments can be linked to exporters by national competent regulatory authorities. The manufacturers are required to keep record of the details of manufactured and stored pesticides and to keep prescribed records for a period of at least 5 years.

Pest control products are some of the products that form part of Kenya's exports, especially to the regional market and constitutes a growth point as Kenya aspires to enhance her exports to Africa under African Continental Free Trade Area (AcFTA). This best practice parameter is therefore important for the country's regime for management and control of pest control products.

The survey assessed the status on management and control of exports of pest control products in line with the above best practice guide stipulation. This was done through determining whether: -

- a) The competent authority maintained up-to-date lists of operators exporting pest control products
- b) There was requirement for mandatory authorization of exports of pest control products before exports are made
- c) Exporters of pest control products required to record the details of stored and exported pest control products and to keep these records for a period of at least 5 years.
- d) The details which exporters are required to keep include the following:
 - *Name of pest control products or active ingredient*
 - *Name and address of exporter*
 - *Name, address and country of consignee*
 - *Date of shipment / delivery for shipment*
 - *Quantity shipped*
- d) Exporter certificates are issued for each consignment.

PCPB responded in the affirmative to the above questions on international best practice in management and control of pest control products. This means that PCPB has an up-to-date list of operators exporting pest control products. Further, exporters regulation which PCBP is enforcing has provision for mandatory authorization of exports of pest control products before exports are made. Similarly, and in articulation of the best practice standard, PCPB requires exporters to record the details of stored and exported pest control products and to keep these records for a period of at least 5 years, including the following details in the records: -

- a) Name of pest control products or active ingredient
- b) Name and address of exporter
- c) Name, address and country of consignee
- d) Date of shipment / delivery for shipment
- e) Quantity shipped

The above score on best practice on management and control of exports of pest control products is a strong point in the country's regime for management and control of pest control products. Despite this positive point, however, there is need to review this system of exporting pest control products,

especially in the context of magnitude of counterfeit and illicit pest control products, with a view to ensuring that Kenya is not a conduit for these products whose end market could be regional markets that Kenya has trade agreements with.

8.3.7 Effectiveness of the system for management and control of transport and importation of pest control products in Kenya

Pre arrival

Pre-arrival is one of the transport related best practice that OECD (2018) advocates as part of the parameters on international best practice in management and control of pest control products imports. OECD, while advancing the case for this parameter observes that *'with suitable pre-arrival information, the time during transportation can provide authorities in the destination country with the opportunity to perform checks on consignments before they arrive at points of entry, and hence facilitate the detection of suspicious consignment worthy of further investigation on arrival'*. To facilitate such pre-arrival checks, information is transmitted by the exporting country to the importing country. As noted by OECD, this pre-arrival information may include: invoices; material data safety sheets (MSDS); export certificates, electronic export information, and; (if available) packaging lists. Pre-notification of consignments could also be received through the single window customs system, which Kenya is already implementing. The Single Window transmitted information could be used to identify suspicious consignments prior to arrival. Suitable information sharing provisions for the main regulatory authorities involved is needed to facilitate this.

Pre arrival information exchange is one of the most powerful tools that the country will find necessary to use in combatting trade in illegal pest control products, which this study found to be KES4.4billion in 2019. It was therefore important to assess the status of this parameter in Kenya's regime for management and control of pest control products. This assessment was undertaken by determining through the survey, whether: -

- a) There was a system for pre-arrival information on consignments before they arrive at points of entry, and hence facilitate the detection of suspicious consignment worthy of further investigation on arrival
- b) Such pre-arrival information includes the following: -
 - *Invoices*
 - *Material data safety sheets (MSDS)*
 - *Export certificates*
 - *Packaging lists (if available)*

The survey results, based on Competent Authority (PCPB) response to the above question, reveal the existence of pre-arrival information on consignments before they arrive at points of entry, and hence facilitate the detection of suspicious consignment worthy of further investigation on arrival. On the part of the question seeking to establish whether the best practice content of pre-arrival information had been embraced in the Kenyan regime of pre-arrival, PCPB was nonresponsive. This implies that although pre-arrival information module for exchange of information may be there, it may not have included the best practice parameter content. In view of the magnitude of illicit pest control products trade, we recommend that the pre-arrival system of information on imported consignments be reviewed with a view to integrating the best practice contents and also ensuring robustness of the system in managing import based illicit trade.

In transit

Pest control products in transit are considered as products in the market, posing a threat for introduction of counterfeit or illegal pest control products in the market of the transit country. In view of this threat, OECD (2018) advocated inclusion of transit among the parameters on good practice on management and control of pest control products. Transit trade of pest control products should therefore be regulated, and strict enforcement be pursued in order to ensure that the country is protected from transit based counterfeit or illegal pest control products.

Kenya is a transit country for many countries in east and central Africa and to some extent southern Africa. This underscores the significance of transit in the national regime for management and control of pest control products. The survey sought to establish the status of integration of transit in the regime for management and control of pest control products by determining:

- a) Whether there was a regulation on management of pest control products in transit
- b) The challenges that may be limiting having such regulations.

According to Competent Authority, PCPB, there is no regulation for management and control of pest control products in transit. The reason given for not having the regulation is that transit trade is not within the mandate of PCPB. While this view is correct, PCPB should collaborate with KRA Customs to have a special module on pest control products in transit basically because, as pointed out by OECD (2018) transit products are products in the market, with high potential of being diverted into the domestic market.

Sale/retail distributors (wholesalers/retailers)

International best practice in management and control of pest control products requires that national competent regulatory authorities maintain up-to-date lists of distributors of pest control products (wholesalers and retailers) to facilitate inspections (OECD 2018). Authorization requirements for distributors is advocated in order to ensure that lists are current and complete. Further this international best practice standard requires distributors to record the details of stored and distributed pest control products and to keep these records for a period of at least 5 years. These records should cover both goods in i.e. purchases and goods out i.e. sales.

Distributors form key stakeholders in the pest control products industry in Kenya. It was therefore imperative in this study to assess the extent to which the above good practice had been embraced as a Kenyan good practice standard. This was determined through establishing whether PCPB, as the National Competent Authority: -

- a) Maintains up-to-date lists of professional users of pest control products
- b) Requires distributors of pest control products to record the details of **bought, stored and used** pest control products and to keep these records for a period of at least 5 years
- c) Requires distributors of pest control products to record the details of **stored and exported** pest control products and to keep these records for a period of at least 5 years.
- d) Requires that the details which exporters are required to keep include the following:
 - i) For Goods in:
 - Name of pest control products or active ingredient
 - Name and address of supplier
 - Date of purchase
 - Batch numbers
 - Pack size
 - Quantity/volume
 - ii) For Goods out:
 - Name of pest control products or active ingredient
 - Name and address of purchaser
 - Date of sale
 - Batch numbers
 - Pack size
 - Quantity/volume

PCPB was nonresponsive to the above question, implying that the National Competent Authority does not have a framework for management and controlling distributors of pest control products. This leaves a loophole in the pest control products life cycle where unscrupulous distributors can use this lapse to stock, sell and even export counterfeit or illicit pest control products. In view of the magnitude and

prevalence of counterfeit and illicit pest control products in Kenya, it is recommended that this loophole be sealed immediately by developing a distributor regulatory regime and introducing the above good practice measures in the regime. This regime should include provision for periodic returns and inspection to ensure adherence to the recommended good practice.

Education

Education of distributors on identification of illegal pesticides is given by OECD (2018) as a best practice in management and control of pest control products. It is advocated that education of distributors should include easily identifiable common features of illegal pesticides such as packaging and labels; higher risk channels; documentation/traceability issues; and price. Further, this education should include information on the risks and hazards of illegal pesticides; the possible penalties for the storage or distribution of them, and how distributors can notify authorities of suspicious pesticides or activity.

Given the significance of distributors in Kenya's pest control industry, education was picked as a critical parameter to assess the efficacy of Kenya's regime for management and control of pest control products. The survey to establish the status by exploring:

- a) Whether distributors were being educated on the identification of illegal pest control products
- b) The extent to which the training program covers the following:
 - *Easily identifiable common features of illegal pest control products such as packaging and labels*
 - *Higher risk channels*
 - *Documentation/traceability issues*
 - *Price*
 - *The risks and hazards of illegal pest control products*

According to responses by each of the three Government Agencies that indicated having mandate on counterfeit pest control products, PCPB, ACA and NEMA, none runs a program for educating distributors on the above mentioned best practice education topics. We however note that unlike most of the other best practice parameters, OECD is silent on whose responsibility education of distributors should be.

In view of the revealed magnitude and prevalence of counterfeit and illicit pest control products trade, it is recommended that the National Competent Authority, PCPB runs a program for distributor education. This should start right from pre-registration to post-registration with the annual calendar of events on continuous education and refresher education of distributors.

Use Professional users

International best practice in management and control of pest control products requires that national competent regulatory authorities maintain up-to-date lists of professional users of pesticides. This list should include the details of any identified previous cases of the use of illegal pesticides by professional users. Further this international best practice standard requires that professional users be required to record the details of bought, stored, and used pesticides and to keep these records for a period of at least 5 years.

Kenya already has professional users of pest control products. It was therefore imperative in this study to assess the extent to which the above good practice had been embraced as a Kenyan good practice standard. This was determined through establishing whether PCPB, as the National Competent Authority: -

- a) Maintains up-to-date lists of professional users of pest control products
- b) Requires professional users of pest control products to record the details of **bought, stored and used** pest control products and to keep these records for a period of at least 5 years
- c) Requires professional users of pest control products to record the details of **stored and exported** pest control products and to keep these records for a period of at least 5 years.

- d) Requires that the details which exporters are required to keep to include the following:
- i) For Goods in:
 - Name of pest control products or active ingredient
 - Name and address of supplier
 - Date of purchase
 - Batch numbers
 - Pack size
 - Quantity/volume
 - ii) For Goods out:
 - Name of pest control products or active ingredient
 - Name and address of purchaser
 - Date of sale
 - Batch numbers
 - Pack size
 - Quantity/volume

PCPB was nonresponsive to the above question, implying that the national Competent Authority does not have a framework for management and controlling professional users of pest control products. This leaves a loophole in the pest control products life cycle where unscrupulous users can use this lapse to stock, use and even export counterfeit or illicit pest control products. In view of the magnitude and prevalence of counterfeit and illicit pest control products in Kenya, it is recommended that this loophole be sealed immediately by developing a professional user regulatory regime and introducing the above best practice measures in the regime. This regime should include provision for periodic returns and inspection to ensure adherence to the recommended good practice.

8.4 Complaints from users of pest control products

Users' complaints on counterfeit products is taken as a measure of the presence of counterfeits in the country. The survey sought to establish the presence of counterfeit pest control products from the perspective of Government Agencies by allowing the respondent Agencies to indicate whether they had received complaints from the users over the period 2017 to 2019.

Only PCPB reported having received complaints on counterfeit pest control products over the period 2017-2019. The total complaints that were received over this period, as indicated in the chart below were 27.

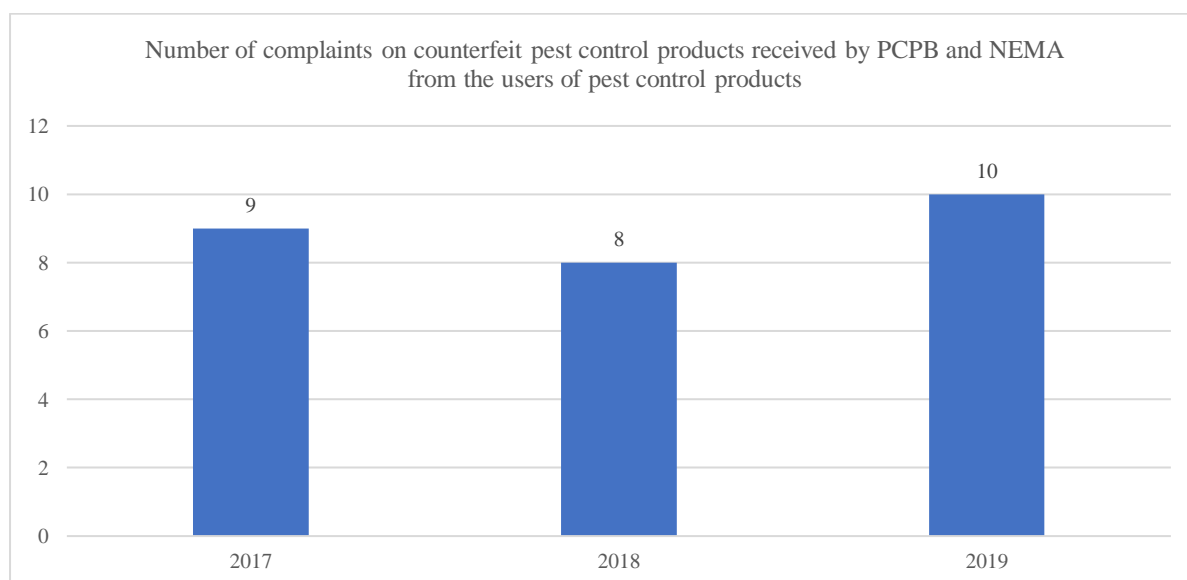


Chart 74: Number of complaints received by Government Agencies

On what action was taken about the users complaints, the two Agencies were nonresponsive. This could imply that record of actions taken were not readily available at the time of the survey. Given users complaints as a key indicator on the presence of counterfeit pest control products in the country, it is recommended that data on the complaints and actions taken be kept and be in a form that is easy to retrieve. The data should also be disseminated to the public as a demonstration of the presence of counterfeit pest control products and actions being taken by the Government.

