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CLERK-AT
THE TABLE:

R. K. TIATATI

REPORT ON THE

PUBLIC PETITION (NO. 70 OF 2019) REGARDING WITHDRAWAL OF
HARMFUL CHEMICAL PESTICIDES IN THE KENYAN MARKET

CLERKS CHAMBERS

DIRECTORATE OF COMMITTEE SERVICES

PARLIAMENT BUILDINGS

NAIROBI

OCTOBER, 2020

Report of the Departmental Committee on Health on the consideration of the Public Petition No. 70 of 2019 regarding withdrawal of Harmful Chemicals pesticides in the Kenyan Market.

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ABBREVIATIONS

AAK	-	Agrochemicals Association of Kenya
BIBA-K	-	Biodiversity and Biosafety Association of Kenya
COPE	-	Centre of Phytosanitary Excellence
DNA	-	Deoxyribonucleic Acid
EFSA	-	European Food Safety Authority
EMCA	-	Environmental Management and Coordination Act
ECHA	-	European Chemical Agency
EU	-	European Union
FAO	-	Food and Agriculture Organization
FAW	-	Fall Armyworm
FBOs	-	Faith-Based Organizations
GLP	-	Good Laboratory Practices
GMOs	-	Genetically Modified Organism
HACCP	-	Hazard analysis and critical control points
HCD	-	Horticultural Crops Directorate
IARC	-	International Agency for Research on Cancer
IPM	-	Integrated Pest Management
JMPR	-	Joint Meeting on Pesticide Residues
KEBS	-	Kenya Bureau of Standards
KOAN	-	Kenya Organic Agriculture Network
KEMRI	-	Kenya Medical Research Institute
KEPHIS	-	Kenya Plant Health Inspectorate Service
LIMS	-	Laboratory Information Management Systems
MLND	-	Maize Lethal Necrosis Disease

MOALF	-	Ministry of Agriculture, Livestock and Fisheries
MRLs	-	Maximum Residue Level
NEMA	-	National Environment Management Authority
OECD	-	Organisation for Economic Co-operation and Development
PAYE	-	Pay As You Earn
PCPB	-	Pest Control Products Board
RODI	-	Resources Oriented Development Initiatives (Kenya)
RTFI	-	Route to Food Initiative
SA	-	Sustainable Agriculture
SAICM	-	Strategic Approach to International Chemicals Management
SOPs	-	Standard Operating Procedures
SSP	-	Spray Service Providers
UON	-	University of Nairobi
USA	-	United States of America
WHO	-	World Health Organization
WTO	-	World Trade Organization

CHAIRPERSON FOREWORD

The Public Petition No. 70 of 2019 regarding the withdrawal of Harmful Chemicals pesticides in the Kenyan Market was presented in the National Assembly on 2nd September 2019 and resubmitted on 5th March 2020 by Hon. Gladys Boss Shollei, MP on behalf of the representatives of Biodiversity and Biosafety Association of Kenya (BIBA-K), Kenya Organic Agriculture Network (KOAN), Resources Oriented Development Initiatives (RODI Kenya) and Route to Food Initiative (RTFI). The Petition was subsequently committed to the Departmental Committee on Health for consideration pursuant to Standing Order 227(1).

The Committee was required to respond to the Petitioner by way of a report addressed to the Petitioner and laid on the Table of the National Assembly not more than sixty (60) calendar days from the time of reading the Petition.

In processing the Petition, the Committee received views from the Hon. Gladys Boss Shollei, MP accompanied by representatives of the Biodiversity and Biosafety Association of Kenya (BIBA-K), Kenya Organic Agriculture Network (KOAN), Resources Oriented Development Initiatives (RODI Kenya) and Route to Food Initiative (RTFI), the Kenya Plant Health Inspectorate Service (KEPHIS) and the Pest Control Products Board (PCPB).

The Committee also sought views from Dr Catherine Kunyaga, Senior Lecturer in the Department of Food Science, Nutrition and Technology, The University of Nairobi (UON), Dr Silke Bollmohr, Environmental Scientist, Prof Raphael Wahome, The University of Nairobi (UON), Agrochemicals Association of Kenya (AKK), Ms Esther Jepkogei Bett and Mr Edward Njaibu, conventional farmers from Uasin Gishu and Laikipia counties respectively. After that, the Committee analyzed their submissions and prepared the report.

The Committee is grateful to the Offices of the Speaker, and the Clerk of the National Assembly for the logistical and technical support accorded to it during the consideration of the Petition.

On behalf of the Departmental Committee on Health and pursuant to provisions of Standing Order 227(2), it is my pleasant privilege and honour to present to this House the report of the Committee on its consideration of the Public Petition No. 70 of 2019 regarding the withdrawal of Harmful Chemicals pesticides in the Kenyan Market

Hon. Sabina Chege, M.P

- (vii) All Agrochemicals companies should ensure proper use of their products through adequate labelling using the widely used national language and take responsibility where harm occurs due to lack of sufficient information.
- (viii) That, the Pest Control Products Board (PCPB) must ensure that products banned in other jurisdiction are not in use in Kenya.

OTHER RECOMMENDATIONS

- (ix) That the Ministry of Agriculture, Livestock, and Fisheries should enhance the laboratory analytical capacity at the Pest Control Products Board (PCPB) by increasing the number of technical personnel through an increase in budgetary allocation, to ensure that adequate evaluation of pest control products is done.
- (x) That the Ministry of Agriculture, Livestock and Fisheries should speed up the completion of the Residue Laboratory at the Pest Control Products Board (PCPB) which will support residue analysis (in food, water, soil, air), inorganic chemical analysis, organic chemical analysis (chemical identity, chemistry), formulation quality analysis, and microbial assay through additional budgetary allocation and the National Assembly provide appropriate funds for the same in the FY 2020/2021.
- (xi) That within six (6) months of tabling of this report, the Ministry of Health together with the Ministry of Agriculture, Livestock and Fisheries and other relevant research agencies should conduct epidemiological studies in areas where pesticides are widely used in Kenya to determine the level of use of harmful pesticides and disease burden caused. This study shall guide in the formulation of an informed national policy on pesticide management and use.
- (xii) The Ministry of Agriculture, Livestock, and Fisheries and County Government should enhance and promote the training of farmers/users on acceptable agricultural practices and use of personal protective gears to mitigate against any adverse health and environmental effects.
- (xiii) The Ministry of Agriculture, Livestock, and Fisheries together with County government, in conjunction with other relevant stakeholders, including the media, should immediately undertake public awareness campaigns to sensitize the public on

- (xiv) The Ministry of Agriculture, Livestock, and Fisheries, in collaboration with the Ministry of Education, Science, and Technology, should develop and operationalize a curriculum on pesticides in the education system at all levels.
- (xv) The Ministry of Agriculture, Livestock and Fisheries, and the Ministry of Information Communication and Technology should develop and operationalize an Information System for the collection of data on pesticide use.
- (xvi) The Ministry of Agriculture, Livestock, and Fisheries and County Government should immediately consider introducing Spray Service standards as the concept would enhance the professional application of pesticides.
- (xvii) The Ministry of Health should offer budgetary and technical support to the Poison Information Centre at Kenyatta National Hospital (KNH). The Centre assists in the management of poisoning cases in the country provide information to the public on the prevention of poisoning and maintaining records that support policy decisions.

1.5 ACKNOWLEDGEMENT

- 07. The Committee appreciates the assistance provided by the Office of the Speaker and the Clerk of the National Assembly that enabled it to discharge its functions in considering the Petition.
- 08. On behalf of the Committee, and pursuant to Standing Order, 227 it is my duty to table in the House the Report of the Committee on the Petition regarding the withdrawal of Harmful Chemicals pesticides in the Kenyan Market.

Thank You

CHAPTER ONE

2.0 INTRODUCTION

2.1 BACKGROUND

09. The Public Petition No. 70 of 2019 regarding the withdrawal of Harmful Chemicals pesticides in the Kenyan Market was presented in the National Assembly on 2nd September 2019 and resubmitted on 5th March 2020 by Hon. Gladys Boss Shollei, MP on behalf of the representatives of Biodiversity and Biosafety Association of Kenya (BIBA-K), Kenya Organic Agriculture Network (KOAN), Resources Oriented Development Initiatives (RODI Kenya) and Route to Food Initiative (RTFI). The Petition was subsequently committed to the Departmental Committee on Health for consideration pursuant to Standing Order 227(1).
10. In processing the Petition, the Committee received views from the Hon. Gladys Boss Shollei, MP accompanied by representatives of the Biodiversity and Biosafety Association of Kenya (BIBA-K), Kenya Organic Agriculture Network (KOAN), Resources Oriented Development Initiatives (RODI Kenya) and Route to Food Initiative (RTFI), the Kenya Plant Health Inspectorate Service (KEPHIS) and the Pest Control Products Board (PCPB).
11. The Committee also sought views from Dr Catherine Kunyaga, Senior Lecturer in the Department of Food Science, Nutrition and Technology, The University of Nairobi (UON), Dr Silke Bollmohr, Environmental Scientist, Prof Raphael Wahome, The University of Nairobi (UON), Agrochemicals Association of Kenya (AKK), Ms Esther Jepkogei Bett and Mr Edward Njaibu, conventional farmers from Uasin Gishu and Laikipia counties respectively. After that, the Committee analyzed their submissions and prepared the report.
12. The Committee notes that Agriculture is the backbone of Kenya's economy, which sustains the ever-growing population. Further, it recognizes the multiple benefits accrued by the sector through extensive use of pesticides since their introduction in the country.
13. It notes that pest control products are necessary to ensure food security and sustainable livelihood. However, many complex problems have emerged as a result of increased exposure to these agricultural chemicals, such as degradation of the environment, increased prevalence

of non-communicable diseases such as cancer, acute and chronic respiratory diseases, mental behavioural and even neurological disorders.

14. Article 43 (1) (a) of the Constitution provides that every Kenyan has the right "*to the highest attainable standard of health*". On the same note, Article 43 (1) (c) states that "*every Kenyan has a right to be free from hunger and to have adequate food of acceptable quality*". In this regard, the Government is constitutionally obligated to ensure that Kenyan people have a right to safe, sufficient, nutritious and affordable food through enhanced food control systems.

2.2 PETITIONERS PRAYERS TO THE NATIONAL ASSEMBLY

15. The Petitioner prayed that the National Assembly through the Departmental Committee on Health:

- i. Recommends for an immediate ban of all products in the Kenyan Market, classified as carcinogenic, mutagenic, endocrine disruptors, neurotoxic and many which show apparent effects on the reproduction toxicity;
- ii. Recommends withdrawal of all harmful and toxic pesticides in Kenya's market based on the active ingredients used, that pose serious health risks to Kenyans and develop and implement a strategy to remove such harmful pesticides from the market, recognizing that it could take several years for products to be completely unavailable through local shops and dealers;
- iii. Recommends that Government establishes and strengthen the monitoring system on the use of pesticides through increased data collection on food samples in the market and the level of pesticides contained; and
- iv. Recommends an amendment to the Pest Control Products law to include a list of pesticides that have been withdrawn from the market based on the severe health risks posed to Kenyans, and to make it mandatory for the Pest Control Products Board (PCPB) to assess data on environmental and human health impacts during the registration and re-registration process of products.