9.0 REMEDIAL MEASURES FOR FIGHTING PEST CONTROL PRODUCTS COUNTERFEITS

C. Measures to strengthen management and control of pest control products

1. Review of PCPB systems for management and control of counterfeit pest control products

The PCPB scored very highly in the assessment of the current and past efforts of practices in management and control of counterfeit pest control products on the basis of international best practice benchmarks drawn from OSCE (2015) and OECD (2018). The magnitude and prevalence of counterfeit pest control products in Kenya as revealed by this study dictates need for the review of these systems with an aim of strengthening or improvement. It is therefore recommended that the system that PCPB has put in place to management counterfeit pest control products be reviewed to determine completeness, functionality, and effectiveness. The scope for review of this system should include the international best practice benchmarks parameters that were used in this study – systems encompassing prevention, preparations, response on reported or detected incidents of counterfeits, regulation of stakeholders – manufacturers/formulators, distributors, exporters and importers, among others.

2. Review of PCPB adequacy of funding against the challenge posed by counterfeit pest control products

Comprehensive implementation and enforcement of the legislation that outlaws counterfeiting of pest control products and sets out enforcement mechanism is crucial to the fight against counterfeits in the pest control products industry. The magnitude of counterfeit pest control products as identified in this study calls for review of PCBP funding of programs and activities that are designed to combat counterfeiting and documenting the gap in funding against the cost that the entire country is exposed as a result of the risks posed by the well documented negative impact on health, environment, productivity, employment, investments, among others. The review to include exploring other alternative source of funding using international best practice cases of funding Agencies such as PCPB. A high-level forum with policy makers should be organized where these findings tabled.

3. Reviewed and strengthening of PCPB Inspectorate Services

The total number of PCPB inspectors was given as 18 in June 2020 against the optimal level of 30 inspectors. In view of the revealed magnitude of counterfeit pest control products and nationwide spread, it is recommended that a review of inspectorate services personnel requirement be made to determine whether the 30 people recommended are adequate or more would be needed. This exercise should be preceded by benchmarking PCPB inspections methods and approaches to international best practice in surveillance and inspection of pest control industry and the requisite structure for inspectorate services. Any gaps should be addressed through overhaul of PCPB inspectorate approach and methods, inspectorate services delivery and structure. The number of personnel implied in the new structure should then be procured and deployed for effective inspectorate service delivery throughout the country.

4. Establish a Government Multi Agencies Team on management and control of counterfeit pest control products

Pursuant to FAO (2011), ‘Good collaboration between the inspectors and other relevant agencies such as the Customs Department, Police Department and Ministry of Trade is crucial to ensure effective enforcement of the law’. PCPB underscored need for this collaboration in the survey where it decried weak coordination among Government Agencies. It is therefore important that a ‘Pest Control Product Multi Agency Team’ be established within the framework of Government Inter-Agency Team on Counterfeits, with clear mandate on counterfeit pest control products under the leadership of PCPB. The entire team should undergo rigorous training on identification of counterfeit and illegally traded pest control products.

5. Review licensing regime for stockists/agrovets

To address cases of unlicensed stockists/agrovets who were said to be stocking and selling counterfeit pest control products, it is recommended that the licensing system be reviewed and ensure that before any stockist/agrovets is granted a county business permit it will have obtained mandatory certificate to operate from PCPB, renewable annually, as is currently the case.

There is also need for an all Government Approach to the licensing of agrovets to ensure that one Agency, e.g. KEPHIS issues certificate of operation on the basis that seeds will be stocked, only for this outlet to stock pest control products without due authorization from PCPB. Implementation of this recommendation will require a regulation on licensing and monitoring Stockists/Agrovets which should among other things protect the name 'Agrovets/Stockist' to mean an outlet licensed by Government Multi-Agency Team on Regulation of Agrovets, comprising PCPB, KEPHIS, DVS and any other Government Agencies that are currently involved in authorizing Agrovets to stock products that are regulated. The regulation will require any business operating as an Agrovets to first get regulators license before applying for a County Single Business License. Counties to commit not to license Agrovets/Stockists unless the Regulators Permit/License accompany the application. The Regulation to prescribe minimum conditions that must be met before the Regulators Permit/License is provided. This should include some basic training (for the owners and operator/staff manning the agrovets) on stocking the controlled products where identification of counterfeit and consequences of stocking and selling counterfeits would be covered.

Implementation of this regulation to be extended to current agrovets to ensure compliance across the country. This could be done at the time of renewal of the annual licenses, where agrovets will be required to comply with the new licensing and compliance requirement.

6. Education and awareness program targeting manufacturers/stockists, distributors, agents, stockists/agrovets and users (farmers, commercial users, professional users/spray service providers)

The presence of counterfeit as well as illegally traded pest control products in Kenya points to the inadequacy of the awareness program in terms of outreach to users and other stakeholders. Therefore, there is a need to develop and implement programs to educate users on the importance and need to avoid use of counterfeit pest control products, how to identify these products and need for reporting of incidences of counterfeits to the relevant authorities to investigate and take the necessary corrective actions. Users should be educated about the consequences of using counterfeit pest control products. The education and awareness program should be implemented jointly with private sector stakeholders in the pest control products industry and PCPB.

7. Measures to combat import-based counterfeit and illicitly traded pest control products

- a) Develop a bilateral trade facilitation program with source countries for lead sectors in import based illicit trade, aimed at customs valuation of exports and imports, under-invoicing, misdeclaration of imported goods and exchange of information on goods under illicit trade radar that are destined to Kenya
- b) Share import declaration information of pest control products under counterfeit and illicit trade radar with the Multi-Agency team on combating counterfeit and illicitly traded pest control products to ensure that envisaged importation does not end up being counterfeit of Kenyan brands or other illicitly traded products
- c) Officers from law enforcement agencies at entry points should have an on-line database of registered pest control products, including brands and their owners to safeguard against importation of counterfeit or illicitly traded pest control products
- d) Kenya should pursue with EAC and other Regional Economic Communities for a mechanism to monitor and eliminate counterfeit and illicitly trade pest control products in the region, especially the products gaining access these countries through cross border trading. In the EAC, the effort should focus on enacting the pending Bill on Anti-Counterfeit.

8. Measures to discourage manufacture of counterfeit pest control products by unlicensed manufacturers/formulators

Introduce a manufacturing enterprises registration regime, under the Ministry of Industrialization, Trade and Enterprise Development, to ensure against establishment of enterprises that manufacture counterfeit pest control products. The regulation should require, among other things, that before an establishment that manufactures or formulates pest control products is registered as a manufacturing establishment, it must first obtain a permit or license from PCPB. The regulation should require County Single Business Permit for establishments that manufacture or formulate pest control products to be issued only after the PCPB license and State Department for Industry 'Industrial Establishment' registration certificates are provided.

9. Strengthen enforcement and compliance

In order to deter counterfeiting of pest control products, it is recommended that the current measures that include fines, penalties and sanctions be reviewed with a view to coming up with punitive measures that make counterfeiting business risky and unprofitable.

10. Complaint receiving and action platform

Complaints on incidents of counterfeit pest control products is a very useful indicator of the presence of these products in the country. The higher the number in any one year implies a higher presence of these products. This indicator works better if there is an easy and straight forward system of reporting that encourages manufacturers/formulators, distributors, agents, stockists and users to report any incidents that they come across in time. We recommend that PCPB in collaboration with AAK develop such a system and have it hosted at PCPB. The system should also contain action taken or being taken and sanctions imposed. The reporter should be allowed to follow up on the actions taken on incidents they reported. The portal should allow public to view as part of the awareness campaign to combat counterfeit pest control products.

D. Measures to strengthen private sector role in management and control of pest control products

1. Encourage all private sector stakeholders in the pest control industry should be a member of a private sector association operating in the pest control industry

Private sector association in the pest control industry should enhance recruitment to ensure that all registered/licensed private sector operators in the pest control industry become members of the association. Tiered membership structure to enable the lowest of the operators, such as agrovets become non fee/low fee-paying members is encouraged. The pull factor will be services and value that these associations provides to the members. This calls for review of all programs including introduction of new programs to ensure value that elicits demand for membership from target stakeholders so that they can continue receiving this value service.

2. An all-private sector nationwide structure program for education/training of manufacturers /stockists, distributors, agents, stockists/agrovets and users (farmers, commercial users, professional users/spray service providers)

The private sector players – manufacturers/formulators and agents should, through leadership of private sector associations in the pest control industry, develop an education/training program on counterfeit products touching on how to identify the products, their risks, value of not using counterfeits, among other topics. The program, which should target manufacturers/formulators, distributors, agents, stockists/agrovets and users (farmers, commercial users, professional users/spray service providers, among others), should be run by private sector associations of the consortium of private sector companies which offer to be part of the national program on education and training. This program should be linked with the one proposed under 'measures to strengthen management and control of counterfeit pest control products' where PCPB will also be a partner of private sector associations in development and execution of the nationwide program.

3. Private sector platform for sharing innovations and methods that are being used to counter counterfeit pest control products

The private sector has invested heavily in protection of brands through embracing brand protection, technology to help a user tell a genuine product from a counterfeit product, among others. While this may look obvious to the firms that are already aware of such protective measures, many others, especially the SMEs entering the sector may have no clue on how to go about protecting their products. A platform where private sector members of private sector associations in the pest control industry wish to share such information, including the suppliers of the protection technology.

4. Strengthen private sector role in the prosecution of cases of counterfeit pest control products

The private sector owners of pest control products are encouraged to take lead in the surveillance/monitor of their products and report violation of their rights through counterfeiting. This is the model that is being used in management of counterfeiting of Intellectual Properties Rights (IPR). In this case, for better chances of favourable outcomes in court cases, product owners should record statements and appear in court as expert witnesses. Product owners are the foremost experts on their products.

5. An all-private sector/PCPB awareness program on registered products, brands, licensed outlets, manufactures/formulators, distributors, agents and stockists/agrovets

The private sector, through leadership of AAK in partnership with PCPB should run annual awareness program using various platforms to create awareness on licensed manufacturers/formulators, distributors, agents and stockists/agrovets across the country and deregistered products

10.0 PROPOSED ACTION PLAN FOR IMPLEMENTATION OF RECOMMENDED REMEDIAL MEASURES

Proposed Actions	Activities	Responsibility	2021/2022				2022/2023			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
A. Measures to strengthen management and control of pest control products										
1. Review of PCPB systems for management and control of counterfeit pest control products	a) PCPB Board consideration and endorsement	PCPB	■							
	b) TORs for an assignment to facilitate the review	PCPB		■	■					
	c) Review of PCPB system for management and control of counterfeit pest control products	PCPB			■	■				
	d) Implementation of the recommendations for the review	PCPB				■	■	■	■	■
2. Review of PCPB adequacy of funding against the challenge posed by counterfeit pest control products	a) PCPB Board consideration and endorsement	PCPB	■							
	b) TORs for an assignment to facilitate the review	PCPB		■	■					
	c) Review of PCPB adequacy of funding against the challenge posed by counterfeit pest control products	PCPB			■	■				
	d) Implementation of the recommendations for the review	PCPB				■	■	■	■	■
3. Reviewed and strengthening of PCPB Inspectorate Department	a) PCPB Board consideration and endorsement	PCPB	■							
	b) TORs for an assignment to facilitate the review	PCPB		■	■					
	c) Review of PCPB Inspectorate Department	PCPB			■	■				
	d) Implementation of the recommendations for the review	PCPB				■	■	■	■	■
4. Establish a Government Multi Agencies Team on management and control of counterfeit pest control products	a) PCPB Board consideration and endorsement	PCPB	■							
	b) PCPB to prepare a concept paper on Government Multi Agencies Team on	PCPB		■	■					

Proposed Actions	Activities	Responsibility	2021/2022				2022/2023			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	management and control of counterfeit pest control products as a platform within the Government Inter-Agency Team on Counterfeit and Illicit Trade									
	c) Present the paper to the Government Inter-Agency Team on Counterfeit and Illicit Trade	PCPB/ACA								
	d) PCPB to operationalize the Government Multi Agencies Team on management and control of counterfeit pest control products	PCPB/ACA								
5. Review licensing regime for stockists/agrovets	a) PCPB Board consideration and endorsement	PCPB								
	b) PCPB to constitute a Government/Private Sector Task Force/Team to consult and steer the review of licensing regime for stockists	PCPB/AAK/Other Government Agencies								
	c) TORs for an assignment to facilitate the review	PCPB								
	d) Review of review of licensing regime for stockists	PCPB								
	e) Implementation of the recommendations for the review	PCPB								
6. Measures to combat import-based counterfeit and illicitly traded pest control products	a) PCPB Board consideration and endorsement	PCPB								
	b) PCPB to constitute a Government/Private Sector Task Force/Team to combat import-based counterfeit and illicitly traded pest control products	PCPB/AAK/Other Government Agencies								
	c) TORs for an assignment to facilitate development of a system for combating import based counterfeit and illicitly trade pest control products	PCPB								

Proposed Actions	Activities	Responsibility	2021/2022				2022/2023			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	d) Development of a system for combating import based counterfeit and illicitly trade pest control products	PCPB								
	e) Operationalization of the system for combating import based counterfeit and illicitly trade pest control products	PCPB								
7. Measures to discourage manufacture of counterfeit pest control products by unlicensed manufacturers/formulators	a) PCPB Board consideration and endorsement	PCPB								
	b) PCPB to develop a concept paper on industrial establishments for manufacturer/formulation of pest control products, making a case for registered industrial establishment by State Department for Industry followed by PCPB licensing before county business permits can be availed.	PCPB								
	c) PCPB to present the case for industrial establishment to State Department for Industry (SDI) for consideration in the context of National Industrial Policy	PCPB								
	d) SDI to introduce the system for registration of industrial systems for manufacture/formulation of pest control products	SDI								
	e) PCPB, SDI and County Governments to develop requirements and guidelines for licensing establishment for manufacture/formulation of pest control products	PCPB/SDI/COG								
	f) PCPB in collaboration with SDI and County Governments undertake a nationwide exercise of ensuring that all existing and new manufacturers/formulators of pest	PCPB/SDI/COG								

Proposed Actions	Activities	Responsibility	2021/2022				2022/2023			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	control products are accorded registered industrial establishment for manufacture of counterfeit pest control products in accordance to the guidelines									
	g) The PCPB to develop a system for all licensed manufacturers/formulators under the new system	PCPB								
	h) The PCPB to create awareness of the manufacturers/formulators under the new system, directing stockist to source from these organizations and drawing users on products from these organizations	PCPB								
8. Strengthen enforcement and compliance	a) PCPB Board consideration and endorsement									
	b) Develop ToRs for review of the current regime of penalties, fines and sanctions for counterfeiting pest control products									
	c) Review of the current regime of penalties, fines and sanctions for counterfeiting pest control products									
	d) Consideration of the recommendations from the report on 'Review of the current regime of penalties, fines and sanctions for counterfeiting pest control products'									
	e) Review and amendment of relevant legislation to align it with the adopted recommendations of the report on 'Review of the current regime of penalties, fines and sanctions for counterfeiting pest control products'									
	f) Implementation of the revised legislation									

Proposed Actions	Activities	Responsibility	2021/2022				2022/2023			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
9. Develop system for reporting, receiving and actioning complaints on counterfeit pest control products	a) PCPB Board consideration and endorsement	PCPB	■							
	b) PCPB to constitute a Government/Private Sector Task Force/Team to consult and steer the platform for reporting, receiving and actioning complaints	PCPB/AAK and other Govt Agencies		■						
	c) TORs for an assignment to facilitate the review	PCPB		■	■					
	d) Develop system for reporting, receiving and actioning complaints on counterfeit pest control products	PCPB			■	■	■			
	e) Commission the system for reporting, receiving and actioning complaints on counterfeit pest control products	PCPB					■	■		
	f) Training PCPB and AAK staff on the system for reporting, receiving and actioning complaints on counterfeit pest control products	PCPB/AAK						■		
	g) Awareness creation on system for reporting, receiving and actioning complaints on counterfeit pest control products	PCPB						■	■	■
B. Measures to strengthen private sector role in management and control of pest control products										
1. Encourage all private sector stakeholders in the pest control industry to join Agrochemical Association of Kenya	a) AAK Board to consider and endorse		■							
	b) Review current membership requirement and develop a value based system of membership recruitment that would encouraged private sector operators in the industry to join AAK			■	■					

Proposed Actions	Activities	Responsibility	2021/2022				2022/2023			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	c) Undertake nationwide recruitment using PCPB licensed operators as the basis									
	d) Develop a value based portal for the members to facilitate profiling them for business linkage									
2. An all-private sector nationwide structure program for education/training of manufacturers/stockists, distributors, agents, stockists/agrovets and users (farmers, commercial users, professional users/spray service providers)	a) AAK&PCPB Boards to consider and endorse									
	b) AAK to constitute a Private Sector Task Force/Team to consult and steer the nationwide structure program for education/training of manufacturers/stockists, distributors, agents, stockists/agrovets and users (farmers, commercial users, professional users/spray service providers)									
	c) Develop ToRs for the assignment									
	d) Develop the curriculum and modules for the nationwide education/training program for manufacturers/stockists, distributors, agents, stockists/agrovets and users (farmers, commercial users, professional users/spray service providers)									
	e) Training of Trainers									
	f) Conduct nationwide education/training program for manufacturers/stockists, distributors, agents, stockists/agrovets and users (farmers, commercial users, professional users/spray service providers)									

Proposed Actions	Activities	Responsibility	2021/2022				2022/2023			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
3. Private sector platform for sharing innovations and methods that are being used to counter counterfeit pest control products	a) AAK Board consideration and endorsement		■							
	b) AAK to constitute Private Sector Task Force/Team to consult and steer the platform for information sharing			■						
	c) TORs for an assignment to facilitate the review			■	■					
	d) Develop system for private sector to share information on innovations and methods that are being used to counter counterfeit pest control products				■	■				
	e) Commission the system for private sector to share information on innovations and methods that are being used to counter counterfeit pest control products					■	■			
	f) Training AAK staff on the system for private sector to share information on innovations and methods that are being used to counter counterfeit pest control products					■				
	g) Awareness creation on system for private sector to share information on innovations and methods that are being used to counter counterfeit pest control products					■	■	■	■	
4. Strengthen private sector role in the prosecution of cases of counterfeit pest control products	a) AAK Board consideration and endorsement	AAK	■							
	b) PCPB to provide guidelines to assist private sector assist with prosecution cases that touch on their counterfeited pest control products	PCPB/AAK		■	■					
	c) PCPB/AAK to post all won cases/verdicts in their website	PCPB/AAK				■	■	■	■	

Proposed Actions	Activities	Responsibility	2021/2022				2022/2023			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
5. An all-private sector/PCPB awareness program on registered products, brands, licensed outlets, manufactures/formulators, distributors, agents and stockists/agrovets	a) AAK&PCPB Boards to consider and endorse									
	b) AAK/PCPB to constitute a Task Force/Team to consult and steer the nationwide awareness program on registered products, brands, licensed outlets, manufactures/formulators, distributors, agents and stockists/agrovets									
	c) Develop nationwide awareness program on registered products, brands, licensed outlets, manufactures/formulators, distributors, agents and stockists/agrovets									
	d) Conduct nationwide awareness program on registered products, brands, licensed outlets, manufactures/formulators, distributors, agents and stockists/agrovets									

ANNEX 1: REGULATORS SURVEY INSTRUMENT

PREAMBLE

The Agrochemical Industry in Kenya has been facing challenges as a result of counterfeit pest control products. The risk that emanate from this challenge *is real and seems to be spreading across the country*. It calls for concerted efforts of all stakeholders in the industry to stop the presence of counterfeit pest control products in Kenya. However, to facilitate the tackling of the problem, there is need to assess the situation to determine the extent of counterfeiting of pest control products in Kenya and measures that should be pursued to bring this challenge to an end. The survey aims at generating information that assists in quantification of the extent of counterfeit pest control products in Kenya, determination of the effectiveness of current and past management and control efforts of counterfeit pest control products and remedial measures to end the threat. The Regulators are key respondent in this survey. Their input is to be provided through the set of questions below that will be responded to online using the provided link.

INSTRUCTION FOR FILLING THE QUESTIONNAIRES

- The questionnaire has a total 76 questions
- The respondent institutions are required to respond to a question if the question is relevant to their mandate

INSTITUTIONAL PROFILE INFORMATION

Name of Institutions involved in Regulation, Management and Control of Counterfeit Pest Control Products (tick the name of your institution as appropriate):

- g) Pest Control Products Board (PCPB)
- h) Anti- Counterfeit Agency (ACA)
- i) Kenya Revenue Authority (KRA)
- j) Kenya Bureau of Standards (KEBS)
- k) Kenya Plant Health Inspection Services (KEPHIS)
- l) National Police Service (NPS)

Legislation being enforced:

- a) Pest Control Products Act (Cap 346)
- b) Anti-Counterfeit Act No.13 of 2008.
- c) EAC Customs Management Act
- d) Public Health Act
- e) National Police Service Act
- f) Standards Act, Cap 496
- g) Plant Protection Act, Cap 324
- h) Animal Diseases Act, 364

Contact Person:

Name:.....

Position:.....

Email Address:.....

Tel No:.....

BRIEF DESCRIPTION OF COUNTERFEIT PEST CONTROL PRODUCT IN THE CONTEXT OF KENYA LAWS

To enable you relate with the questions in this questionnaire, the following simple description of counterfeit and other forms of illicitly trade products, in the context of Kenyan law will help you respond to the questions

For purposes of this assignment, counterfeit pest control products are as defined in the Pest Control Products Act (Cap 346) Act. Counterfeit pest control products are products that are produced through manufacturing, formulating, producing or making of any pest control products, labels or packages that are identical or substantially indistinguishable from those legally authorized under this Act and are likely to cause confusion, mistake or to deceive or pass off as being genuine pest control products, labels or packages of the registrant of that particular product and “counterfeit goods.

QUESTIONS/GUIDE FOR PROVISION OF INFORMATION TOWARDS ASSESSMENT OF THE PRESENCE OF COUNTERFEIT PEST CONTROL PRODUCTS IN KENYA

A. ROLE IN MANAGEMENT OF PEST CONTROL PRODUCTS

1. Is your organization involved in the Management and Control of Pest Control Product?
Yes []/No []

2. If the answer to Question (1) above is ‘Yes’ please indicate by ticking below the type of pest control products you are involved in management and control
 - aa) Fungicides (a chemical that destroys fungus) – Yes []/ [] - Tick to indicated whether your organization is involved in management and control of this product
 - bb) Herbicides also commonly known as weedkillers, are substances used to control unwanted plants²⁹) – Yes []/ [] - Tick to indicated whether your organization is involved in management and control of this product
 - cc) Acaricides - are pesticides used to kill ticks and mites
 - cc) Nematicides (are chemical used to control/eradicate nematodes) – Yes []/ [] - Tick to indicated whether your organization is involved in management and control of this product
 - dd) Miticide (any chemical substance used to control mites or ticks (especially species that damage ornamental or food plants) – Yes []/ [] - Tick to indicated whether your organization is involved in management and control of this product
 - ee) Adjuvant (is a substance that enhances performance of pesticide) – Yes []/ [] - Tick to indicated whether your organization is involved in management and control of this product.
 - ff) Insecticide (is a substance used for killing insects) – Yes []/ [] - Tick to indicated whether your organization is involved in management and control of this product
 - gg) Rodenticide (a poison used to kill rodents) – Yes []/ [] - Tick to indicated whether your organization is involved in management and control of this product
 - hh) Biological agents – Yes []/ [] - Tick to indicated whether your organization is involved in management and control of this product
 - ii) Bactericides (products that control bacteria) – Yes []/ [] - Tick to indicated whether your organization is involved in management and control of this product
 - jj) Surfactants (that improve pesticides activity/performance) – Yes []/ [] - Tick to indicated whether your organization is involved in management and control of this product
 - kk) Termiticides (for control of termites) – Yes []/ [] - Tick to indicated whether your organization is involved in management and control of this product
 - ll) Growth regulators (that promote or inhibit growth) – Yes []/ [] - Tick to indicated whether your organization is involved in management and control of this product.
 - mm) Any Other – Specify

B. ROLE IN THE FIGHT AGAINST COUNTERFEIT PEST CONTROL PRODUCTS

3. Is your Organization involved in the fight against counterfeit pest control products?
Yes []/No []

4. If the answer to Question (3) above is ‘Yes’ please describe your role in the fight against counterfeit of pest control products

5. If the answer to Question (3) above is ‘YES’ Please describe the measures that your organization has put in place to control presence of counterfeit pest control products in Kenya

²⁹ Selective herbicides control specific weed species, while leaving the desired crop relatively unharmed, while non-selective herbicides (sometimes called total weedkillers in commercial products) can be used to clear waste ground, industrial and construction sites, railways and railway embankments as they kill all plant material with which they come into contact

.....

C. SEIZURE OF COUNTERFEIT PEST CONTROL PRODUCTS

6. Does your organization have mandate to seize counterfeit pest control products?
 Yes [] / No []

7. If the answer to Question 6 above is ‘Yes’ does your organization seize counterfeit pest control products
 Yes [] / No []

8. If the answer to Question (7) above is ‘YES’ Please describe how you record the seized goods by indicating ‘YES’ or ‘NO’ against the following description for recording seized counterfeited pest control products

Description for identification and recording of seized counterfeited pest control products	Insert ‘YES’ if you apply the specific description during recording of seized goods and ‘NO’ if you do not apply the description	If your response is ‘NO’ give reason for not applying the description
HS Code		
Description of the Products,		
Year		
Value		
Volume		
Country of Origin		
Date of Seizure		
Place of Seizure (County, City, Town or Rural Area)		
Form of Disposal		
Date of disposal		
National IPR Holders affected by the Seized Products (in case of Counterfeit and Piracy).		