2.3 LEGAL PROVISIONS TOUCHING ON THE PETITION

2.3.1 RIGHT TO PETITION PARLIAMENT

16. The right to Petition Parliament is provided for under Article 119 of the Constitution, which provides as follows:-

"Every person has a right to Petition Parliament to consider any matter within its authority, including enacting, amending or repealing any legislation. Parliament shall make provision for the procedure for the exercise of this right."

17. The Petition, therefore, falls under the Committee's mandate under National Assembly Standing Order 227(1). Besides, Standing Order 227(2) outlines the procedure for committal of a Petition to a Committee and transmission of its decision to the Petitioner. Further, the Petitions to Parliament (Procedure) Act, 2012 provides for the procedure to follow in the submission, processing and consideration of a Petition.
18. Article 94, as read together with Article 95 of the Constitution further provides for the mandate of Parliament and the National Assembly, respectively. Generally, the Houses of Parliament exercises the legislative mandate of the people, deliberate on matters of national interest and oversight the exercise of power by other arms of Government.
19. Public participation is now a guaranteed process in Kenya. The Constitution in various Articles requires that public participation be undertaken at all levels of Government before government officials make a decision affecting the public.
20. Public participation has an open, accountable and structured process where citizens or people, or a segment of a community can interact, exchange views and influence decision making. Public participation is part of a democratic process.

CHAPTER TWO

3.0 SUBMISSIONS ON THE PETITION

3.1 SUBMISSION BY HON. GLADYS BOSS SHOLLEI, MP

21. While appearing before the Committee on 8th October 2019 the Hon. Gladys Boss Shollei, MP, in the company of the representatives of Biodiversity and Biosafety Association of Kenya (BIBA-K), Kenya Organic Agriculture Network (KOAN), Resources Oriented Development Initiatives (RODI Kenya) and Route to Food Initiative (RTFI) submitted, That;

- (i) There has been an increase in the prevalence of chemical pesticides in Kenya, which pose a risk to human health and harmful effects on the environment;
- (ii) The volume of imported insecticides, herbicides and fungicides had more than doubled within four years from 6400 tons in 2015 to 15600 tons in 2018 with a growth rate of 144%;
- (iii) There was no data available concerning the use of pesticides, the concentration of pesticides in water, soil and food and their related impacts;
- (iv) There were products in the Kenyan market classified as carcinogenic (24 products), mutagenic (24 products), endocrine disrupter (35 products), neurotoxic (140 products), many which showed apparent effects on reproduction toxicity (262 products); These products are banned in Europe, United Kingdom and the United States of America (USA);
- (v) The increase in pesticides use has not been accompanied by the necessary, safeguards to control their application;
- (vi) During the pesticides registration process in Kenya, it's mainly the purity and efficacy of the product that is tested. Data on human and environmental health under local conditions are scarcely taken into consideration. The Pest Control Product Act, Cap 346 Laws of Kenya, does not state ecological and human health as a possible concern during the registration process;
- (vii) The Kenya Plant Health Inspectorate Service (KEPHIS), has been contravening Section 15 of the Pest Control Product Act, by failing to publish available information

on the actual levels of pesticides in food samples collected and put in place regular monitoring system.

- (viii) There are no epidemiological health studies related to pesticides exposure on people's health and their impact on the environment,
- (ix) The Pest Control Products Board PCPB has not been adhering to the World Health Organization (WHO) and Food and Agriculture Organization (FAO) International Code of conduct on Pesticides Management.

3.2 SUBMISSIONS FROM OTHER STAKEHOLDERS

22. Appearing before the Committee on 11th November 2019 the following stakeholders submitted as follows;

3.2.1 Dr Catherine Kunyanga, Senior Lecturer in the Department of Food Science, Nutrition and Technology, University of Nairobi (UON)

- 23. The high number of foodborne illnesses is a significant public health issue for all countries. The cost in human suffering is far too high, especially amongst the vulnerable population groups (infants, young children, pregnant women, the elderly, the ill and the poor).
- 24. WHO/FAO International Conference on Nutrition (Rome, 1992) recognized that '*Access to ... safe food is a right of each individual*'. Therefore, the availability of suitable food should be a top priority by governments, industry and consumers.
- 25. But still, the cases of food poisoning were on the rise, and new hazards associated with the presence of chemical contaminants or toxins that form when food is processed or prepared are discovered every year.
- 26. Food safety cannot be used as a sales argument because it is illogical to sell foods that are 'safer' than others (they are either safe or not!). This aspect is nevertheless promoted by some retailers who oblige suppliers to apply their standards in the place of regulations such as MRL (maximum residue levels) authorized for pesticides.
- 27. Food safety and quality have become a significant concern for the European retailing & distribution industry, which uses it as a marketing argument to address consumers concerns and calls for change from some pressure groups. Retailers have thus also become 'standards developers', and given their economic clout, they can easily take the place of regulations.

28. Whether food is sold locally or exported, it must be produced under the general principles of hygiene that are recognized throughout the world. According to the latest 'Eurobarometer', (2010) -a survey of 26 691 individuals in all 27 Member States, showed that:

- a) 79 % stated they were deeply concerned about the safety of their food (much more important than dietary matters);
- b) 48 % worried about food affecting their health (compared to 44 % for road accidents); and
- c) 72% were worried about pesticide residues; this was the number one 'risk' (freshness ranked fourth, and GMOs ranked sixth).

29. To ensure that food is harmless and restore consumers' confidence and sense of security, it is necessary:

- a) To reinforce and continually update the regulatory framework to reflect technical changes and the results of risk analyses;
- b) Operators to organize self-evaluation and risk control systems based on HACCP principles;
- c) To identify data to be recorded to ensure product traceability; to be able to trace the history, destination or origin of a product; and
- d) To guarantee the application of these measures through inspections, monitoring plans, and internal and external audits.

30. Consumer confidence can only be restored when;

- a) Food hygiene is guaranteed (by taking measures and organizing the conditions to prevent hazards and ensure that food products are suitable for consumption);
- b) Food safety is guaranteed (by using production modes that assure that the food is not harmful to health: acceptable practices and quality strategies);
- c) Efforts are taken to provide correct information to all stakeholders and the population in general (information, traceability, withdrawal, and recall procedures); and

- d) All actors in the food chain adopt an approach towards food safety that entails continuity of responsibility through the whole life cycle of the product (farm to fork).
31. Implementation of the holistic approach to food safety along the food chain requires both an enabling policy and regulatory environment at the national and international levels with clearly defined rules and the establishment of food control systems and programs at national and local levels throughout the food chain.
32. Adopting a food chain approach goes beyond ensuring the safety of food. It facilitates more generally a consumer-driven approach to agriculture and food safety systems, implying potential future shifts in the agricultural sectors.
33. Farmers may need to make new farming and technology choices to meet demands for a safe and healthy diet in response to new regulations and standards; changing global consumption patterns; improved market access and value-added opportunities, as well as respond to increasing concerns over the sustainability of existing agricultural systems.
34. Food safety principles recommend that governments should decide how best to encourage the implementation of the regulations to:
- a) Protect consumers adequately from illness or injury caused by food;
 - b) Policies need to consider the vulnerability of the population or different groups within the community;
 - c) Assure that food is suitable for human consumption;
 - d) Maintain confidence in the internationally traded food; and
 - e) Provide health education programmes which effectively communicate the principles of food hygiene to industry and consumers.

National Food Safety System

35. A country should have a national food safety system that integrates the activities of FBOs & Government. To ensure that foods and their production systems meet requirements to protect consumers against foodborne hazards and deceptive marketing practices and to facilitate trade based on accurate production description. To meet these objectives, the following principles should apply:

- i. The whole food chain approach - Food safety control measures should cover the entire production to consumption continuum (primary production, processing, storage, distribution, transport, retail, import & export);
 - ii. Application of risk-based, science-based, and evidence-based decision making - National food safety systems should be designed and operated based on risk analysis principles that are consistent with internationally accepted approaches; and
 - iii. Responsibility for food safety - Food business operators (including producers, processors, wholesalers, distributors, and retailers) have the primary responsibility for complying with requirements and ensuring safe food on those aspects of food under their control.
36. Effective national food control system requires an integrated effort from all participants to ensure food safety and fair practices in the food trade and should include:
- i. Elements that provide information to assist consumers in making informed decisions;
 - ii. Measures to ensure that the actions of business across the food chain comply with requirements;
 - iii. Procedures to ensure that governments develop science-based standards;
 - iv. Promote food safety, to ensure that competent authorities can monitor and verify compliance and take corrective and enforcement action as needed; and
 - v. Enables the development of an integrated, coherent, effective, and dynamic food control system, and to determine priorities, which ensure consumer protection and promote the country's economic development.
37. Where there are several food control agencies involved with no existing national policy or overall coordinating mechanism confusion, duplication of effort, inefficiencies in performance, and wastage of resources occur. The strategy should:
- i. Be based on multi-sectoral inputs;
 - ii. Focus on the need for food security;
 - iii. Focus on the need for consumer protection from unsafe adulterated or misbranded food;

- iv. Take into consideration the economic interests of the country regarding export/import trade;
 - v. Consider the development of the food industry;
 - vi. Consider the interests of farmers and food producers; and
 - vii. Use a risk-based approach to determine priorities for action.
38. Consumers may not receive the same level of protection throughout the country due to multiple food control agencies as may be the norm suffer from severe drawbacks, including:
- i. Lack of overall coordination at the national level;
 - ii. Frequent confusion over jurisdiction & resultant inefficiencies in performance;
 - iii. Differences in levels of expertise & resources hence uneven implementation;
 - iv. The conflict between public health objectives & facilitation of trade and industry development;
 - v. Limited capacity for appropriate scientific inputs in decision-making processes;
 - vi. Lack of coherence leading to over-regulation or time gaps inadequate regulatory activity; and
 - vii. Reductions in the confidence of domestic consumers and foreign buyers in the credibility of the system

Risk analysis for food safety

39. The application of risk analysis should be established as an integral part of a national food safety system. Implementation of risk management decisions at the national level should be supported by an adequately functioning food control system/program. Risk analysis should be:
- a) Applied consistently;
 - b) Open, transparent and documented;
 - c) evaluated and reviewed as appropriate in the light of newly generated scientific data; and
 - d) Effective communication and consultation with all interested parties should be ensured.