9. If your organization does not use the above parameters in recording seized pest control products, please give any other description that you are using to record the seized products

10. Please indicate by ticking whether you have seized any counterfeit pest control products between 2017 and 2019
 Yes [] No []

11. Please indicate the form in which the records of seized goods are stored
 a) Soft copy: Yes [] / No []

b) If yes give the software being used for storage of the data – e.g. MS Excel, etc

12. If the answer to question 10 is Yes, please give us the seizure data in your custody using the format

a) International trade based (imports) seizures of pest control products

i) Value of seized imported counterfeit pest control products

Counterfeit Pest Control Product seized (Type/Product description)	Value of Seized Goods (KES)		
	2017	2018	2019

ii) Number of seizures and places of seizure of counterfeit pest control products in the last three years

Counterfeit Pest Control Product seized (Type/Product description)	Seized Goods by Number of Seizures and Place of Seizure					
	2017		2018		2019	
	Number of Seizure	Places of Seizure	Number of Seizure	Places of Seizure	Number of Seizure	Places of Seizure

iii) For seizures of imported goods, please provide points of entry

.....

b) Domestic (local) trade based seizures of pest control products

i) Value of seized domestic counterfeit pest control products

Counterfeit Pest Control Product seized (Type/Product description)	Value of Seized Goods (KES)		
	2017	2018	2019

ii) Number of seizures and places of seizure of counterfeit pest control products in the last three years

Counterfeit Pest Control Product seized (Type/Product description)	Seized Goods by Number of Seizures and Place of Seizure					
	2017		2018		2019	
	Number of Seizure	Places of Seizure	Number of Seizure	Places of Seizure	Number of Seizure	Places of Seizure

13. Please give seizure data information on date of seizure, date of disposal and form of disposal for the last three years

Counterfeit Pest Control Product seized (Type/Product description)	Date of seizure	Date of disposal	Form of Disposal

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14. Please give any recommendation towards collection and storage of seizure data on counterfeit pest control products
15. Are you aware of use of counterfeit pest control products by farmers and other users, that you may not have been able to seize?
Yes []/No []
16. If the answer to Question 15 above is ‘Yes’ please indicate the source of information that raised your awareness and the measure that you took
- a) Source of information
.....
- b) Measure taken upon learning of possible existence of incidents of use of pest control products
.....
.....
17. Are you aware of counterfeit pest control products entering Kenya through cross border trade, that you may not have been able to seize?
Yes []/No []
18. If the answer to Question 17 above is ‘Yes’ please indicate the source of information that raised your awareness and the measure that you took
- c) Source of information
.....
- d) Measure taken upon learning of possible cross border imports of pest control products
.....
.....

D. PRACTICE IN THE MANAGEMENT AND CONTROL OF COUNTERFEIT PEST CONTROL PRODUCTS

D.1 Pest control products Registration

19. Is your organization mandated to register pest control products?
Yes []/No []
20. If the answer to Question 19 above is ‘Yes’ does your organization have a pest control products registration system
Yes []/No []
21. Does your organization have a uniform registration requirement for originals and generic pest control products?
Yes []/No []
22. Does your organization have a system for audit of registered brands for expired registration or removal from the approved list of pest control products?
Yes []/No []
23. Does your organization share the current list of registered pest control products with Customs Authority, Kenya Revenue Authority, ACA and National Police Force
- i) Customs (KRA) - Yes []/No []
- ii) ACA - Yes []/No []

iii) National Police Force - Yes []/No []

D.2 Customs Clearance

24. Does your organization have a pest control products Automated Risk Management System (ARMS) in order to assist with the right choice of customs inspection mode?

Yes []/No []

25. Is there an arrangement for your organization and Customs to exchange information on pest control products to facilitate accessing of up-to-date information concerning official pest control products producers, types and volumes of products annually produced?

Yes []/No []

26. Is there an early warning system tool on supplies to inform customs services about consignments in terms of country of origin, countries of consignment and destination, as well as countries of transit.?

Yes []/No []

D.3 Logistics and sales

27. Is there a national system of monitoring distribution and sale of pest control products?

Yes []/No []

28. Is transportation of pest control products done by certified carriers along approved routes?

Yes []/No []

D.4 Waste and pest control products packaging disposal

29. Is there a system for collection and disposal of pest control products packaging and outdated pest control products?

Yes []/No []

30. If the answer Question 29 above is 'Yes', please indicate whether there exist technical regulations on pest control products distribution

Yes []/No []

31. If the answer Question 30 above is 'Yes', please indicate whether the technical regulation embrace the following provisions on best practice on management of waste and pest control products: -

i) Mandatory triple rinsing instructions (at the distribution location with consequent pressure rinsing in the field); and

Yes []/No []

ii) Container piercing (to avoid possible reuse)

Yes []/No []

D.5 Raising awareness

32. Does your organization have a program for raising awareness on counterfeit pest control products?

Yes []/No []

33. If the answer to Question 32 above is 'Yes', does your organization run the awareness campaign with active involvement of local authorities, media and civil society organizations?

Yes []/No []

D.6 Interaction with business

34. Does your organization have a program of engagement/interaction with manufacturers/formulators, distributors and other businesses in the pest control products value chain or life cycle:

Yes []/No []

35. If the answer to Question 34 above is ‘Yes’, please list the business associations that you interact with in the management of counterfeit pest control products.

.....
.....
.....

D.7 Joint raids

36. Do you conduct joint raids in response to reported counterfeit pest control products incidents, with other Government Agencies and affected businesses of inspection officers?

Yes []/No []

37. If the answer to Question 36 above is ‘Yes’ please give the names of other Government Agencies and Businesses or Business Associations that you have conducted joint raids with.

.....
.....

D.8 Quarantine warehouses

38. Are there specialized protected quarantine warehouses for storage of seized counterfeit pest control products pending investigation and court proceedings and secured to ensure against these products leaking into the market?

Yes []/No []

39. If the answer to question 38 is ‘Yes’ how many such warehouses do you have?

Yes []/No []

D.9 Raising awareness on cases counterfeit pest control products

40. Does your strategies for management and control of counterfeit pest control products include obligatory media coverage of arrested products, including involvement of private sector in the publicity of these incidents?

Yes []/No []

41. If the answer to Question 40 above is ‘Yes’ please indicate how many such obligatory coverages were undertaken between 2017 and 2019?

i) 2017 - *[insert the total obligatory coverages]*

ii) 2018 - *[insert the total obligatory coverages]*

iii) 2019 - *[insert the total obligatory coverages]*

D.10 International cooperation

42. Is there an operational intelligence information exchange between Customs Authority and PCPB and equivalent agencies in the countries that Kenya imports pest control products?

Yes []/No []

D.11 Response to incidents of detected counterfeit pest control products

43. Is there a regulation outlining steps to be taken in response to reported/detected incidents of counterfeit pest control products?

Yes []/No []

44. If the answer to Question 43 above is ‘Yes’ indicate whether the following steps/requirements are captured in the regulation:

- i) All arrested counterfeit pest control products be transferred to specially protected warehouses
Yes []/No []
- ii) Secure integrity of sample/exhibits Yes []/No []
- iii) Customs and law enforcement officers involved in seizure procedures should undergo proper training Yes []/No []
- iv) Customs and law enforcement officers involved in seizure procedures should have proper personal protection equipment
Yes []/No []

D.12 Manufacturing and storage facilities

45. Does your organization maintain up-to-date lists of pest control products manufacturing and storage facilities in order to enable inspections at all manufacturing and storage sites
Yes []/No []
46. If the answer to Question 45 above is ‘Yes’ are manufacturers required to record the details of manufactured and stored pest control products and to keep these records for a period of at least 5 years.
Yes []/No []
47. If the answer to Question 46 above is ‘Yes’ please indicate whether the details includes the following details:
- a) Name of the pest control product – Yes []/No[]
 - b) Destination country (in case of products destined for export) – Yes []/No[]
 - c) Pest control products composition (distinguishing the active substance and co-formulants) – Yes []/No[]
 - d) Date of manufacture – Yes []/No[]
 - e) Name and address of manufacturer(s) of active substance – Yes []/No[]
 - f) Date(s) of acquisition of active substance – Yes []/No[]
 - g) Name and address of manufacturer(s) of co-formulant(s) – Yes []/No[]
 - h) Date(s) of acquisition of co-formulant(s) – Yes []/No[]
 - i) Date of manufacture of pest control products – Yes []/No[]
 - j) Batch number; type of packaging used – Yes []/No[]
 - k) Name and address of purchaser – Yes []/No[]
 - l) Date of sale / goods out – Yes []/No[]

D.13 Dedicated Inspectors for management and control of pest control products

48. Does your organization have a dedicated office for undertaking inspection and surveillance of pest control products
Yes []/No []
49. If Yes to 48 above, how many inspectors are deployed to the inspectorate office (position as at 30 June 2020) *[Insert the number of inspectors]*
50. In your assessment, is this number of inspectors adequate, given the challenge the country is facing from counterfeit pest control products
Yes []/No []
51. If answer to Question 50 above is ‘No’ please indicate the number of inspectors that would be considered adequate and commensurate to the challenge that the country is facing from counterfeit

pest control products *[Insert the number of inspectors that is perceived to be adequate]*

52. Have the inspectors undergone training on management and control of counterfeit pest control products Yes []/No []
53. Do you have any recommendation on skills development training courses or programs that you would wish the inspectors to undergo towards building requisite human resource capacity for management and control of pest control products?
Yes []/No []
54. If answer to Question 53 above please list the type of training you are recommending
.....
.....
.....

D.14 Export

55. Does your organization maintain up-to-date lists of operators exporting pest control products?
Yes []/No []
56. Is there a requirement for mandatory authorization of exports pest control products before exports are made?
Yes []/No []
57. Are exporters of pest control products required to record the details of stored and exported pest control products and to keep these records for a period of at least 5 years.
Yes []/No []
58. Does the details which exporters are required to keep include the following:
a) Name of pest control products or active ingredient – Yes []/ No []
b) Name and address of exporter – Yes []/ No []
c) Name, address and country of consignee – Yes []/ No []
d) Date of shipment / delivery for shipment – Yes []/ No []
e) Quantity shipped – Yes []/ No []
59. Does your organization issue exporter certificates issues for each consignment.
Yes []/No []

D.15 Pre arrival

60. For imported pest control products, does your organization and Customs Authority have a system on pre-arrival information on consignments before they arrive at points of entry, and hence facilitate the detection of suspicious consignment worthy of further investigation on arrival
Yes []/No []
61. If the answer to Question 60 above is ‘Yes’ indicate whether such pre-arrival information includes the following: -
a) Invoices – Yes []/No []
b) Material data safety sheets (MSDS) – Yes []/No []
c) Export certificates – Yes []/No []
d) Packaging lists (if available) – Yes []/No []

D.16 In transit

- 62. Does your organization have regulation on management of pest control products in transit
Yes []/No []

- 63. If the answer to Question 62 above is ‘No’, please give the challenge limit your having such regulations in place
.....
.....
.....

D.17 Sale/Retail Distributors (wholesalers/retailers)

- 64. Does your organization maintain up-to-date lists of distributors of pest control products (wholesalers and retailers) in order to facilitate inspections
Yes []/No []

- 65. Are distributors of pest control products (wholesalers and retailers) of pest control products required to record the details of stored and exported pest control products and to keep these records for a period of at least 5 years.
Yes []/No []

- 66. Are exporters are required to keep the following records for ‘Goods in’ i.e. stock in and for goods out ‘i.e. stock being exported:
 - a) For Goods or stock in:
 - i) Name of pest control products or active ingredient
 - ii) Name and address of supplier
 - iii) Date of purchase
 - iv) Batch numbers
 - v) Pack size
 - vi) Quantity/volume;

 - b) For Goods out/exports:
 - i) Name of pest control products or active ingredient
 - ii) Name and address of purchaser
 - iii) Date of sale
 - iv) Batch numbers
 - v) Pack size
 - vi) Quantity/volume;

D.18 Education

- 67. Does your organization educate distributors in the identification of illegal pest control products?
Yes []/No []

- 68. If the answer to Question 67 above is ‘Yes’ please indicate the extent to which the training program covers the following:
 - a) Easily identifiable common features of illegal pest control products such as packaging and labels – Yes []/N []
 - b) Higher risk channels – Yes []/N []
 - c) Documentation/traceability issues – Yes []/N []

- d) Price – Yes []/N []
- e) The risks and hazards of illegal pest control products – Yes []/N []

69. If the answer to Question 68 above is ‘No’ please indicate the challenges you could be facing and recommendations on how these challenges could be addressed

a) Challenges faced in running an education program for distributors

b) Recommendations to enable your organization offer an education program for distributors

D.19 Use Professional users

70. Does your organization maintain up-to-date lists of professional users of pest control products?
 Yes []/No []

71. Are professional users of pest control products required to record the details of bought, stored and used pest control products and to keep these records for a period of at least 5 years.?
 Yes []/No []