Pesticide in Kenya

40. The over 1,000 pesticides used in modern agricultural practice, & residues of pesticides in the food from plant origins have been an increasing concern for consumers.
41. According to the Environmental Protection Agency, pesticides present numerous health risks. Laboratory studies show that pesticides can cause health problems such as diabetes, Alzheimer's, cancer, osteoporosis, chronic lung disease, stroke, and heart disease, amongst other ailments.
42. In 2018 Kenya imported 17,803 tonnes valued at 128 Million dollars of pesticides: 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.
43. The volume of imported insecticides, herbicides, and fungicides has more than doubled within four years from 6,400 tones in 2015 to 15,600 tonnes in 2018, with a growth rate of 144%.
44. According to data on domestic food safety in Kenya. Fruits and vegetable sampled in both open-air and supermarket retail outlets were contaminated with pesticides residues some of which were beyond the allowed limits such as Dimethoate ($>0.02\text{mg/kg}$), Bifenthrin ($>0.05\text{mg/kg}$), Metribuzin (0.05mg/kg), Cyromazine ($>0.05\text{mg/kg}$), metalaxyl ($>0.05\text{mg/kg}$) and Pyrimethamil (>0.02 while mango had thiabendazole (0.031mg/kg) and contained heavy metals with Lead concentration ranging from $< 0.01 \text{ mg/100g}$ to $>0.06 \text{ mg/100g}$ compared to Cadmium levels of 0.01mg/100g . Microbial pathogenic contamination was also reported.
45. There are products on the Kenyan market, which are undoubtedly classified as carcinogenic (45 products), mutagenic (31), endocrine disrupter (51), neurotoxic (175) and many which show apparent effects on reproduction (360) of particular concern, are the active ingredients chlorothalonil, carbendazim, acephate, and permethrin which are not approved in Europe, have more than one chronic health effect and are sold in many products in Kenya. Over 33% of the active ingredients in the Kenyan market posed a profound potential impact on human and environmental health and had been withdrawn from the EU market.
46. There are factors limiting effective control of pesticide use in Kenya:

- i. Limited data on epidemiological health studies related to pesticide exposure in Kenya and toxicological effects on human, animal and environmental health;
- ii. Limited data on the status of Kenyan pollinator populations and their importance for food production;
- iii. Lack of awareness/education/illiteracy - Kenyan consumers and farmers, are not aware of the extent of pesticide use, their concentrations in food and environment and their possible effects on the environment and ecosystem services;
- iv. Limited extension and advisory services – misuse and over-use of chemicals based on agro-vets advice;
- v. Equipment use/availability (knapsack sprayers) & PPEs not available or not used – they are expensive & uncomfortable to wear;
- vi. Limited technology/knowledge of IPM strategies & risks;
- vii. Sufficient human data from epidemiological studies are often not available; and
- viii. Risk assessors frequently rely on results from toxicological studies in experimental animals and in vitro studies.

3.2.2 Prof. Raphael Wahome, the University of Nairobi (UON)

- 47. The misuse and over-use of pesticides have been blamed for the rise in cancer, respiratory, cardiovascular, and nervous system diseases in Kenya.
- 48. There is also an increase in the cases of autism, hypertension, diabetes (even in stress-free rural environments), and loss of biodiversity (especially birds) and arthropods.
- 49. The pesticides are supposed to be used under particular directions developed after extensive experimentation and testing. However, many farmers do not follow appropriate safety measures hence putting everybody at risk.
- 50. Pesticides have long-term harmful effects on humans, animals, and other organisms and the environment at large. Therefore, there is an urgent need to educate people who use pesticides or regularly come in contact with them about potential health effects and preventive measures.
- 51. The Government should withdraw the chemicals already withdrawn from the European market and impose a moratorium on their use pending independent proof from the Kenya Medical Research Institute (KEMRI) on their safety.

52. Pest Control Products Board should be compelled to present cost-benefit analysis of each of the other suspect chemicals before they can be used in Kenya. They should rely on data collected in Kenya.
53. To increase consumer awareness and to provide an informed consumer choice, all pesticide residue levels should be presented on labels, and any contraventions punished severely.
54. Parliament should make a law to award sufficient restitution to those affected by exposure to specific compounds in the pesticides.

3.2.3 Ms Esther Jepkoge Bett, Smallholder farmer from Uasin Gishu County

55. Farmers in Kenya are more exposed to chemicals at different stages. Exposure to chemicals occurs while preparing solutions during the application, post-harvest handling, and consumption.
56. Women farmers who form 80% of the labour force in the agricultural industry in Kenya are the most vulnerable and most affected when it comes to the use of chemicals.
57. While the farmers are subjected to chemical exposure at their workplace, the rest of the population is exposed to the same chemicals through food and water contaminated with pesticide residues.
58. The following factors contribute to increased unsafe use of pesticides among farmers in Kenya:
 - i. lack of knowledge on the safe use of pesticides;
 - ii. lack of Personal Protective Equipment(PPEs) recommended by the chemical companies;
 - iii. lack of education training in farming compounded by high illiteracy levels; and
 - iv. lack of support from agricultural extension workers.
59. Due to unavailability of agricultural extension officers, the smallholder farmers in Kenya rely on fellow farmers and Agrovets for information about pesticides. Majority of these farmers and Agrovets lack capacity in terms of the use of pesticides.
60. What the Kenyan farmers require is to be enlightened on the importance of alternative farming. The Government should invest in training farmers on the use of Sustainable Agriculture (SA) and integrated Pest Management (IPM).

3.2.4 Mr Njaibu Edward, Smallholder farmer from Rumuruti, Laikipia County

61. There is high pesticide use on food intended for local consumption as compared to food meant for export due to the irresponsible use of pesticides.
62. The chemicals do not only pose a significant threat to the consumers due to non-observance of PHI and risk posed by the nature of the active ingredient, such as those that are carcinogenic but also to farmers due to lack of training on safe spraying and the right procedure of disposing of debris.
63. A good number of seasoned farmers are sick and no longer able to spray for themselves due to prolonged exposure to toxic agricultural chemicals.
64. Conflicts between crop farmers and pastoralists have grown in intensity in Laikipia county, and this is attributed to the adverse effects of the toxic agricultural pesticides on the pastoralists herds.
65. Many smallholder farmers are unable to read and understand the meaning of instructions on pesticide bottles/containers, that are written in English and Chinese. The instructions are long and complicated for the farmers to understand.
66. The use of pesticides has had an adverse impact on fecundity among the agricultural farming community compared to the pastoralist communities in Rumuruti town, Laikipia County.

3.2.5 Dr Silke Bollmohr, Ecotoxicologist

67. Agriculture is one of the most critical sectors in Kenya and worldwide and essential in terms of food production.
68. Although the use of pesticides has helped humanity tremendously to combat pest problems and thereby increase food production. The active ingredients found in the pesticides have harmed humans and the environment.
69. The issue of pesticides use, and the possible effect on human and other non-target organisms has been discussed worldwide, and especially in Europe, there is an enormous awareness of the risk of pesticides; this is why pesticide use in Europe is decreasing.
70. In contrast to Europe, the pesticides import to Kenya its use increased in the last four years. The total volume had more than doubled for fungicides, herbicides, and insecticide. The value of pesticides sales to Kenya increased from US\$ 35 million in 2016 to US\$ 85 million in 2017.

71. Pesticides can be mobile. When a farmer sprays a pesticide, most of the chemicals should land on the crop. However, quite a bit falls on the soil and are washed off into nearby waterways, and transported via spray-drift, they leach into the groundwater which ends up being used by households.
72. Furthermore, pesticides can be evaporated and can be accumulated in fat tissue depending on the lipophilicity. All these characteristics are essential in a risk assessment. As a result of pesticides use and their mobility, pesticides can be found in all rivers worldwide.
73. According to the study done by Steele and Schulz from the University Landau in Germany, it was found that more than 50 % of the 11300 measured pesticides concentrations being published worldwide exceeded the maximum allowed levels in rivers to protect the aquatic system. This revealed that the risk assessment procedure does not really protect the environment. Kenya hardly has any data on pesticide concentrations in the river since it is not included in a monitoring program as it is in other parts of the world.
74. The world had witnessed a sharp decrease in insect biomass and diversity. Between 2008 and 2017, grassland and forest sites were sampled for insects, and it was found that biomass and diversity declined by 80% and the number of species by 35%. These could be because of many reasons, including climate change, urbanization, and deforestation, but agriculture attributes to most of the changes, contributing to 46% to the decrease in insect biomass and diversity.
75. Pesticides have a negative effect on soil health. They influence the bacteria composition in the soil, significantly those responsible for nitrogen-fixing; they harm earthworms and other soil life, which usually make the soil fertile and provide nutrients to the plants.
76. Biodiversity in the soil is essential for healthy crop growth. Kenya faces problems concerning soil quality. The country's maize production dropped by 25% from 44 M bags in 2018 to 33 M in 2019 because of soil degradation.
77. There is no data available in Kenya about the extent of pesticide residues on food in the local market. Although there is random monitoring of pesticide residues on exported products to ensure the MRLs are not exceeded, there is no information regarding local products.
78. The withdrawal process of chemicals from the market is determined by whether they cause unacceptable harm to the environment or human health and whether there are enough data to prove that there is a risk or there is not enough data provided by the industry.

79. In Kenya, there are 230 active ingredients registered for horticultural use. One hundred thirty-four (134), are also approved in Europe, and 19 are not found in the database, which could mean that they are not relevant for European agriculture, since either the appropriate crops are not growing there or the relevant pests are not occurring there.
80. However, 77 active ingredients are withdrawn from the market. Meaning they have been in use for specific crops and pests, but during re-registration, they had been removed. Seventy-seven active ingredients account for 33% of all active ingredients. These translate to 329 products, which contain active ingredients withdrawn from the European market.
81. In terms of environmental issues, 317 products are highly toxic to fish, and 231 highly toxic to bees' this accounts for 37% being highly toxic to fish and 27% being highly toxic to bees.
82. This number might even be higher, as these tests are usually done with the European honey bee and not with the pollinators occurring here in Kenya (like African honey bee or stingless bee), which has been shown to be more sensitive than the European one.
83. Kenya cannot perform a proper risk assessment with these data due to lack of exposure concentrations, lack of monitoring data for the environment, and lack of data on fish populations and pollinators. This is a massive gap in the proper regulation of pesticides.
84. There are 45 products on the Kenyan market, which are undoubtedly classified as being able to cause cancer; 31 products can cause changes in human genes, which also leads to cancer; 51 products can interfere with the human hormone systems which can cause tumours or congenital disabilities; there are 175 products that are toxic to the nervous system which can lead to memory loss, headaches, impaired vision and are being linked to Alzheimer's disease; and 360 products with apparent effects on reproduction.
85. The following are some of the properties of active ingredients of great concern that are sold in Kenya:
- a) **Chlorothalonil** - is an organochlorine fungicide with multiple Mode of Actions, which is why farmers like to use it, as it is unlikely that it creates fungal resistance. That's why it is also often used in Résistance management. It is registered in 20 products and is mainly used to control blight, rust, and downy mildew on various vegetables. In Europe, it was withdrawn from the list of authorized pesticides. Among the removed active ingredients, it's the most sold pesticide to Kenya with a value of 4.5M dollars.

A review by EFSA recommended the withdrawal, as the approval criteria do not seem to be satisfied for a wide range of reasons:

Effects on the environment:

- i. The risk to the aquatic system with high toxicity towards fish and amphibians with relatively high persistence in waterways;
- ii. Chlorothalonil and its breakdown products have been found in groundwater in many European countries, not only in countries with sandy soil; and
- iii. It is very toxic to bumblebees, and there is a gap in testing since wild bees have not been tested yet (which are often more sensitive).

Effects on human health:

- i. There is a proven effect on the reproduction system. Test on mice showed inhibition of ovary development and affects spermatogenesis.
- ii. Breakdown product causes DNA damage.

Chlorothalonil was classified as category one (1) carcinogen from the European Chemical Agency (ECHA). This category is set by the International Agency for Research on Cancer (IARC): Category 1 means: The substance is carcinogenic to humans. This category is used when there is sufficient evidence of carcinogenicity in humans.

- b) **Permethrin** - Permethrin is a synthetic pyrethroid insecticide mainly applied to grains for post-harvest storage (grain borer but also as a foliar spray to control termites and stalk borer in maize). In Kenya, it is sold in products like Actellic Super Dust, Ambush. It was withdrawn in Europe in 2003.

With regards to the environment, permethrin poses a risk to the aquatic system (fish), and they are highly toxic to various bees and other beneficial insects.

With regards to human health, it is classified as a likely human carcinogen (liver and lung tumour), and new research has shown that permethrin can cause potential carcinogenicity to human nasal mucosal cells

- c) **Carbendazim** - It is a broad-spectrum fungicide registered for the control of rust, mildew, blight and other fungal diseases in various vegetables and staple crops. It is the breakdown product of benomyl, which had also been withdrawn in Europe. It is

registered in 17 products and is imported to Kenya for a value of 0.44M dollars. In Europe, it was removed in 2011.

Effects on the environment

Carbendazim significantly reduces earthworm weight, and earthworms show avoidance response at field relevant soil concentrations.

Effects on human health

- i. Benomyl (and metabolite carbendazim) has been known to cause adverse effects on the male reproductive systems, including decreased testicular and epididymal weights and reduced epididymal sperm counts and fertility in the rats.
 - ii. Carbendazim is a potent endocrine-disrupting substance
 - iii. Carbendazim is classified as a likely human carcinogen (liver tumour).
 - iv. Carbendazim is capable of disrupting chromosome unfolding, can cause infertility (effect on reproduction systems), and can cause malformation in the fetus at very low doses.
- d) **Dimethoate** – it is an organophosphorus insecticide, and it is registered for use on coffee, potatoes, cotton, tobacco. It's still registered in 13 different products in Kenya and is the second-highest value in import with 2.41M dollars. It was withdrawn from Europe.

Effects on human health

- i. Dimethoate is possibly carcinogenic
- ii. Positive gene mutation effects were observed in bacterial and mammalian cells in vitro with dimethoate
- iii. Genotoxicity was observed associated with oxidative damage in the liver and kidney of mice, and dimethoate also acts on the antioxidant status of the liver and brain in rats.
- iv. Dimethoate is neurotoxic as other organophosphates.
- v. It is also suspected to be an EDC, possibly acting on the thyroid in mammals and wildlife, and it has a negative impact on reproductive performance of male mice.

3.2.6 Pest Control Products Board (PCPB) and Kenya Plant Health Inspectorate Service (KEPHIS)

86. While appearing before the Committee on Monday 11th November 2019, Pest Control Products Board (PCPB) and Kenya Plant Health Inspectorate Service (KEPHIS) submitted, as follows;

3.2.6.1 Pest Control Products Board (PCPB)

87. Ten years ago moderate pesticide application could suffice, but this was no longer the case, Farmers in Kenya have opted to use pesticides because of invasion of new pests such as the Fall Armyworm and Maize Lethal Necrosis disease and demands from the export markets.
88. The export markets, such as the European Union (EU) and Australia, prohibit the exportation of commodities with pests. Their presence leads to the interception of such commodities and may lead to loss of market.
89. Also, different climatic conditions determine pest control strategies. The EU is a temperate region (winter/summer), where a plunge in temperatures during winter makes conditions unfavourable for pests, thereby reducing their population; in contrast tropical conditions in Kenya favour proliferation of pests and diseases throughout the year. This requires different pest control strategies, including the use of pesticides.
90. The increase in the importation of pesticides in Kenya has generally followed the agricultural production. There has been an average growth rate of 4.14% per annum in the quantity of pesticide imported over the last 10 years which is attributed to the progressive intensification of agricultural production to meet the national demands for food, exports and the emergence of new pests.
91. However, during the period between the financial years 2014/2015 to 2018/2019, there was a decrease in the quantity of pesticide imported from 16.3 tonnes to 14.2 tonnes respectively representing a 12.8% decrease.
92. But, In 2017/2018 the volume of pesticide (15.81 tonnes) imported was slightly higher compared with 2018/2019 (14.2tonnes) representing a 10.18% increase, this was attributed to

the emergence of new pests in the country such as the Fall armyworm in maize and *Tuta absoluta* in tomatoes.

93. To ensure that only products that have undergone registration enter the Kenyan market, all imports and exports of pesticides are approved in accordance with the Pest Control Products (Importation and Exportation) Regulations, Legal Notice No. 146/1984, and Pest Control Products (Importation and Exportation) (Amendment) Regulations, L. N. 125/2006.
94. The Pest Control Products Board (PCPB) also utilizes international guidelines, including the Food and Agriculture Organization of the United Nations (FAO) Code of Conducts for Pesticide Management, for registration and post-registration surveillance of Pest Control Products (PCPs).
95. In Kenya, during the process of registration of pesticides, extensive reviews of technical/scientific data are conducted to determine the safety of active substances. Evaluation reports from other countries that conduct risk assessments are also considered, such as Canada, Australia, the US, and the EU. There are similarities in active substances approved in Kenya, the USA, Canada, and Australia. The difference in evaluation between these four countries and the EU is the criteria for risk assessment.
96. The EU Regulation (EC) 1107/2009 marked a considerable shift in the pesticide evaluation approach by introducing a 'hazard-based' evaluation (previously EU followed the 'risk-based approach'), which means that each active substance is first evaluated for its intrinsic hazardous properties. The regulation requires the use of 'cut off' criteria, i.e., if a substance shows hazardous properties against one of those criteria, the evaluation process ends at the hazard identification stage, and a risk assessment is not performed.
97. Risk assessment considers the hazard properties of a product and the likelihood of harm occurring in case of exposure with a product. PCPB uses risk-based assessment and takes into account all relevant scientific information when determining the likely risk before registering a product. The evaluation determines whether a product used according to label instructions could result in a level of exposure that poses an unacceptable risk to humans and the environment.
98. The use of hazard-based evaluation has led to varying decisions on approvals of pesticides in the EU compared with other countries that use risk-based evaluation. Many products that are not approved in the EU are approved in the USA, Canada, Australia, India, Japan and many

- other countries that use risk-based evaluations, which take into account the hazard properties of a product and the likelihood of exposure.
99. In July 2019, Australia, Brazil, Canada, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Honduras, Malaysia, Nicaragua, Panama, Paraguay, Peru, United States, and Uruguay raised concerns to the World Trade Organization (WTO) on EU implementation of hazard-based criteria as non-tariff trade barriers.
100. PCPB is the designated National Authority in conventions related to pesticides and implements the decisions arising from Multi-lateral Environmental Agreements, including Rotterdam, Stockholm, Basel, Montreal, Minamata Conventions.
101. Kenya has banned/restricted some pesticides in compliance with the Conventions. Since the year 2003, PCPB has made various efforts to register safer pest control products such as biopesticides (microbial, macrobials, and biochemicals). Ninety (90) Products currently registered for use in crop protection are biopesticides. Post-registration surveillance is conducted routinely to ensure compliance with set specifications.
102. The regulation of Pest Control Products in Kenya is benchmarked with FAO/WHO International Code of Conduct on Pesticide Management. For example, Article 3.3 states, "Governments should ensure that the requirements of relevant international agreements are followed." Kenya is a signatory to various international conventions on pesticides, for example, Basel, Stockholm and Rotterdam conventions. PCPB has been implementing relevant decisions in Conventions on Pesticides.
103. To date, Kenya has banned or severely restricted the importation and use of over 30 products. PCPB encourages the registration of low-risk pesticide products such as biopesticides through the provision of guidelines that make it easier for the introduction of such low-risk pest control products. To date, there over ninety (90) registered biopesticides for use in Kenya based on microbials, microbial and biochemicals. This is in line with WHO and FAO International Code of Conduct *Article 3.10 that encourages and promotes research on and the development of alternatives to existing pesticides.*
104. PCPB has come up with several initiatives to address the emerging issue in the pesticides industry, such as :

- i. It initiated the construction of a residue laboratory in 2018, which unfortunately stalled due to a lack of funds. The stalled PCPB residues laboratory has a section dedicated to the monitoring of pesticide residues in food commodities, water, and soils. Once completed, it will offer various services including residue analysis (in food, water, soil, air), inorganic chemical analysis, organic chemical analysis (chemical identity, chemistry), formulation quality analysis, microbial assay, conduct training to build capacity and strengthen food control systems.

PCPB intends to use the laboratory to commission a routine monitoring plan of pesticide in food destined for the local market and environment; the data obtained will be used to make an informed decision on the approval of pest control products.

- ii. Prepared the Pest Control Products Bill 2019, which is meant to address emerging issues affecting consumers, users, and the pesticide industry. The proposed Pest Control Products Bill 2019 provides the object and purpose of the Act under Section 3 to safeguard human health and the environment from risks associated with pest control products.
- iii. The PCPB is seeking its categorization as a State Corporation. This categorization must be fast-tracked for the Board to attract and retain competent personnel.
- iv. PCPB partnered with the Agrochemicals Association of Kenya and Kenyatta National Hospital to operationalize Toll-Free Emergency Numbers (24 hours) (0800720721 & 0800730030) located at Kenyatta National Hospital. These Toll-Free emergency numbers are included on all Pesticide labels for use by consumers. However, there is a need to strengthen the human and physical infrastructure capacity at the Poison Information Centre.