72. Are professional users of pest control products required to record the details of stored and exported pest control products and to keep these records for a period of at least 5 years.
 Yes []/No []

73. Does the details which exporters are required to keep include the following:

iii) For Goods in:

- i) Name of pest control products or active ingredient – Yes []/No []
- ii) Name and address of supplier – Yes []/No []
- iii) Date of purchase – Yes []/No []
- iv) Batch numbers – Yes []/No []
- v) Pack size – Yes []/No []
- vi) Quantity/volume – Yes []/No []

iv) For Goods out:

- i) Name of pest control products or active ingredient – Yes []/No []
- ii) Name and address of purchaser – Yes []/No []
- iii) Date of sale – Yes []/No []
- iv) Batch numbers – Yes []/No []
- v) Pack size – Yes []/No []
- vi) Quantity/volume – Yes []/No []

E. COMPLAINTS FROM USERS OF PEST CONTROL PRODUCTS

74. Has your organization been receiving complaints about counterfeit pest control products from users:
 Yes []/No []

75. If the answer to Question 74 is ‘Yes’ please give the number of complaints received from the private sector over the last three years

- i) 2017 - *[insert number of complaints]*
- ii) 2018 - *[insert number of complaints]*
- iii) 2019 - *[insert number of complaints]*

76. For the complaints received from users of pest control products, please give the action taken
.....

ANNEX 2: MANUFACTURERS (FORMULATORS), DISTRIBUTORS AND AGENTS SURVEY INSTRUMENT

PREAMBLE

The Agrochemical Association of Kenya (AAK) in collaboration with Pest Control Products Board (PCPB) is undertaking a study on the 'Presence and Degree of Counterfeit Pest Control Products in Kenya'. The survey aims at establishing the presence of counterfeit pest control products in Kenya. The survey further seeks to assess the past and current efforts of management and control of pest control products and to propose appropriate recommendations to address the challenges. To achieve this, the Manufacturers/formulators, Distributors and Agents are key respondents in this survey. **Your firm has been selected from a list provided by AAK and PCPB for purposes of sampling respondents.** Your online participation in the survey will go along away in providing private sector view on the presence and degree of counterfeit pest control products. The period of the survey will be 25th November - 8th December 2020. You are encouraged to fill in the online questionnaire and submit electronically any date between 25th November and 8th December 2020. Through AAK you will be invited to review the report from this survey once it is finalized by end of December 2020. For any clarification you can email or **Dickson Poloji** on Tel. 0717 446119, Email: dpoloji@gmail.com; or **Lilian Wairimu** on Tel. 0701 600853, Email: wairimulilian04@gmail.com; or **Ednas Naliaka** on Tel 0725 668996, Email: ednasnaliaka@gmail.com. This team will also call your organization to follow up on the progress being made in completing and online submission of the survey instruments.

SURVEY INSTRUMENT FOR MANUFACTURERS/FORMULATORS, DISTRIBUTORS AND AGENTS

SERIAL NUMBER

PROFILE OF THE RESPONDENT COMPANY

Category of the Respondent (please indicate which category you belong) <ul style="list-style-type: none"> • <i>Manufacturer/formulator</i> [<input type="checkbox"/>] <i>Please tick appropriately</i> • <i>Distributor</i> [<input type="checkbox"/>] <i>Please tick appropriately</i> • <i>Agents</i> [<input type="checkbox"/>] <i>Please tick appropriately</i>
Ownership: Foreign [<input type="checkbox"/>] / Local [<input type="checkbox"/>] <i>Please tick appropriately</i> <i>Foreign means a company where shareholding by foreigners is above 50%, while local means a company where shareholding by Kenyans is above 50%.</i>
Current Number of Employees: Permanent Causal/Temporary <i>(Please insert)</i>
Pest control product being manufactured/formulated: <i>[Select the pest control product that you are formulating]</i> <ul style="list-style-type: none"> nn) <i>Fungicides - a chemical that destroys fungus</i> oo) <i>Herbicides - also commonly known as weedkillers, are substances used to control unwanted plants³⁰</i> pp) <i>Acaricides - are pesticides used to kill ticks and mites</i> qq) <i>Nematicides – are chemical used to control/eradicate nematodes</i> rr) <i>Miticide - any chemical substance used to control mites or ticks (especially species that damage ornamental or food plants)</i> ss) <i>Adjuvant - is a substance that enhances performance of pesticide.</i> tt) <i>Insecticide – is a substance used for killing insects</i> uu) <i>Rodenticide - a poison used to kill rodents</i> vv) <i>Biological agents</i> ww) <i>Bactericides – products that control bacteria</i> xx) <i>Surfactants - that improve pesticides activity/performance</i> yy) <i>Termiticides - for control of termites</i> zz) <i>Growth regulators - that promote or inhibit growth.</i> aaa) <i>Any Other – Specify</i>
Location: County : _____ City/Town: _____

CONSENT TO PARTICIPATION IN THE SURVEY

This is to consent our participation in the baseline survey on counterfeit and other forms of illicit trade YES[]/NO *Please tick answer appropriately*

³⁰ *Selective herbicides control specific weed species, while leaving the desired crop relatively unharmed, while non-selective herbicides (sometimes called total weedkillers in commercial products) can be used to clear waste ground, industrial and construction sites, railways and railway embankments as they kill all plant material with which they come into contact*

If No, This survey will cancel and terminate immediately.

PURPOSE OF SURVEY AND CONFIDENTIALITY

This survey is used to measure the magnitude and effects of counterfeit pest control products on manufacturers/formulators and distributors and their proposals on how best to manage and control counterfeit pest control products. We will treat all responses confidentially.

BRIEF DESCRIPTION OF COUNTERFEIT PEST CONTROL PRODUCTS IN THE CONTEXT OF KENYA LAWS

To enable you relate with the questions in this questionnaire, the following simple description of counterfeit pest control products in the context of Kenyan law will help you respond to the questions

According to the Pest Control Products Act (Cap 346) Act, counterfeit pest control products are defined as “products that are produced through manufacturing, formulating, producing or making of any pest control products, labels or packages that are identical or substantially indistinguishable from those legally authorized under this Act and are likely to cause confusion, mistake or to deceive or pass off as being genuine pest control products, labels or packages of the registrant of that particular product and counterfeit goods”.

THE QUESTIONNAIRE

A. EFFECTS OF COUNTERFEIT ON MANUFACTURERS/FORMULATORS, DISTRIBUTORS OR AGENTS

1. Are you aware of any of your pest control products that have ever been counterfeited and sold in the domestic market in the last three years?

Yes [] / No []

2. If the answer to (1) above is YES, have you experienced any loss of sales as a result of competition or loss of market from your counterfeited products?

Yes [] / No []

3. If the answer to (2) above is YES, please indicate value of sales you could not make (sales loss) due to loss market share to the counterfeited pest control products [*Sales loss refers to revenue that the company would have generated through sale of products that the company was unable to sell as a result of loss of market to your counterfeited products*]

Year	2017	2018	2019	None
(i). Lost Sales as a result of your counterfeited pest control products (in KES)				

4. If the answer to Question 2 above is YES, please indicate the source of your counterfeited products in the last three years:

Source of counterfeited product	Please indicate marking 'YES' the source of your counterfeited products in the last three years
Domestic industries	
Foreign industries (imports)	
Not aware	

5. If the answer to Question 2 above is YES, please indicate the location (county) where you lost sales or are experiencing challenges selling your products as a result of products that counterfeit your products [*Sales loss refers to revenue that the company would have generated through sale*]

of products that the company was unable to sell as a result of loss of market to their counterfeited pest control product]

County where the product has lost market due to counterfeit products	

6. If the answer to Question 2 above is YES, please give the number of jobs lost in the last three years as a result of adverse effect of your counterfeited pest control products on your company *[Jobs lost refers to number of people, previously employed by the company, whom the company laid off as a result of loss of market to counterfeit pest control products]*

Year	2017	2018	2019	None
Number of Jobs Lost				

7. If the answer to Question 2 above is YES, please give the investment opportunity lost in the last three years as a result of the adverse effect of your counterfeited pest control products on your company *[Investment opportunity lost refers to Resources that would have been used in research and production of the specific product which the company put off because of the adverse effect of counterfeit trade on the company]*

Year	2017	2018	2019	None
Investment Opportunity Lost (KES)				

8. If the answer to Question 2 above is YES, please give the Government Revenue lost in the last three years as a result of the adverse effect of your counterfeited pest control products on your company *[Government Revenue lost refers to taxes that would have been paid to the Government from the sale of the specific product which the company could not pay because of lost sales as a result of lost of market to counterfeit products]*

Year	2017	2018	2019	None
Government Revenue Lost (KES)				

9. If the answer to Question 2 above is YES, did you report the complaint to any Government Agency/Institution, in the last three years?

Yes [] / No []

10. If the answer to (10) above is YES, please indicate below the Government Agency or Institutions you filed the complaint and the actions taken

- a. Pest Control Products Board (PCPB)
- b. Anti- Counterfeit Agency (ACA)
- c. Kenya Revenue Authority (KRA)
- d. Kenya Bureau of Standards (KEBS)
- e. Kenya Plant Health Inspection Services (KEPHIS)
- f. National Environmental Authority (NEMA)
- g. National Police Service (NPS)
- h. Other (specify)

11. Were you satisfied on how the reported cases of counterfeits of your pest control products were handled?

Yes [] / No []

12. If the answer to (9) above is NO, please give reasons why you did not report the case of counterfeited pest control products.

.....

B. MEASURES TAKEN BY COMPANIES TO SAFEGUARD AGAINST COUNTERFEIT PEST CONTROL PRODUCTS

13. As a company have you come up with measures or strategies to safeguard yourself from counterfeit pest control products or to counter counterfeiting of your pest control products?

Yes [] / No []

14. If the answer to Question 13 above is 'Yes', please give the strategies/measures that you have put in place.

.....

15. If the answer to Question 14 above is 'No' please give reasons or deterrent facts

.....

C. PEST CONTROL PRODUCTS USER COMPLAINTS

16. Have you ever received complaints from users of pest control products, in the last three years, on your counterfeited pest control products that they may have purchased?

Yes [] / No []

17. If the answer to Question 16 above is 'Yes', please give information on how you dealt with the user complaints

.....

D. GOVERNMENT AGENCIES (REGULATORS) PROGRAM/INITIATIVE FOR MANAGEMENT AND CONTROL OF COUNTERFEIT PEST CONTROL PRODUCTS

18. Are you aware of any Government initiatives or programs being pursued to fight counterfeit pest control products?

Yes [] / No []

19. Would you like to recommend program/initiative that Government should consider in the fight against counterfeit pest control products?

Yes [] / No []

20. If the answer to Question 19 above is 'Yes', please list these programs or initiatives that you would like to recommend for the Government's consideration

.....

E. PRIVATE SECTOR PROGRAM/INITIATIVE FOR MANAGEMENT AND CONTROL OF COUNTERFEIT PEST CONTROL PRODUCTS

21. Are you aware of any Agrochemical Association of Kenya (AAK)'s or other Private Sector Associations' programs/initiatives towards discouraging or fighting counterfeit pest control products?

Yes [] / No []

22. Would you like to recommend program/initiative that AAK should consider in the fight against counterfeit pest control products?

Yes [] / No []

23. If the answer to Question 22 above is 'Yes', please list these programs or initiatives that you would like to recommend for AAK's consideration.

.....

F. AWARENESS OF SITES WHERE COUNTERFEIT PEST CONTROL PRODUCTS ARE MANUFACTURED/FORMULATED

24. Are you aware of any manufacturing sites for counterfeit pest control products that have been subject to law enforcement action in Kenya in the last three years?

Yes [] / No []

25. If the answer to Question 24 above is 'YES' please give those sites (location county)

County where manufacturing site of counterfeit products were identified in the last three years	

G. MANAGEMENT AND CONTROL OF COUNTERFEIT PEST CONTROL PRODUCTS

26. Please indicate by ticking below if you are aware of any manufacturers/formulators, distributors, Agents or stockists (Agrovets) who may be producing or handling counterfeit pest control products in Kenya?

- a) Manufacturers/formulators - Yes [] / No []
- b) Distributors - Yes [] / No []
- c) Agents - Yes [] / No []
- d) Stockists (Agrovets) - Yes [] / No []
- e) Not Aware

27. Give recommendations that should be pursued to deter manufacturing/formulation, distribution and stocking of counterfeit pest control products

Give recommendations that should be pursued to deter manufacturing/formulation of counterfeit pest control products.....

.....

Give recommendations that should be pursued to deter distribution of counterfeit pest control products.....

.....

Give recommendations that should be pursued to deter Agency of counterfeit pest control products.....

.....

Give recommendations that should be pursued to deter stocking of counterfeit pest control products.....

.....

.....

H. COMPANY PROFILE

28. Please provide the Company Name:

29. Email Address

30. Telephone Contact

ANNEX 3: SURVEY INSTRUMENT FOR STOCKISTS (AGROVETS) OF PEST CONTROL PRODUCTS

SERIAL NUMBER

SALUTATION

This is a survey being undertaken by Agrochemical Association of Kenya (AAK) in collaboration with Pest Control Products Board (PCPB) to assess ‘THE PRESENCE AND DEGREE OF COUNTERFEIT PEST CONTROL PRODUCTS IN KENYA’. You have been selected to participate in this survey because your views and experience as Stockist (Agrovet) of pest control products is important in the determination of the presence of counterfeit pest control products in Kenya. The survey will take about 15 - 20 minutes to complete. Whatever information you provide will be kept confidential. Participation in this survey is voluntary because your discretion and views are important.