3.2.6.2 Kenya Plant Health Inspectorate Service (KEPHIS)

105. Kenya Plant Health Inspectorate Service is a State Corporation under the Ministry of Agriculture Livestock and Fisheries (MOALF) established by the KEPHIS Act No.54 of 2012. It has been in operation since 1997, having been established under the State Corporations Act (CAP 446) pursuant to Legal Notice No. 3 18th October, 1996.
106. KEPHIS is mandated to regulate all matters relating to plant health, seeds, and plant varieties and to be the principal advisor to the Government on issues relating quality of agro-input, planting materials, and produce, among others.
107. KEPHIS undertakes inspection at points of exit to certify against Phytosanitary requirements as guided by International Plant Protection Convention.
108. KEPHIS has invested in capacity building of the value chain through; facilitating traders who have been registered by Horticultural Crops Directorate (HCD) only, training on requirements for export, sampling and testing of products before issuance of a certificate of export and sampling at points of exit to verify and gauge compliance levels.
109. To ensure that Kenya's exporters comply with the MRLs regulations of the European Union (EU), KEPHIS carries out pesticide residue monitoring through a periodic sampling of agricultural produce and testing for MRLs, audits, training and awareness creation.
110. KEPHIS samples typical agricultural produce in the local market, which are critical in giving information in the pattern of chemical use in Kenya. The focus on other commodities is because most of the farmers growing peas and beans for export also grow other crops in the same piece of land for subsistence or rotational crops. Getting information about pesticide residues in these other crops could shed light on the likelihood of non-compliance for export crops whenever a banned molecule tests positive in the non-export crop.
111. KEPHIS has established analytical chemistry laboratories that analyze agricultural inputs (soil, fertilizer and formulation, chemical contaminants in agricultural produce (pesticide residue, heavy metal, mycotoxins) and environmental contaminants (Persistence chemical in the environment). The laboratory can analyze about 300 active ingredients specific to pesticides.

112. KEPHIS analytical laboratories are accredited by the South African National Accreditation System (SANAS). Accreditation to this standard is an important international recognition of the competence of the KEPHIS laboratory to analyze pesticide residue in agricultural products.
113. The operations of the laboratories are guided by Standard Operating Procedures (SOPs) and are supported by the Laboratory Information Management Systems (LIMS). KEPHIS also participates in proficiency and inter-lab testing to enhance its competitiveness in the market.
114. KEPHIS through various means has enhanced capacity of its stakeholders by:
1. Training of all exporters before approval for shipment is allowed;
 2. Profiling of exporters on compliance levels to support determination basing on risk to dictate the nature of effort as regards inspection, monitoring surveillance and capacity building to these clients;
 3. Regular interaction with stakeholders through workshops and meetings to inform them of new Phytosanitary export market requirements and train them on means of complying with existing Phytosanitary export market requirements;
 4. Training through the Centre of Phytosanitary Excellence (COPE) in various modules that support compliance to market requirements for export of such product;
 5. Training and information sharing through forums like field days, shows and exhibitions on need and means for compliance to export market requirements; and
 6. Blocking of non-compliant traders through the export certification system whenever export market requirements are not met so as to continuously safeguard the market and reduce interceptions.
115. In March 2019, KEPHIS was appointed the Agent and Public Analyst of the Public Health Department of the Ministry of Health with respect to the analysis, certification and enforcement of the pesticide residue standards with regard to fresh produce presented for sale in the Kenyan market
116. In pursuance to this appointment, KEPHIS had developed a monitoring program that started in June 2019 and is yet to provide its first annual report with regard to the new appointment. This program is envisaged to monitor pesticide residues for imports and local agricultural produce.

117. KEPHIS requests for the formalization of the appointment of KEPHIS as the Public Health Analyst through a gazette notice by the Cabinet Secretary for Health appointing KEPHIS as the Public Health Analyst; this would be in line with the provisions of the Food and Drugs Act CAP 254 Laws of Kenya.
118. In order for KEPHIS to implement the above (number 1) function, high investment is required in infrastructure (satellite laboratories, equipment, and consumables) and staffing levels to ensure effective monitoring is undertaken through the counties to provide data on the food safety status in the country.
119. KEPHIS requires above 40 (forty) million per financial year to run the program annually. This cost does not, however, include the costs of initial investment of infrastructure and staff emolument. KEPHIS recommends an increase in its annual budgetary allocation to allow the implementation of the said function.
120. The Government was in the process of drafting the food safety bill on the regulation of food safety in local foods. The Bill will further strengthen law enforcement agents when dealing with individuals who deliberately present pesticide-contaminated food and produce for sale. This will go a long way in strengthening the national food safety control systems as implemented by various regulatory organs for access to safe food by Kenyan citizens. Equally, the law will provide for a framework for prosecuting the individuals contravening the law in the respective mandated institutions.

3.2.7 The Agrochemicals Association of Kenya (AAK)

While appearing before the Committee on Tuesday 4th August 2020 via a virtual meeting, the Agrochemicals Association of Kenya (AAK) submitted as follows:

121. The Agrochemicals Association of Kenya (AAK) which is the umbrella organization for manufacturers, importers, formulators, distributors and users of pesticides in Kenya was established in 1958.
122. Its primary objective is product stewardship which includes training farmers in the responsible use of the pest control technologies and protection of the environment, in addition to ensuring that all suppliers follow the code of conduct that ensures self-regulation in the industry.

The need for pesticides

123. On average, crop pest and diseases contribute to about 30-40% loss in yield. It had been estimated that Kenya experiences an annual loss of between 170.2 to 203 million US\$. This is attributed to three (3) invasive alien pest species in maize, namely; *Chilo partellus* (the spotted stem borer); Maize Lethal Necrosis Disease (MLND) and *Parthenium hysterophorus* (an invasive weed).
124. In horticulture, *Tuta absoluta*, also a new pest in the country, is estimated to cause yield losses of approximately 46 –52 million US\$. Post-harvest losses compound the problem.
125. A recent analysis of data from Sub-Saharan Africa showed that 6 –26% of maize, 11 –34% of tomato and 7 –22% of potato are lost post-harvest. Such losses would be difficult to mitigate without the use of effective and efficient pest control products.

Registration/approval of pesticides in Kenya: The process and requirements

126. In Kenya, pesticides are regulated by the Pest Control Products Board (PCPB). Rigorous risk assessment is conducted on each product by the regulator before being allowed to be availed for the introduction and use in the country.
127. PCPB is guided by international principles of pesticide regulation, including the Food and Agriculture Organization of the United Nations (FAO) guidelines and toolkit. FAO has been facilitating training to PCPB staff on registration.
128. In addition, PCPB attends JMPR and Codex meetings as Designated National Authority for pesticides. Data requested for registration of pest control products are as per internationally accepted protocols such as OECD guidelines. PCPB requires all applicants to submit specific data to assess the safety of the pesticide before approval for registration. These include the Toxicological, Environmental fate, Ecotoxicological and Residue data for the active substances and formulated products. The requirements are clearly outlined in the PCPB Act (Cap 346) and subsidiary regulations.
129. Toxicological data package evaluated by PCPB is aligned to the FAO Guidelines on Data Requirements for Registration of Pesticides. Data on the toxicology of both the active substance and the formulated product enable an assessment of the safety. They include; Acute toxicity studies—Acute oral LD50 (mg/kg, rat/rabbit), Acute dermal LD50 (mg/kg, rat),

Inhalation LC50(mg/l hour, rat), Skin irritation (rabbit), Eye irritation (rabbit), Skin sensitisation (guinea pig).Long term/chronic studies–Reproduction, Sub-chronic toxicity 90-day NOEL (mg/kg/day), Chronic toxicity NOEL (mg./kg/day), Carcinogenicity (lifetime) NOEL (mg/kg/day), Neurotoxicity NOEL (mg/kg/day), Teratogenicity NOEL (mg/kg/day), Mutagenicity /Genotoxicity, Metabolism (rat). The products which show positive chronic toxicity at the treatment rate are not eligible for registration in Kenya.

130. The FAO/WHO International Code of Conduct on Pesticide Management provides voluntary standards of conduct for all entities engaged in or associated with the management of pesticides throughout their life-cycle, from production to disposal. It complements legally binding instruments such as the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, the Stockholm Convention on Persistent Organic Pollutants and the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, and voluntary mechanisms such as the Strategic Approach to International Chemicals Management (SAICM).
131. The Code of Conduct is designed for use within national legislation as a guiding framework for regulation and enforcement of effective management of pesticides. The agrochemical industry adheres to the acceptable practices by ensuring the supply of quality products that are well labelled, proper advertising, conducts safe use and handling training for distributors and stockists of plant protection products among others.

Increase in the quantity of imported pesticides in Kenya

132. The Geographical position of Kenya along the tropics, coupled with climate change, favours the proliferation of pests and diseases all year round. Transboundary movement of pests has also led to severe epidemics with catastrophic consequences.
133. Among the most recent include the larger grain borer, Tuta absoluta, Maize lethal necrosis disease, the fall armyworm and new strains of cassava mosaic disease. The growth in the importation of pesticides increases with demand due to pest and disease pressure and particularly epidemic events. A typical example was from 2016 when the Fall Army Worm was reported, and it caused a devastating effect on the maize farms.
134. In 2017, FAW was reported in 43 counties and caused 20% maize yield loss of 1.05million bags with a value of KSh. 3.15 billion (MoA, 2017). In 2018, after the systemic intervention

by the Government with pesticide for FAW, the loss was reduced to 5% (MoA, 2018). In most of the counties affected by the FAW, application of pesticides on maize has traditionally not been common, particularly among subsistence farmers. However, the infestation necessitated insecticides spraying. Expansion of the agricultural sector, and significantly an increase in commercial horticulture, had resulted in increased demand for pesticides¹².

135. The increase in farming activities is also reflected in the increase in production. For example, in 2018, there was a significant increase in exports from Kenya to; United Arab Emirates (by Kshs 8.6 billion), India (by Kshs 3.1 billion), Netherlands (by Kshs 2.5 billion), Thailand, (by Kshs 2.3 billion) and Saudi Arabia (by Kshs 2.2 billion). This was mainly for tea and horticulture exports.
136. Shortage of labour in agricultural fields (e.g. as more and more young people venture into non-farming activities, such as motorcycle taxis and other services, and the Government's push for 100% transition from primary to secondary schools) resulted in increased use of herbicides since hand weeding was no longer tenable and use of family labour had vastly decreased.
137. The change in the quantities of pesticides imported from year to year is highly variable and is influenced by several factors. Key among them include prevailing climatic conditions, carry-over stocks, commodity prices, government policies such as taxation, pest outbreaks, among others. A reliable assessment of the general trend in the number of pesticides imported may be estimated by analysis of a wider span of time such as 10 or more years

The safety profile of active ingredients registered in Kenya

138. Before a pesticide product is registered, a registrant or the owner of the product is required to provide data or studies as per internationally accepted guidelines indicating that the risk assessment was done and the pesticide was shown to pose no chronic toxicities.
139. Besides, the registrant of the pesticide should prove that the product had been approved for use in some of the countries with reputable registration systems such as the US, EU, Canada, Japan, among others.
140. The Route to Food Initiative in its publication had given a list of active ingredients, most of which are in the process of being removed in the EU. However, critical investigation on the list shows that the active ingredients were still approved for use in most countries with the rigorous pesticide approval process. For example, whereas Chlorothalonil, Clodinafop and

permethrin are marked for withdrawal in the EU, they are still approved for use in many countries, including the US.

141. It is prudent to report that rigorous risk assessment of each pesticide product is conducted by Pest Control Product Board following the international guidelines. As noted in the status of approval in EU versus other countries globally, approval status of the products in EU changed due to shifting in the evaluation process as per the EU guideline 1107/2009 which do hazard assessment and not a risk assessment. It is important to note that the EU approval process had been contested by WTO members as a barrier to trade.

Human health and environmental impact data considered before product registration in Kenya

142. During pesticide registration studies are provided by the manufacturer to PCPB, as per the requirements of the PCP Act. The dossier includes;

- i. Chemistry and purity profile of the active substances and formulation of the pesticides;
- ii. Toxicological studies (acute & chronic toxicity) of both active substance and the formulation ;
- iii. Fate and behaviour of the product in the environment, ways of degradation, degradation products in soil: Major metabolites, DT50 (days), Mobility of active ingredient, Adsorption/desorption, Mobility of metabolites;
- iv. Behaviour, ways of degradation, degradation products in water: Major Metabolites, DT50 (days), Surface, Groundwater;
- v. Behaviour, ways of degradation, degradation of products in the air. Rate and Route of degradation in the air (for fumigants and other volatile products); and
- vi. Effects on non-targets: Birds, Fish, Daphnia, Algae, Bees, Earthworms and Soil micro-organisms.

143. Data on human and environment are generated under Good Laboratory Practices (GLP) conditions and are universally accepted in all jurisdictions globally. Study protocols are internationally prescribed, such as the OECD Guidance Documents for Pesticide Registration.

Mutual acceptance of data is an international best practice, provided that specific criteria are met (OECD Mutual Acceptance of data; FAO guidelines on data requirements for registration of pesticides):

- i. If the studies have been conducted according to internationally agreed test guidelines and principles;
- ii. The studies have been conducted in test facilities that are accredited for GLP; and
- iii. Representative environmental conditions.

144. By reducing duplication, mutual acceptance of data generates significant cost saving and reduces the number of animals used in testing. For this reason, it is not necessary to generate these data locally. Biological efficacy data is, nevertheless, always generated locally. Efficacy trials are only allowed after all other data have been submitted.

Monitoring of pesticides in the environment

145. Data on environmental fate and effects are required before a product is registered in Kenya. PCPB may refuse to register a pest control product if in its opinion the use of the pest control product would lead to an unacceptable risk or harm to public health, plants, animals or the environment (PCPB Cap 346, Article 10(d))
146. Environment monitoring of toxic and hazardous substances is already prioritized in the National Environmental Policy (2013). Monitoring for environmental contamination is a mandate of the National Environment Management Authority (NEMA) under the Environmental Management and Coordination Act (EMCA), 8 of 1999.
147. Some data exists to indicate the level of contamination of the environment with pesticides. For example, 164 environmental samples were submitted to KEPHIS in 2017, 14 for analysis of Organophosphates, Organochlorines, Pyrethroids, Polychlorinated Biphenyls (PCBs) and Triazines. The environmental samples analyzed included fish, water, sediment, soils, fertilizers and wheat samples. No contaminants were detected in all the submitted samples.

Food safety and pesticide residues

Protection of users

148. AAK, through its stewardship program in conjunction with development partners and Crop Life in 2014, came up with a concept of Spray Service Providers (SSP) where individuals were trained to offer private spray services and other advice to farmers.
149. This service reaches more than 7,000 farmers regularly. As of October 2018, 862, SSPs had been deployed in the 12 Counties. This is intended to professionalize the service, and thereby achieve greater protection for operators and the environment.
150. Stewardship activities also include establishing of Empty Pesticide Collection Centres and clearance and safe disposal of obsolete stocks. So far, 252 Empty pesticide collection centres in 8 counties (Trans-Nzoia, Nyeri, Embu Nakuru, Taveta Kirinyaga, Makueni and Laikipia) had been established. AAK Kenya is currently establishing more centres in other counties.
151. Pest Control Operators and Agrodealers are licensed and inspected by the Pest Control Products Board after fulfilling certain conditions. The same agro-dealers are also trained by AAK on the code of conduct and responsible use of pesticides.

Epidemiological studies in Kenya

152. Most manufacturing companies and large farms already have medical records on the personnel working on their premises. PCPB requires data of medical surveillance on manufacturing plant personnel during the dossier submission before a product is registered.
153. Regarding the allegation that pesticide use had led to an increase in diseases such as cancer in Kenya. According to Kenya, STEPwise Survey for non-communicable diseases risk factors in 2015, risk factors for cancer in Kenya included genetic predisposition, behavioural risk factors (mainly smoking, alcohol use, inadequate physical inactivity and poor diet), environmental carcinogens (e.g. aflatoxin and asbestos), and infections (e.g. HPV in cervical cancers, Hepatitis B and C in liver cancers, H. Pylori in stomach cancers, HIV in Kaposi Sarcoma).
154. In a 2002, Dr Geoffrey Mutuma, former Chief Government Pathologist, confirms that data on Cancer incidences in Kenya had been irregularly collected making it challenging to analyze long term trends and relate them to specific causes.
155. Many types of epidemiological studies can be performed, such as case-control studies investigating exposure to different factors; or ecological studies that could be used to relate disease rates and exposure to certain factors, among others.

156. Recent media reports have brought to light a significant number of factors that are contributing to pollution in the country, including contamination of river water with industrial effluent, raw sewerage, etc. Air pollution from industrial activities and burning of wastes in the open in dumpsites are also among many other sources of pollution with potentially harmful impacts on the health of communities.
157. Since epidemiological studies require significant investment, the study question must be clearly defined, and the studies should be appropriately designed to address the specific objectives. In particular, the design should enable the isolation and a fair estimation of the magnitude of impact attributable to single factors in disease development.
158. The Government has the primary responsibility to safeguard the health of communities and should trigger any necessary epidemiological studies, including where pesticides are suspected to be part of the etiology. The agrochemical industry in Kenya would be willing to partner with the relevant authorities in such initiatives since the outcomes would be relevant in directing stewardship efforts.

Blanket banning of pesticides in Kenya

159. Blanket banning of pesticides by hazard without due consideration of risk assessment will not help, especially in the tropical conditions and areas experiencing an invasion of pests and diseases throughout the year.
160. Severe limitation on the number of products available without all the necessary considerations will make sustainable use of plant protection products difficult, particularly managing the development of resistant pest populations.
161. A ban on the use of pesticides that are needed in order to grow food will result in the following ripple effect:
- i. Threat on food security –insufficient production due to the effect of crop diseases and pests;
 - ii. Expensive food which will make it not accessible to the majority of the Kenyan population;
 - iii. Reduced farmer income caused by insufficient production will have a high impact on their livelihoods;

- iv. Reduced foreign exchange as fresh produce export will be affected;
- v. Job losses –manufacturers will have to let go of some of their employees; and
- vi. The Job losses will lead to reduced taxes—from PAYE to tax earned from the purchase of goods and services due to the effect of loss of income.

CHAPTER THREE

4.0 COMMITTEE OBSERVATIONS

162. The Committee, in accordance with its mandate and in accordance with all the submission both written and orally presented before it, made the following observation.

- (i) According to data on domestic food safety in Kenya, fruits and vegetables sampled in both open-air and supermarket retail outlets have a higher level of pesticide residues than the set Maximum Residue Levels (MRLs).
- (ii) The increase in the use of pesticides in Kenya is as a result of the progressive intensification of agricultural production to meet the demands of both local and export markets and invasions of new pests, such as the Fall Armyworm and Maize Lethal Necrosis disease.
- (iii) A significant percentage of farmers in Kenya are small scale farmers, and they operate within a lax regulatory environment; this makes it hard to regulate the sector.
- (iv) The levels of knowledge on pesticide use, pesticide hazard control, and safety behaviour are limited due to the fact that majority of small scale farmers in Kenya have are either uneducated or have limited training in farming.
- (v) Information and training on the proper use of pesticides and adverse effects of pesticides on human health and the environment often lack within the farming community hence the misuse of these products.
- (vi) Among the farming community in Kenya, there are cases of increased prevalence of cancer, acute and chronic respiratory diseases, and even mental behavioural and neurological disorders related to agricultural chemical exposure.
- (vii) The gaps in the existing legislation concerning pesticides have encouraged misuse and abuse of pesticides in Kenya; this has encouraged the use of smuggled, banned, and even obsolete products. The Government should move with speed and finalize on the Agrochemical policy, which would guide on the use and management of agrochemicals in Kenya and also fast-track the Pest Control Products Bill, 2019 that will address emerging issues affecting consumers, users and the pesticides industry.
- (viii) The PCPB has not been effectively discharging its duties as per its mandates as it is yet to be categorized as a State Corporation. It is essential that this categorization is fast-tracked for the Board to attract and retain competent personnel.

- (ix) The delay in construction of PCPB residue laboratory denies the country the essential services such as residue analysis (in food, water, soil, air), inorganic chemical analysis, organic chemical analysis (chemical identity, chemistry), formulation quality analysis, microbial assay, training of younger generation to build capacity and strengthen food control systems.
- (x) There is a lack of information and awareness on the different Acts, policies, and regulations about registration, import, disposal, manufacture, and distribution of pesticides among the pesticide importers, distributors, retailers, and farmers.

5.0 COMMITTEE RECOMMENDATIONS

In response to the prayers sought by the Petitioner', the Committee recommends that:

- (i) That within ninety (90) days of the tabling of this report, the Ministry of Agriculture, Livestock, and Fisheries through Pest Control Products Board (PCPB) to immediately establish the regulations on distribution and retailing of pesticides to ensure that only licensed and registered persons operate agro-vets outlets in the country.
- (ii) That within ninety (90) days of the tabling of this report, the Ministry of Agriculture, Livestock, and Fisheries in consultation with Pest Control Products Board (PCPB) and the Kenya Bureau of Standards (KEBS) and other relevant agencies to undertake an analysis of products in the Kenyan market with a view of banning products that are carcinogenic, mutagenic, endocrine disruptors and neurotoxic.
- (iii) That within ninety (90) days of the tabling of this report, the Ministry of Agriculture, Livestock, and Fisheries in consultation with the Ministry of Health and other relevant agencies including Pest Control Products Board (PCPB) and the Kenya Bureau of Standards (KEBS) undertake an analysis of harmful and toxic pesticides and recommend their withdrawal from the Kenyan Market as per the relevant laws.
- (iv) The National Treasury in financial year 2020/21 should urgently enhance funding to the regulatory agencies such as the Pest Control Products Board (PCPB) and Kenya Plant Health Inspectorate Service (KEPHIS) tasked with regulating and monitoring the use of pesticides in Kenya to increase data collection on the level of pesticides in food products in the market.
- (v) That, Departmental Committee on Agriculture, Fisheries and cooperatives to initiate amendments(s) to the Pest Control Act, 2013 to make it mandatory for the annual publication of pest control products that have been withdrawn or otherwise banned from the Kenyan Market by the Pest Control Board (PCPB).
- (vi) That, Departmental Committee on Agriculture, Fisheries and Cooperatives to initiate amendments(s) to Pest Control Act, 2013 provide for the Pest Control Board (PCPB) accesses data on environmental and human health impacts during the registration and re-registration process of products.