QUESTIONNAIRE IDENTIFICATION DETAIL

Location:	Town:	County
Date of Interview:	Time of Interview:	
Name of Interviewer:		

PURPOSE OF SURVEY AND CONFIDENTIALITY

This survey is used to assess public awareness and consumption patterns of counterfeit pest control products. We will treat all responses to all the questions confidentially.
Thank you.

BRIEF DESCRIPTION OF COUNTERFEIT PEST CONTROL PRODUCTS IN THE CONTEXT OF KENYAN LAWS

To enable you relate with the questions in this questionnaire, the following simple description of counterfeit pest control products in the context of Kenyan law will help you respond to the questions

According to the Pest Control Products Act (Cap 346) Act, counterfeit pest control products are defined as “products that are produced through manufacturing, formulating, producing or making of any pest control products, labels or packages that are identical or substantially indistinguishable from those legally authorized under this Act and are likely to cause confusion, mistake or to deceive or pass off as being genuine pest control products, labels or packages of the registrant of that particular product and counterfeit goods”.

THE QUESTIONNAIRE

A. TYPE OF PEST CONTROL PRODUCTS STOCKED

- Please indicate which of the pest control products listed below do you stock
 - bbb) Fungicides (a chemical that destroys fungus) – Yes [] - Tick if the Stockists (Agrovets) indicates using this type of product)*
 - ccc) Herbicides also commonly known as weedkillers, are substances used to control unwanted plants³¹) – Yes [] - Tick if the Stockists (Agrovets) indicates using this type of product)*
 - ddd) Acaricides (are pesticides used to kill ticks and mites) – Yes [] - Tick if the Stockists (Agrovets) indicates using this type of product)*
 - eee) Nematicides (are chemical used to control/eradicate nematodes) – Yes [] - Tick if the Stockists (Agrovets) indicates using this type of product)*
 - fff) Miticide (any chemical substance used to control mites or ticks (especially species that damage ornamental or food plants) – Yes [] - Tick if the Stockists (Agrovets) indicates using this type of product)*
 - ggg) Adjuvant (is a substance that enhances performance of pesticide) – Yes [] - Tick if the Stockists (Agrovets) indicates using this type of product)*
 - hhh) Insecticide (is a substance used for killing insects) – Yes [] - Tick if the Stockists (Agrovets) indicates using this type of product)*
 - iii) Rodenticide (a poison used to kill rodents) – Yes [] - Tick if the Stockists (Agrovets) indicates using this type of product)*
 - jjj) Biological agents – Yes [] - Tick if the Stockists (Agrovets) indicates using this type of product)*
 - kkk) Bactericides (products that control bacteria) – Yes [] - Tick if the Stockists (Agrovets) indicates using this type of product)*
 - lll) Surfactants (that improve pesticides activity/performance) – Yes [] - Tick if the Stockists (Agrovets) indicates using this type of product)*
 - mmm) Termiticides (for control of termites) – Yes [] - Tick if the Stockists (Agrovets) indicates using this type of product)*
 - nnn) Growth regulators (that promote or inhibit growth) – Yes [] - Tick if the Stockists (Agrovets) indicates using this type of product).*
 - ooo) Any Other – Specify*

B. STOCKISTS (AGROVETS) AWARENESS OF COUNTERFEIT PEST CONTROL PRODUCTS

- Indicate below your awareness of the presence of counterfeit pest control products in Kenya using the scale of 1 to 6 (6 being high level of awareness and 1 being not aware of the presence of counterfeit pest control products)

	Very high level (6)	High level (5)	Moderate (4)	Low level (3)	Very low level (2)	Not Aware (1)
Awareness of the presence of counterfeit pest control products						

³¹ Selective herbicides control specific weed species, while leaving the desired crop relatively unharmed, while non-selective herbicides (sometimes called total weedkillers in commercial products) can be used to clear waste ground, industrial and construction sites, railways and railway embankments as they kill all plant material with which they come into contact

3. To what extent are you able to tell that a pest control product is counterfeit at sight or when buying or when you are stocking?
 - a) Tick below the form of illicit trade that you have knowledge of telling
 - b) State where and how you acquired the knowledge

	(a) 1 – Not at all 2 – To some extent 3 – To a large extent	(b) Please give where you acquired the knowledge (e.g. sensitization by brand owners, Anti-counterfeit awareness seminars, Adverts, etc.)
Ability to tell that a pest control product is a counterfeit		

4. Indicate in the table below what you think is the source (import and local/domestic market) of counterfeit pest control products

	Source: Foreign market - From outside kenya (e.g china, uganda, Malawi etc).		Source: Domestic Market - within kenya (e.g kamkunji, wajir, kariobangi etc)		Not aware
	Please tick below if source is foreign market.	Please give (if known) source country	Please tick below if source is domestic market	Please give (if know) source county /town /city/area	
Counterfeit pest control product source					

5. Please indicate, in your opinion, which of the following negative effects to the economy arise from the use of counterfeit pest control products
 - a) *Loss of farm productivity - Yes [] tick if in agreement*
 - b) *Loss of money as a result of ineffective pest control products - Yes [] tick if in agreement*
 - c) *Lost employment opportunity - Yes [] tick if in agreement*
 - d) *Lost investments opportunities - Yes [] tick if in agreement*
 - e) *Lost sales opportunity by companies/business - Yes [] tick if in agreement*
 - f) *Lost Government Revenue Opportunity - Yes [] tick if in agreement*
 - g) *Any other negative effect – please give - Yes [] tick if in agreement*
6. Are you aware of legal consequences of stocking counterfeit pest control products?
Yes []/No []

7. If the answer to Question 6 above is ‘Yes’ please list legal consequences stoking counterfeit pest control products that you may be aware
.....
.....
.....

C. STOCKISTS (AGROVETS) BEHAVIOR IN RELATION TO AWARENESS ON MATTERS OF COUNTERFEIT PEST CONTROL PRODUCTS

8. Are you aware or heard about existence of unlicensed stockists (Agrovets) or shops that could be selling counterfeit pest control products

Yes []/No [] not sure

9. If answer to question 8 is 'YES', Please give the location (County and if possible, city or town) of such **Unlicensed stockists (agrovets)**

.....
...

10. If answer to question 8 is 'YES', Please indicate by ticking the type of pest control product(s) that these agrovets may have stocked that were counterfeit.

- a. *Fungicides (a chemical that destroys fungus) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- b. *Herbicides also commonly known as weedkillers, are substances used to control unwanted plants³²) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- c. *Acaricides (are pesticides used to kill ticks and mites) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- d. *Nematicides (are chemical used to control/eradicate nematodes) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- e. *Miticide (any chemical substance used to control mites or ticks (especially species that damage ornamental or food plants) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- f. *Adjuvant (is a substance that enhances performance of pesticide) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- g. *Insecticide (is a substance used for killing insects) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- h. *Rodenticide (a poison used to kill rodents) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- i. *Biological agents – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- j. *Bactericides (products that control bacteria) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- k. *Surfactants (that improve pesticides activity/performance) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- l. *Termiticides (for control of termites) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- m. *Growth regulators (that promote or inhibit growth) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- n. *Any Other – Specify*

11. If answer to question 8 is 'YES', Please indicate which of the following possible reasons that may have made those stockists (Agrovets) to stock the products(s).

- a. *Brand Name – Yes [] - Tick if the Stockists (Agrovets) gives this as a possible reason*
- b. *Low Price – Yes [] - Tick if the Stockists (Agrovets) gives this as a possible reason*
- c. *Easily available (in shops, kiosks, hawkers, home based distributors – Yes [] - Tick if the Stockists (Agrovets) gives this as a possible reason*
- d. *Product popularity – Yes [] - Tick if the Stockists (Agrovets) gives this as a possible reason*
- e. *Origin of product – Yes [] - Tick if the Stockists (Agrovets) gives this as a possible reason*
- f. *Warranty – Yes [] - Tick if the Stockists (Agrovets) gives this as a possible reason*
- g. *Any other reason – please give*

³² Selective herbicides control specific weed species, while leaving the desired crop relatively unharmed, while non-selective herbicides (sometimes called total weedkillers in commercial products) can be used to clear waste ground, industrial and construction sites, railways and railway embankments as they kill all plant material with which they come into contact

12. If answer to question 8 is 'YES', Please indicate possible sources of counterfeit pest control products that the **unlicensed stockists (Agrovets) or shops stock.**

- a. *Manufacturers/formulators*
- b. *Traders*
- c. *Other Agrovets (or stockists)*
- d. *Online platforms/shops*
- e. *Home based network of distributors*

13. Are you aware or heard about existence of licensed stockists (Agrovets) that could be selling counterfeit pest control products

Yes [] / No [] not sure

14. If the answer to Question 13 is 'YES' please give the location (County and if possible, city or town) of such stockists (agrovets)

.....
.....
.....

15. If the answer to Question 13 is 'YES' please indicate by ticking the type of pest control product(s) that these agrovets may have stocked the counterfeit

- a) *Fungicides (a chemical that destroys fungus) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- b) *Herbicides also commonly known as weedkillers, are substances used to control unwanted plants³³) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- c) *Acaricides (are pesticides used to kill ticks and mites) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- d) *Nematicides (are chemical used to control/eradicate nematodes) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- e) *Miticide (any chemical substance used to control mites or ticks (especially species that damage ornamental or food plants) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- f) *Adjuvant (is a substance that enhances performance of pesticide) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- g) *Insecticide (is a substance used for killing insects) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- h) *Rodenticide (a poison used to kill rodents) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- i) *Biological agents – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- j) *Bactericides (products that control bacteria) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- k) *Surfactants (that improve pesticides activity/performance) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- l) *Termiticides (for control of termites) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- m) *Growth regulators (that promote or inhibit growth) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- n) *Any Other – Specify*

³³ Selective herbicides control specific weed species, while leaving the desired crop relatively unharmed, while non-selective herbicides (sometimes called total weedkillers in commercial products) can be used to clear waste ground, industrial and construction sites, railways and railway embankments as they kill all plant material with which they come into contact

16. If the answer to Question 13 is 'YES', please indicate which of the following possible reasons that may have made those stockists (Agrovets) to stock counterfeit pest control products(s)
- a) *Brand Name – Yes [] - Tick if the Stockists (Agrovets) gives this as a possible reason*
 - b) *Low Price – Yes [] - Tick if the Stockists (Agrovets) gives this as a possible reason*
 - c) *Easily available (in shops, kiosks, hawkers, home based distributors – Yes [] - Tick if the Stockists (Agrovets) gives this as a possible reason*
 - d) *Product popularity – Yes [] - Tick if the Stockists (Agrovets) gives this as a possible reason*
 - e) *Origin of product – Yes [] - Tick if the Stockists (Agrovets) gives this as a possible reason*
 - f) *Warranty – Yes [] - Tick if the Stockists (Agrovets) gives this as a possible reason*
 - g) *Any other reason – please give*
17. If the answer to Question 13 is 'YES', please indicated possible sources of counterfeit pest control products
- a) *Manufacturers/formulators*
 - b) *Traders*
 - c) *Other Agrovets (or stockists)*
 - d) *Online platforms/shops*
 - e) *Home based network of distributors*
18. In your opinion, what measures should be taken to discourage or discontinue of stocking of counterfeit pest control products for unlicensed and licensed stockists (agrovets)
-
-
-
19. Have you ever stocked any counterfeit pest control product?
Yes [] /No [] not sure
20. If Yes to (19) above, please indicate by ticking the type of pest control product(s) that you may have stocked the counterfeit
- a) *Fungicides (a chemical that destroys fungus) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
 - b) *Herbicides also commonly known as weedkillers, are substances used to control unwanted plants³⁴ – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
 - c) *Acaricides (are pesticides used to kill ticks and mites) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
 - d) *Nematicides (are chemical used to control/eradicate nematodes) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
 - e) *Miticide (any chemical substance used to control mites or ticks (especially species that damage ornamental or food plants) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
 - f) *Adjuvant (is a substance that enhances performance of pesticide) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
 - g) *Insecticide (is a substance used for killing insects) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
 - h) *Rodenticide (a poison used to kill rodents) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
 - i) *Biological agents – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*

³⁴ Selective herbicides control specific weed species, while leaving the desired crop relatively unharmed, while non-selective herbicides (sometimes called total weedkillers in commercial products) can be used to clear waste ground, industrial and construction sites, railways and railway embankments as they kill all plant material with which they come into contact