- (vii) All Agrochemicals companies should ensure proper use of their products through adequate labelling using the widely used national language and take responsibility where harm occurs due to lack of sufficient information.
- (viii) That, the Pest Control Products Board (PCPB) must ensure that products banned in other jurisdiction are not in use in Kenya.

OTHER RECOMMENDATIONS

- (ix) That the Ministry of Agriculture, Livestock, and Fisheries should enhance the laboratory analytical capacity at the Pest Control Products Board (PCPB) by increasing the number of technical personnel through an increase in budgetary allocation, to ensure that adequate evaluation of pest control products is done.
- (x) That the Ministry of Agriculture, Livestock and Fisheries should speed up the completion of the Residue Laboratory at the Pest Control Products Board (PCPB) which will support residue analysis (in food, water, soil, air), inorganic chemical analysis, organic chemical analysis (chemical identity, chemistry), formulation quality analysis, and microbial assay through additional budgetary allocation and the National Assembly provide appropriate funds for the same in the FY 2020/2021.
- (xi) That within six (6) months of tabling of this report, the Ministry of Health together with the Ministry of Agriculture, Livestock and Fisheries and other relevant research agencies should conduct epidemiological studies in areas where pesticides are widely used in Kenya to determine the level of use of harmful pesticides and disease burden caused. This study shall guide in the formulation of an informed national policy on pesticide management and use.
- (xii) The Ministry of Agriculture, Livestock, and Fisheries and County Government should enhance and promote the training of farmers/users on acceptable agricultural practices and use of personal protective gears to mitigate against any adverse health and environmental effects.
- (xiii) The Ministry of Agriculture, Livestock, and Fisheries together with County government, in conjunction with other relevant stakeholders, including the media, should immediately undertake public awareness campaigns to sensitize the public on the

responsible use of the pest control products.

- (xiv) The Ministry of Agriculture, Livestock, and Fisheries, in collaboration with the Ministry of Education, Science, and Technology, should develop and operationalize a curriculum on pesticides in the education system at all levels.
- (xv) The Ministry of Agriculture, Livestock and Fisheries, and the Ministry of Information Communication and Technology should develop and operationalize an Information System for the collection of data on pesticide use.
- (xvi) The Ministry of Agriculture, Livestock, and Fisheries and County Government should immediately consider introducing Spray Service standards as the concept would enhance the professional application of pesticides.
- (xvii) The Ministry of Health should offer budgetary and technical support to the Poison Information Centre at Kenyatta National Hospital (KNH). The Centre assists in the management of poisoning cases in the country provide information to the public on the prevention of poisoning and maintaining records that support policy decisions.

THE NATIONAL ASSEMBLY



**DEPARTMENTAL COMMITTEE ON HEALTH
ADOPTION SCHEDULE**

Adoption of the Committee on Health Report the Public Petition (No. 70 of 2019) Regarding Withdrawal of Harmful Chemical Pesticides in the Kenyan Market

	NAME	SIGNATURE
1.	Hon. Sabina Chege, MP – Chairperson	
2.	The Hon. Joshua Kutuny, MP – Vice Chairperson	
3.	Hon. (Dr.) Eseli Simiyu, MP	
4.	Hon. (Dr.) James Nyikal, MP	
5.	Hon. (Dr.) Mohamed Dahir Duale, MP	
6.	Hon. (Dr.) James Kipkosgei Murgor, MP	
7.	Hon. Alfred Agoi Masadia, MP	
8.	Hon. Muriuki Njagagua, MP	
9.	The Hon. Joyce Akai Emanikor, MP	
10.	Hon. Prof. Mohamud Sheikh Mohamed, MP	
11.	Hon. Martin Peters Owino, MP	
12.	Hon. Kipsengeret Koros, MP	
13.	Hon. Tongoyo Gabriel Koshal, MP	
14.	The Hon. Sarah Paulata Korere, MP	
15.	The Hon. (Dr.) Gideon Ochanda, MP	
16.	The Hon. Beatrice Adagala, MP	
17.	The Hon. Said Hiribae, MP	
18.	The Hon. (Capt.) Ruweida Mohammed, MP	
19.	The Hon. James Githua Kamau Wamacukuru, MP	



**REPUBLIC OF KENYA
TWELFTH PARLIAMENT (THIRD SESSION)
THE NATIONAL ASSEMBLY**

PUBLIC PETITION

(No. 70 of 2019)

**PUBLIC PETITION REGARDING WITHDRAWAL OF
HARMFUL CHEMICAL PESTICIDES IN THE KENYA'S
MARKET**

I THE UNDERSIGNED on behalf of the representatives of Biodiversity and Biosafety Association of Kenya (BIBA-K), Kenya Organic Agriculture Network (KOAN), Resources Oriented Development Initiatives (RODI Kenya) and Route to Food Initiative (RTFI),

DRAW the attention of the House to the following:

- 1) **THAT**, there has been an increase in the prevalence of chemical pesticides in Kenya, which poses a risk to human health and harmful effects to the environment;
- 2) **THAT**, the volume of imported insecticides, herbicides and fungicides has more than doubled within four years from 6400 tons in 2015 to 15600 tons in 2018 with a growth rate of 144%;
- 3) **THAT**, despite this, there is no data available concerning the use of pesticides, concentration of pesticides in water, soil and food and their related impacts;
- 4) **THAT**, there are products on the Kenyan market, which are certainly classified as carcinogenic (24 products), mutagenic (24 products), endocrine disrupter (35 products), neurotoxic (140 products) and many which show clear effects on reproduction toxicity (262 products); many of which have been banned in Europe, United Kingdom and USA;
- 5) **THAT**, this is worrying because the increase in pesticide use has not been accompanied by the necessary safe guards to control how they are applied;

**PUBLIC PETITION REGARDING WITHDRAWAL OF HARMFUL
CHEMICAL PESTICIDES IN THE KENYA'S MARKET**

- 6) **THAT**, during the pesticides registration process in Kenya, mainly the purity and the efficacy of the product is tested. Data on human and environmental health under local conditions are scarcely taken into consideration. The Pest Control Product Act Cap 346 Laws of Kenya does not state environmental and/or human health as a possible concern during the registration process;
- 7) **THAT**, the Kenya Plant Health Inspectorate Service (KEPHIS), has been contravening Section 15 of the Pest Control Product Act, by failing to publish available information on the actual levels of pesticides in food samples collected and putting in place regular monitoring system;
- 8) **THAT**, there are no epidemiological health studies related to pesticide exposure on our health and their impact to the environment;
- 9) **THAT**, the Pest Control Products Board (PCPB) has not been following the World Health Organization (WHO) and Food and Agriculture Organization (FAO) International Code of Conduct on Pesticide Management; and
- 10) **THAT**, the matters in respect of which this petition is raised are not pending before any court of law, constitutional or legal body.

THEREFORE, your humble petitioners prays that the National Assembly through the Departmental Committee on Health:-

- (i) Recommends for an immediate ban of all products on the Kenyan market, classified as carcinogenic, mutagenic, endocrine disrupters, neurotoxic and many which show clear effects on reproduction toxicity;
- (ii) Causes the Government to withdraw all harmful and toxic pesticides in Kenya's market based on the active ingredients used, that pose serious health risks to Kenyans and develops and implements a strategy to remove such harmful pesticides from the market, recognizing that it can take several years for products to be completely unavailable through local shops and dealers;

**PUBLIC PETITION REGARDING WITHDRAWAL OF HARMFUL
CHEMICAL PESTICIDES IN THE KENYA'S MARKET**

- (iii) Recommends that the Government establishes and strengthens monitoring system on the use of pesticides through increased data collection on food samples in the market and the level of pesticides contained;
- (iv) Recommends an amendment to the Pest Control Products Act to include a list of pesticides that have been withdrawn from the market based on the serious health risks posed to Kenyans, and to make it mandatory for the Pest Control Products Board (PCPB) to assess data on environmental and human health impacts during the registration and re-registration process of products; and
- (v) Makes any other order that it deems fit in the circumstances of this petition.

And your **PETITIONERS** will ever pray.

PRESENTED BY



GLADYS BOSS SHOLLEI, CBS MP
UASIN GISHU COUNTY

DATE:.....5th September 2019.....

MINUTES OF THE SIXTHIETH SITTING (60TH) OF THE DEPARTMENTAL
COMMITTEE HELD VIA ZOOM ON WEDNESDAY 7TH OCTOBER, 2020 AT 2.00
PM

PRESENT

- | | |
|---|--------------------|
| 1. The Hon. Sabina Chege, MP | - Chairperson |
| 2. The Hon. Joshua Kutuny, MP | - Vice-Chairperson |
| 3. The Hon. Dr Eseli Simiyu, MP | |
| 4. The Hon. Dr James Nyikal, MP | |
| 5. The Hon. Dr James Kipkosgei Murgor, MP | |
| 6. The Hon. Muriuki Njagagua, MP | |
| 7. The Hon. Martin Peters Owino, MP | |
| 8. The Hon. Joyce Akai Emanikor, MP | |
| 9. The Hon. (Capt) Ruweida Mohammed, MP | |
| 10. The Hon. Beatrice Adagala, MP | |

ABSENT WITH APOLOGY

1. The Hon. Dr Mohamed Dahir Duale, MP
2. The Hon. Alfred Agoi Masadia, MP
3. The Hon. Prof Mohamud Sheikh Mohamed, MP
4. The Hon. Dr Gideon Ochanda, MP
5. The Hon. Sarah Paulata Korere, MP
6. The Hon. Tongoyo Gabriel Koshal, MP
7. The Hon. Kipsengeret Koros, MP
8. The Hon James Githua Kamau Wamacukuru, MP
9. The Hon. Said Hiribae, MP

IN ATTENDANCE

NATIONAL ASSEMBLY SECRETARIAT

Benjamin Magut	–	Senior Clerk Assistant
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MIN. NO.NA/DC.H/2020/215: PRELIMINARIES

The Chairperson, called the meeting to order at 2: 11 PM and said a prayer. After that, the meeting proceeded to business.