- j) *Bactericides (products that control bacteria) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- k) *Surfactants (that improve pesticides activity/performance) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- l) *Termiticides (for control of termites) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- m) *Growth regulators (that promote or inhibit growth) – Yes [] - Tick if the Stockists (Agrovets) indicates having purchased a counterfeit of this type of product*
- n) *Any Other – Specify*
21. As you were stocking the products listed in question (16) above, were you aware whether they were counterfeit pest control products
Yes []/No []
22. If the answer to (21) above is YES, please indicate which of the following possible reasons that you considered in stocking the product(s)
- a) *Brand Name – Yes [] - Tick if the Stockists (Agrovets) gives this as a possible reason*
- b) *Low Price – Yes [] - Tick if the Stockists (Agrovets) gives this as a possible reason*
- c) *Easily available (in shops, kiosks, hawkers, home based distributors – Yes [] - Tick if the Stockists (Agrovets) gives this as a possible reason*
- d) *Product popularity – Yes [] - Tick if the Stockists (Agrovets) gives this as a possible reason*
- e) *Origin of product – Yes [] - Tick if the Stockists (Agrovets) gives this as a possible reason*
- f) *Warranty – Yes [] - Tick if the Stockists (Agrovets) gives this as a possible reason*
- g) *Any other reason – please give*
23. If the answer to Question 21 above is YES, please indicated where your purchased the product
- a) *Manufacturers//formulators*
- b) *Traders*
- c) *Other Agrovets (or stockists)*
- d) *Online platforms/shops*
- e) *Home based network of distributors*
24. Are you likely to knowingly stock counterfeit pest control products in the future?
Yes []/No []
25. If the answer to (24) above is YES, please give possible reasons that you will consider in stocking the product(s)
- a) *Brand Name – Yes [] - Tick if the Stockists (Agrovets) indicates this as a reason that they will in knowingly purchasing counterfeit pest control products in the future*
- b) *Low Price – Yes [] - Tick if the Stockists (Agrovets) indicates this as a reason that they will in knowingly purchasing counterfeit pest control products in the future*
- c) *Easily available (in shops, kiosks, hawkers, home based distributors – Yes [] - Tick if the Stockists (Agrovets) indicates this as a reason that they will in knowingly purchasing counterfeit pest control products in the future*
- d) *Product popularity – Yes [] - Tick if the Stockists (Agrovets) indicates this as a reason that they will in knowingly purchasing counterfeit pest control products in the future*
- e) *Origin of product – Yes [] - Tick if the Stockists (Agrovets) indicates this as a reason that they will in knowingly purchasing counterfeit pest control products in the future*
- f) *Warranty – Yes [] - Tick if the Stockists (Agrovets) indicates this as a reason that they will in knowingly purchasing counterfeit pest control products in the future*
- g) *Any other reason – please give*

D. PEST CONTROL PRODUCTS USERS BEHAVIOUR AND COMPLAINTS

- 26. Generally how would you describe the behaviour of users/buyers of pest control products in terms of reading the label of the products before purchase.
 - a) The buyers/users always read the label before purchase [1] *pick the ricket scale as appropriate*
 - b) The buyers/users sometimes read the label before purchase [2] *pick the ricket scale as appropriate*
 - c) The buyers/users never read the label before purchase [3] *pick the ricket scale as appropriate*
 - d) Not sure [4] *pick the ricket scale as appropriate*

- 27. Have you ever received complaints about counterfeit pest control products from users/buyers of pest control?
Yes []/No []

- 28. If the answer to Question 27 above is ‘Yes’, please give information on how you dealt with the buyer/user complaint
.....

- 29. Have you ever reported case of counterfeit products that you may have purchased or come across?
Yes []/No []

- 30. If answer to question 29 is ‘Yes’, please indicate where you reported the case.
 - a) Pest control products board (PCPB)
 - b) AAK Offices
 - c) Ministry of agriculture
 - d) The Police
 - e) Manufacturers
 - f) Distributor
 - g) Extension officers
 - h) Other (Specify)
 - i) Don't remember

- 31. If answer to question 29 is ‘No’ please give reasons on why you did not report.
.....

E. STOCKISTS (AGROVETS) AWARENESS PROGRAMS ON COUNTERFEIT PEST CONTROL PRODUCTS

E.1 GOVERNMENT AGENCIES (REGULATORS) PROGRAM/INITIATIVE FOR MANAGEMENT AND CONTROL OF COUNTERFEIT PEST CONTROL PRODUCTS

- 32. Are you aware of any Government initiatives or programs being pursued to fight counterfeit pest control products?
Yes []/ No []

- 33. If answer to question 32 is ‘YES’, please give the name the name of the Government Agency running an awareness program or initiative on counterfeit pest control product that you are aware of.
 - a. Pest Control Products Board (PCPB)
 - b. Anti- Counterfeit Agency (ACA)
 - c. Kenya Revenue Authority (KRA)
 - d. Kenya Bureau of Standards (KEBS)
 - e. Kenya Plant Health Inspection Services (KEPHIS)
 - f. National Environmental Authority (NEMA)
 - g. National Police Service (NPS)
 - h. Other (specify)

34. Would you like to recommend program/initiative that Government should consider in the fight against counterfeit pest control products?
Yes [] / No []

35. If the answer to Question 34 above is 'Yes', please list these programs or initiatives that you would like to recommend for the Government's consideration
.....

E.2 PRIVATE SECTOR PROGRAM/INITIATIVE FOR MANAGEMENT AND CONTROL OF COUNTERFEIT PEST CONTROL PRODUCTS

36. Are you aware of any Private Sector initiatives or programs being pursued to fight counterfeit pest control products?
Yes [] / No []

37. If YES, please list the name of the Private Sector organization running an awareness program or initiative on counterfeit pest control product that you are aware of.
a. Agrochemical Association of Kenya (AAK)
b. Fresh Produce Exporters Associations of Kenya. (FPEAK)
c. Kenya Flower Council (KFC)
d. Other (specify)

38. Would you like to recommend program/initiative that Private Sector should consider in the fight against counterfeit pest control products?
Yes [] / No []

39. If the answer to Question 31 above is 'Yes', please list these programs or initiatives that you would like to recommend for the Private Sector's consideration
.....

40. Please provide the name of your company.
.....

41. Telephone Contact.
.....

42. Capture Location Cordinates (GPS)
.....
.....

END

ANNEX 4: SURVEY INSTRUMENT FOR USERS OF PEST CONTROL PRODUCTS

SERIAL NUMBER

SALUTATION

This is a survey being undertaken by Agrochemical Association of Kenya (AAK) in collaboration with Pest Control Products Board (PCPB) to assess 'THE PRESENCE AND DEGREE OF COUNTERFEIT PEST CONTROL PRODUCTS IN KENYA'. You have been selected to participate in this survey because your views and experience as user of pest control products is important in the determination of the presence of counterfeit pest control products in Kenya. The survey will take about 15 - 20 minutes to complete. Whatever information you provide will be kept confidential. Participation in this survey is voluntary because your discretion and views are important.

QUESTIONNAIRE IDENTIFICATION DETAIL

Location:	Town:	County
Date of Interview:	Time of Interview:	
Name of Interviewer:		

PURPOSE OF SURVEY AND CONFIDENTIALITY

This survey is used to assess public awareness and consumption patterns of counterfeit pest control products. We will treat all responses to all the questions confidentially.
Thank you.

BRIEF DESCRIPTION OF COUNTERFEIT PEST CONTROL PRODUCTS IN THE CONTEXT OF KENYAN LAWS

To enable you relate with the questions in this questionnaire, the following simple description of counterfeit pest control products in the context of Kenyan law will help you respond to the questions

According to the Pest Control Products Act (Cap 346) Act, counterfeit pest control products are defined as "products that are produced through manufacturing, formulating, producing or making of any pest control products, labels or packages that are identical or substantially indistinguishable from those legally authorized under this Act and are likely to cause confusion, mistake or to deceive or pass off as being genuine pest control products, labels or packages of the registrant of that particular product and counterfeit goods".

PEST CONTROL PRODUCTS USER STRATA: PLEASE INDICATE BY TICKING THE USER STRATA WHERE YOU FALL

PEST CONTROL PRODUCTS USERS STRATA			
STRATA	PLEASE UNDER	TICK YOU	THE FALL
1) Farmer			
2) Commercial users (e.g, Rentokil etc)			
3) Spray Service Providers			
4) Other (Please specify)			

THE QUESTIONNAIRE

F. TYPE OF PEST CONTROL PRODUCTS USED

43. Please indicate which of the pest control products listed below do you use

ppp) Fungicides (a chemical that destroys fungus) – Yes [] - Tick if the user indicates using this type of product)

- qqq) Herbicides also commonly known as weedkillers, are substances used to control unwanted plants³⁵) – Yes [] - Tick if the user indicates using this type of product)
- rrr) Acaricides (are pesticides used to kill ticks and mites) – Yes [] - Tick if the user indicates using this type of product)
- sss) Nematicides (are chemical used to control/eradicate nematodes) – Yes [] - Tick if the user indicates using this type of product)
- ttt) Miticide (any chemical substance used to control mites or ticks (especially species that damage ornamental or food plants) – Yes [] - Tick if the user indicates using this type of product)
- uuu) Adjuvant (is a substance that enhances performance of pesticide) – Yes [] - Tick if the user indicates using this type of product)
- vvv) Insecticide (is a substance used for killing insects) – Yes [] - Tick if the user indicates using this type of product)
- www) Rodenticide (a poison used to kill rodents) – Yes [] - Tick if the user indicates using this type of product)
- xxx) Biological agents – Yes [] - Tick if the user indicates using this type of product)
- yyy) Bactericides (products that control bacteria) – Yes [] - Tick if the user indicates using this type of product)
- zzz) Surfactants (that improve pesticides activity/performance) – Yes [] - Tick if the user indicates using this type of product)
- aaaa) Termiticides (for control of termites) – Yes [] - Tick if the user indicates using this type of product)
- bbbb) Growth regulators (that promote or inhibit growth) – Yes [] - Tick if the user indicates using this type of product).
- cccc) Any Other – Specify
- dddd) Uncategorized products
- eeee) Don't use Pest control products

G. USERS AWARENESS OF COUNTERFEIT PEST CONTROL PRODUCTS

44. In your opinion, please indicate your awareness of the presence of counterfeit pest control products in Kenya using the scale of 1 to 6 (6 being high level of awareness and 1 being not aware of the presence of counterfeit pest control products)

	Very high level (6)	High level (5)	Moderate (4)	Low level (3)	Very low level (2)	Not Aware (1)
Awareness of the presence of counterfeit pest control products						

45. To what extent are you able to tell that a pest control product is counterfeit at sight or when buying?
- c) Tick below the form of illicit trade that you have knowledge of telling
- d) State where and how you acquired the knowledge

	(c) 1 – Not at all 2 – To some extent 3 – To a large extent	(d) Please give where you acquired the knowledge (e.g. sensitization by brand owners, Anti-counterfeit awareness seminars, Adverts, etc.)
Ability to tell that a pest control product is a counterfeit		

- Sc. Are you aware or heard about the presence of counterfeit pest control products in Kenya?
Yes []/No []

46. If answer to SC above is Yes, please indicate in the table below what you think is the source (import and local/domestic market) of counterfeit pest control products

	Source: Foreign market - From outside kenya (e.g china, uganda, etc)		Source: Domestic Market - within kenya (e.g kamkunji, wajir, kariobangi etc)		Not aware
	Please tick below if source is Foreign Market	Please give (if known) source country	Please tick below if source is domestic market	Please give (if know) source county /town /city/area	
Counterfeit pest control product source					

³⁵ Selective herbicides control specific weed species, while leaving the desired crop relatively unharmed, while non-selective herbicides (sometimes called total weedkillers in commercial products) can be used to clear waste ground, industrial and construction sites, railways and railway embankments as they kill all plant material with which they come into contact

47. Please indicate, in your opinion, which of the following negative effects to the economy arise from the use of counterfeit pest control products

- h) *Loss of farm productivity - Yes [] tick if in agreement*
- i) *Loss of money as a result of ineffective pest control products - Yes [] tick if in agreement*
- j) *Lost employment opportunity - Yes [] tick if in agreement*
- k) *Lost investments opportunities - Yes [] tick if in agreement*
- l) *Lost sales opportunity by companies/business - Yes [] tick if in agreement*
- m) *Lost Government Revenue Opportunity - Yes [] tick if in agreement*
- n) *Any other negative effect – please give - Yes [] tick if in agreement*

48. Are you aware of legal consequences of buying counterfeit pest control products?
Yes []/No []

49. If the answer to Question 6 above is ‘Yes’ please list legal consequences buying or using counterfeit pest control products that you may be aware

.....
.....
.....

H. USER BEHAVIOR IN RELATION TO AWARENESS ON MATTERS OF COUNTERFEIT PEST CONTROL PRODUCTS

50. Have you ever purchased any counterfeit pest control product
Yes []/No [] not sure

51. If Yes to (8) above, please indicate by ticking the type of pest control product(s) that you may have bought the counterfeit

- a. *Fungicides (a chemical that destroys fungus) – Yes [] - Tick if the user indicates using this type of product)*
- b. *Herbicides also commonly known as weedkillers, are substances used to control unwanted plants³⁶) – Yes [] - Tick if the user indicates using this type of product)*
- c. *Acaricides (are pesticides used to kill ticks and mites) – Yes [] - Tick if the user indicates using this type of product)*
- d. *Nematicides (are chemical used to control/eradicate nematodes) – Yes [] - Tick if the user indicates using this type of product)*
- e. *Miticide (any chemical substance used to control mites or ticks (especially species that damage ornamental or food plants) – Yes [] - Tick if the user indicates using this type of product)*
- f. *Adjuvant (is a substance that enhances performance of pesticide) – Yes [] - Tick if the user indicates using this type of product)*
- g. *Insecticide (is a substance used for killing insects) – Yes [] - Tick if the user indicates using this type of product)*
- h. *Rodenticide (a poison used to kill rodents) – Yes [] - Tick if the user indicates using this type of product)*
- i. *Biological agents – Yes [] - Tick if the user indicates using this type of product)*
- j. *Bactericides (products that control bacteria) – Yes [] - Tick if the user indicates using this type of product)*
- k. *Surfactants (that improve pesticides activity/performance) – Yes [] - Tick if the user indicates using this type of product)*
- l. *Termiticides (for control of termites) – Yes [] - Tick if the user indicates using this type of product)*
- m. *Growth regulators (that promote or inhibit growth) – Yes [] - Tick if the user indicates using this type of product).*
- n. *Any Other – Specify*
- o. *Uncategorized products*

52. As you were buying the products listed in question (9) above, were you aware whether they were counterfeit pest control products
Yes []/No []

53. If the answer to (10) above is YES, please indicate which of the following possible reasons that you considered in buying the product(s)

- h) *Brand Name – Yes [] - Tick if the user gives this as a possible reason*
- i) *Low Price – Yes [] - Tick if the user gives this as a possible reason*
- j) *Easily available (in shops, kiosks, hawkers, home based distributors – Yes [] - Tick if the user gives this as a possible reason*
- k) *Product popularity – Yes [] - Tick if the user gives this as a possible reason*
- l) *Origin of product – Yes [] - Tick if the user gives this as a possible reason*
- m) *Warranty – Yes [] - Tick if the user gives this as a possible reason*
- n) *Any other reason – please give*

54. If the answer to Question 8 above is YES, please provide the selling points/or outlets where you purchased the goods

³⁶ Selective herbicides control specific weed species, while leaving the desired crop relatively unharmed, while non-selective herbicides (sometimes called total weedkillers in commercial products) can be used to clear waste ground, industrial and construction sites, railways and railway embankments as they kill all plant material with which they come into contact

- f) Agrovets (or stockists)
- g) Online platforms/shops
- h) Hawkers
- i) Kiosks
- j) Supermarkets
- k) Shops
- l) Home based network of distributors

55. Are you likely to knowingly purchase counterfeit pest control products in the future?
 Yes []/No []

56. If the answer to (13) above is YES, please give possible reasons that you will consider in purchasing the product(s)

- h) Brand Name – Yes [] - Tick if the user indicates this as a reason that they will in knowingly purchasing counterfeit pest control products in the future
- i) Low Price – Yes [] - Tick if the user indicates this as a reason that they will in knowingly purchasing counterfeit pest control products in the future
- j) Easily available (in shops, kiosks, hawkers, home based distributors – Yes [] - Tick if the user indicates this as a reason that they will in knowingly purchasing counterfeit pest control products in the future
- k) Product popularity – Yes [] - Tick if the user indicates this as a reason that they will in knowingly purchasing counterfeit pest control products in the future
- l) Origin of product – Yes [] - Tick if the user indicates this as a reason that they will in knowingly purchasing counterfeit pest control products in the future
- m) Warranty – Yes [] - Tick if the user indicates this as a reason that they will in knowingly purchasing counterfeit pest control products in the future
- n) Any other reason – please give

I. PEST CONTROL PRODUCTS USERS’ BEHAVIOUR AND COMPLAINTS

15. When buying pest control products do you read the label on the package?

- e) Yes I, always read the label before purchase [1] *pick the ricket scale as appropriate*
- f) Yes I, sometimes read the label before purchase [2] *pick the ricket scale as appropriate*
- g) No I never read the label before purchase [3] *pick the ricket scale as appropriate*
- h) Not sure [4] *pick the ricket scale as appropriate*

16. Have you ever reported case of counterfeit products that you may have purchased or come across?
 Yes []/No []

17. If the answer to Question 16 above is ‘Yes’, please indicate where you reported the case

- a) Pest control products board (PCPB)
- b) AAK Offices
- c) Ministry of agriculture
- d) The Police
- e) Manufacturers
- f) Distributor
- g) Extension officers
- h) Other (Specify)
- i) Don't remember

18. If the answer to Question 16 is ‘No’ please give reasons on why you did not report

.....

J. USER AWARENESS PROGRAMS ON COUNTERFEIT PEST CONTROL PRODUCTS

E.1 GOVERNMENT AGENCIES (REGULATORS) PROGRAM/INITIATIVE FOR MANAGEMENT AND CONTROL OF COUNTERFEIT PEST CONTROL PRODUCTS

19. Are you aware of any Government initiatives or programs being pursued to fight counterfeit pest control products?

Yes [] / No []

20. If YES to Question 19 above, please give the name of the Government Agency running an awareness program or initiative on counterfeit pest control product that you are aware of.
- a. Pest Control Products Board (PCPB)
 - b. Anti- Counterfeit Agency (ACA)
 - c. Kenya Revenue Authority (KRA)
 - d. Kenya Bureau of Standards (KEBS)
 - e. Kenya Plant Health Inspection Services (KEPHIS)
 - f. National Environmental Authority (NEMA)
 - g. National Police Service (NPS)
 - h. Other (specify)

21. Would you like to recommend program/initiative that Government should consider in the fight against counterfeit pest control products?
Yes [] / No []

22. If the answer to Question 21 above is ‘Yes’, please list these programs or initiatives that you would like to recommend for the Government’s consideration
.....

E.2 PRIVATE SECTOR PROGRAM/INITIATIVE FOR MANAGEMENT AND CONTROL OF COUNTERFEIT PEST CONTROL PRODUCTS

23. Are you aware of any Private Sector initiatives or programs being pursued to fight counterfeit pest control products?
Yes [] / No []

24. If YES to Question 23 above, please give the name of the Private Sector organization running an awareness program or initiative on counterfeit pest control product that you are aware of.
- a. Agrochemical Association of Kenya (AAK)
 - b. Fresh Produce Exporters Associations of Kenya. (FPEAK)
 - c. Kenya Flower Council (KFC)
 - d. Other (specify)

25. Would you like to recommend program/initiative that Private Sector should consider in the fight against counterfeit pest control products?
Yes [] / No []

26. If the answer to Question 24 above is ‘Yes’, please list these programs or initiatives that you would like to recommend for the Private Sector’s consideration
.....

27. If STRATA is Commercial User or Spray Service Provider (SSP), Please give your firms name or your Name respectively.
.....

THANK YOU!

ANNEX 5: MAGNITUDE OF ILLICIT TRADE IN PEST CONTROL PRODUCTS AND TOP SOURCE COUNTRIES

HS Code	Product Description	Magnitude of illicit (CIT) 2017 (KES Mn) ³⁷	Magnitude of illicit (CIT) 2018 (KES Mn)	Magnitude of illicit (CIT) 2019(KES Mn)	Magnitude of Illicit Trade – Absolute ³⁸					Top Source Countries of World Declared Exports of Pest Control Products to Kenya in 2019 (KES MILLION)
					Absolute (CIT) 2017(KES Mn)	Absolute (CIT) 2018(KES Mn)	Absolute (CIT) 2019(KES Mn)	% CIT change (year on year growth) 2018	% CIT change (year on year growth) 2019	
380850	Insecticides, rodenticides, fungicides, disinfectants, herbicides and the like; containing goods specified in Subheading Note 1 to this Chapter; put up in forms or packings for retail sale or as preparations or articles	5.10	-.03	.00	5.10	.03	.00	-99.35%	-100.00%	
380891	Insecticides; other than containing goods specified in Subheading Note 1 to this Chapter; put up in forms or packings for retail sale or as preparations or articles	914.08	1,369.10	1,616.31	914.08	1,369.10	1,616.31	49.78%	18.06%	China - 2,115.3 ; India - 695.9 ; France - 284.8 ; United Kingdom - 239.1 ; United Arab Emirates - 178.7 ; Japan - 162.1 ; Italy - 131.2 ; USA - 106.3 ; Israel - 89.3 ; Germany - 78.8.
380892	Fungicides; other than containing goods specified in Subheading Note 1 to this Chapter; put up in forms or packings for retail sale or as preparations or articles	97.75	383.34	698.71	97.75	383.34	698.71	292.16%	82.27%	China - 692.2 ; France - 667.8 ; India - 400 ; Germany - 275.4 ; South Africa - 192.8 ; Norway - 171.6 ; Israel - 155.4 ; Greece - 104.2 ; Spain - 96.8 ; Italy - 92.2.

³⁷ Where Magnitude (CIT), is positive it means the world's declared exports to Kenya are higher than Kenya's declared imports from the world, thus pointing to cases of undeclared, smuggled or under declared/under invoiced imports. On the other hand, where the Magnitude (CIT), is negative it means the world's declared exports to Kenya are less than Kenya's declared imports from the world, thus pointing to cases of over declared imports, usually attributed to misdeclaration with intent to evade tax in tariff lines with higher taxes or to avoid prior import authorization procedure which would be required if imports are declared under tariff lines where documentations on such authorization are required to accompany imports, among other motivating factors.

³⁸ Absolutes mean that where the computed magnitudes end up being negative, an absolute figure is assigned, to allow summation of negative and positive in order to derive total illicit trade across all sectors/HS chapters.

HS Code	Product Description	Magnitude of illicit (CIT) 2017 (KES Mn) ³⁷	Magnitude of illicit (CIT) 2018 (KES Mn)	Magnitude of illicit (CIT) 2019(KES Mn)	Magnitude of Illicit Trade – Absolute ³⁸					Top Source Countries of World Declared Exports of Pest Control Products to Kenya in 2019 (KES MILLION)
					Absolute (CIT) 2017(KES Mn)	Absolute (CIT) 2018(KES Mn)	Absolute (CIT) 2019(KES Mn)	% CIT change (year on year growth) 2018	% CIT change (year on year growth) 2019	
380893	Herbicides, anti-sprouting products and plant-growth regulators; other than containing goods of Subheading Note 1 to this Chapter; put up in forms or packings for retail sale or as preparations or articles	1,080.59	1,755.62	1,141.35	1,080.59	1,755.62	1,141.35	62.47%	-34.99%	China - 1,967.3 ; Belgium - 182.1 ; India - 140.5 ; South Africa - 138.9 ; France -79.9 ; USA - 74.9 ; Hungary - 72.9 ; Germany - 66.7 ; Israel - 33.9 ; Netherlands - 17.8.
380894	Disinfectants; other than containing goods specified in Subheading Note 1 in this Chapter; put up in forms or packings for retail sale or as preparations or articles	-23.27	-134.05	-30.57	23.27	134.05	30.57	475.96%	-77.20%	France - 67.1 ; United Kingdom - 43.4 ; Uruguay -29.4 ; South Africa - 28.7 ; Belgium - 28.5 ; China - 23.8 ; Ireland - 18.5 ; Germany - 17 ; India - 14.6 ; Egypt - 9.1.
380899	Rodenticides and other similar products n.e.c. in heading no. 3808.9; other than containing goods specified in Subheading Note 1 in this Chapter, put up in forms or packings for retail sale or as preparations or articles	-507.13	-671.40	-921.62	507.13	671.40	921.62	32.39%	37.27%	Egypt - 60.8 ; South Africa - 50.1 ; India -36.6 ; Thailand -33.2 ; Netherlands - 29.2 ; United Arab Emirates - 15.1 ; Belgium - 14.7 ; China - 13.7 ; Rep. of Korea - 7.5 ; Spain - 7.3 .
Total (HS380850, 380891, 380892, 380893, 380894 and 380899)					2,627.93	4,313.54	4,408.56	64.14%	2.20%	

ANNEX 6: HOT SPOT COUNTIES WHERE FIRMS REPORTED SALES LOSSES AS A RESULT OF THEIR COUNTERFEITED PEST CONTROL PRODUCTS BEING SOLD IN THE SPECIFIC COUNTIES

County of lost sales	% Firms which reported sales losses in the county
Kirinyaga	53%
Nairobi	42%
Kajiado	37%
Bomet	32%
Embu	32%
Machakos	32%
Meru	32%
Narok	32%
Nyandarua	32%
Kericho	26%
Kiambu	26%
Mombasa	26%
Nakuru	26%
Nyeri	26%
Uasin Gishu	26%
Kisumu	21%
Laikipia	21%
Trans Nzoia	21%
Garissa	16%
Kitui	16%
Makueni	16%
Murang'a	16%
Tana River	16%
Tharaka-Nithi	16%
Bungoma	11%
Elgeyo-Marakwet	11%
Kakamega	11%
Kisii	11%
Lamu	11%
Nyamira	11%
Busia	5%
Homa-Bay	5%
Isiolo	5%
Kilifi	5%
Kwale	5%
Mandera	5%
Marsabit	5%
Migori	5%
Nandi	5%
Siaya	5%

County of lost sales	% Firms which reported sales losses in the county
Turkana	5%
Vihiga	5%
Wajir	5%