MIN. NO.NA/DC.H/2020/216: ADOPTION OF THE REPORT ON THE PUBLIC PETITION (NO. 70 OF 2019) REGARDING WITHDRAWAL OF HARMFUL CHEMICAL PESTICIDES IN THE KENYAN MARKET

The Committee considered and adopted the report after being proposed by the Hon. Dr James Kipkosgei Murgor, MP and seconded by Hon. Dr James Nyikal, MP as follows:

The Committee made the following observations:

The Committee, in accordance with its mandate and in accordance with all the submission both written and orally presented before it, made the following observations.

- (i) According to data on domestic food safety in Kenya, fruits and vegetables sampled in both open-air and supermarket retail outlets have a higher level of pesticide residues than the set Maximum Residue Levels (MRLs).
- (ii) The increase in the use of pesticides in Kenya is as a result of the progressive intensification of agricultural production to meet the demands of both local and export markets and invasions of new pests, such as the Fall Armyworm and Maize Lethal Necrosis disease.
- (iii) A significant percentage of farmers in Kenya are small scale farmers, and they operate within a lax regulatory environment; this makes it hard to regulate the sector.
- (iv) The levels of knowledge on pesticide use, pesticide hazard control, and safety behaviour are limited due to the fact that majority of small scale farmers in Kenya have are either uneducated or have limited training in farming.
- (v) Information and training on the proper use of pesticides and adverse effects of pesticides on human health and the environment often lack within the farming community hence the misuse of these products.
- (vi) Among the farming community in Kenya, there are cases of increased prevalence of cancer, acute and chronic respiratory diseases, and even mental behavioural and neurological disorders related to agricultural chemical exposure.
- (vii) The gaps in the existing legislation concerning pesticides have encouraged misuse and abuse of pesticides in Kenya; this has encouraged the use of

smuggled, banned, and even obsolete products. The Government should move with speed and finalize on the Agrochemical policy, which would guide on the use and management of agrochemicals in Kenya and also fast-track the Pest Control Products Bill, 2019 that will address emerging issues affecting consumers, users and the pesticides industry.

- (viii) The PCPB has not been effectively discharging its duties as per its mandates as it is yet to be categorized as a State Corporation. It is essential that this categorization is fast-tracked for the Board to attract and retain competent personnel.
- (ix) The delay in construction of PCPB residue laboratory denies the country the essential services such as residue analysis (in food, water, soil, air), inorganic chemical analysis, organic chemical analysis (chemical identity, chemistry), formulation quality analysis, microbial assay, training of younger generation to build capacity and strengthen food control systems.
- (x) There is a lack of information and awareness on the different Acts, policies, and regulations about registration, import, disposal, manufacture, and distribution of pesticides among the pesticide importers, distributors, retailers, and farmers.

The Committee made the following recommendations:

In response to the prayers sought by the Petitioner', the Committee recommended that:

- (i) That within ninety (90) days of the tabling of this report, the Ministry of Agriculture, Livestock, and Fisheries through Pest Control Products Board (PCPB) to immediately establish the regulations on distribution and retailing of pesticides to ensure that only licensed and registered persons operate agro-vets outlets in the country.
- (ii) That within ninety (90) days of the tabling of this report, the Ministry of Agriculture, Livestock, and Fisheries in consultation with Pest Control Products Board (PCPB) and the Kenya Bureau of Standards (KEBS) and other relevant agencies to undertake an analysis of products in the Kenyan market with a view of banning products that are carcinogenic, mutagenic, endocrine disruptors and neurotoxic.
- (iii) That within ninety (90) days of the tabling of this report, the Ministry of Agriculture, Livestock, and Fisheries in consultation with the Ministry of Health and other relevant agencies including Pest Control Products Board (PCPB) and

the Kenya Bureau of Standards (KEBS) undertake an analysis of harmful and toxic pesticides and recommend their withdrawal from the Kenyan Market as per the relevant laws.

- (iv) The National Treasury in financial year 2020/21 should urgently enhance funding to the regulatory agencies such as the Pest Control Products Board (PCPB) and Kenya Plant Health Inspectorate Service (KEPHIS) tasked with regulating and monitoring the use of pesticides in Kenya to increase data collection on the level of pesticides in food products in the market.
- (v) That, Departmental Committee on Agriculture, Fisheries and cooperatives to initiate amendments(s) to the Pest Control Act, 2013 to make it mandatory for the annual publication of pest control products that have been withdrawn or otherwise banned from the Kenyan Market by the Pest Control Board (PCPB).
- (vi) That, Departmental Committee on Agriculture, Fisheries and Cooperatives to initiate amendments(s) to Pest Control Act, 2013 provide for the Pest Control Board (PCPB) accesses data on environmental and human health impacts during the registration and re-registration process of products.
- (vii) All Agrochemicals companies should ensure proper use of their products through adequate labelling using the widely used national language and take responsibility where harm occurs due to lack of sufficient information.
- (viii) That, the Pest Control Products Board (PCPB) must ensure that products banned in other jurisdiction are not in use in Kenya.

OTHER RECOMMENDATIONS

- (ix) That the Ministry of Agriculture, Livestock, and Fisheries should enhance the laboratory analytical capacity at the Pest Control Products Board (PCPB) by increasing the number of technical personnel through an increase in budgetary allocation, to ensure that adequate evaluation of pest control products is done.
- (x) That the Ministry of Agriculture, Livestock and Fisheries should speed up the completion of the Residue Laboratory at the Pest Control Products Board (PCPB) which will support residue analysis (in food, water, soil, air), inorganic chemical analysis, organic chemical analysis (chemical identity, chemistry), formulation quality analysis, and microbial assay through additional budgetary allocation and the National Assembly provide appropriate funds for the same in the FY 2020/2021.
- (xi) That within six (6) months of tabling of this report, the Ministry of Health

- together with the Ministry of Agriculture, Livestock and Fisheries and other relevant research agencies should conduct epidemiological studies in areas where pesticides are widely used in Kenya to determine the level of use of harmful pesticides and disease burden caused. This study shall guide in the formulation of an informed national policy on pesticide management and use.
- (xii) The Ministry of Agriculture, Livestock, and Fisheries and County Government should enhance and promote the training of farmers/users on acceptable agricultural practices and use of personal protective gears to mitigate against any adverse health and environmental effects.
- (xiii) The Ministry of Agriculture, Livestock, and Fisheries together with County government, in conjunction with other relevant stakeholders, including the media, should immediately undertake public awareness campaigns to sensitize the public on the responsible use of the pest control products.
- (xiv) The Ministry of Agriculture, Livestock, and Fisheries, in collaboration with the Ministry of Education, Science, and Technology, should develop and operationalize a curriculum on pesticides in the education system at all levels.
- (xv) The Ministry of Agriculture, Livestock and Fisheries, and the Ministry of Information Communication and Technology should develop and operationalize an Information System for the collection of data on pesticide use.
- (xvi) The Ministry of Agriculture, Livestock, and Fisheries and County Government should immediately consider introducing Spray Service standards as the concept would enhance the professional application of pesticides.
- (xvii) The Ministry of Health should offer budgetary and technical support to the Poison Information Centre at Kenyatta National Hospital (KNH). The Centre assists in the management of poisoning cases in the country provide information to the public on the prevention of poisoning and maintaining records that support policy decisions.

MIN. NO.NA/DC.H/2020/217:

ADJOURNMENT

And there being no other business, the meeting adjourned at 4.02 PM.

Sign.....



(Chairperson)

Date..... 15-10-2020

**MINUTES OF THE THIRTY-NINTH SITTING (39th) OF THE DEPARTMENTAL
COMMITTEE HELD VIA ZOOM ON TUESDAY 4TH AUGUST, 2020 AT 2.00 PM**

PRESENT

1. **The Hon. Sabina Chege, MP** - Chairperson
2. The Hon. Dr Eseli Simiyu, MP
3. The Hon. Muriuki Njagagua, MP
4. The Hon. Prof Mohamud Sheikh Mohamed, MP
5. The Hon. Kipsengeret Koros, MP
6. The Hon. Gideon Ochanda, MP
7. The Hon. Beatrice Adagala, MP
8. The Hon. (Capt) Ruweida Mohammed, MP

ABSENT WITH APOLOGY

1. **The Hon. Joshua Kutuny, MP** – Vice-Chairperson
2. The Hon. Dr James Kipkosgei Murgor, MP
3. The Hon. Dr James Nyikal, MP
4. The Hon. Dr Mohamed Dahir Duale, MP
5. The Hon. Alfred Agoi Masadia, MP
6. The Hon. Martin Peters Owino, MP
7. The Hon. Tongoyo Gabriel Koshal, MP
8. The Hon. Joyce Akai Emanikor, MP
9. The Hon. Sarah Paulata Korere, MP
10. The Hon James Githua Kamau Wamacukuru, MP
11. The Hon. Said Hiribae, MP

IN ATTENDANCE

NATIONAL ASSEMBLY SECRETARIAT

- | | | |
|--------------------|---|---------------------|
| 1. Benjamin Magut | – | Clerk Assistant I |
| 2. Muyodi Emmanuel | – | Clerk Assistant III |

AGROCHEMICALS ASSOCIATION OF KENYA (AAK)

- | | | |
|---------------------|---|-------------------------|
| Mr. Erick Kimunguyi | - | Chief Executive Officer |
|---------------------|---|-------------------------|

MIN. NO.NA/DC.H/2020/147: PRELIMINARIES

The Chairperson, called the meeting to order at 2.06 PM and said a prayer. After that, the meeting proceeded to business.

MIN. NO.NA/DC.H/2020/148: SUBMISSION BY THE AGROCHEMICALS ASSOCIATION OF KENYA (AAK) ON THE PETITION REGARDING THE WITHDRAWAL OF HARMFUL CHEMICALS PESTICIDES IN THE KENYAN MARKET

While appearing before the Committee the Agrochemicals Association of Kenya (AAK) submitted as follows:

1. The Agrochemicals Association of Kenya (AAK) which is the umbrella organization for manufacturers, importers, formulators, distributors and users of pesticides in Kenya was established in 1958.
2. Its primary objective is product stewardship which includes training farmers in the responsible use of the pest control technologies and protection of the environment, in addition to ensuring that all suppliers follow the code of conduct that ensures self-regulation in the industry.

The need for pesticides

3. On average, crop pest and diseases contribute to about 30-40% loss in yield. It had been estimated that Kenya experiences an annual loss of between 170.2 to 203 million US\$. This is attributed to three (3) invasive alien pest species in maize, namely; Chilo partellus (the spotted stem borer); Maize Lethal Necrosis Disease (MLND) and Parthenium hysterophorus(an invasive weed).
4. In horticulture, Tuta absoluta, also a new pest in the country, is estimated to cause yield losses of approximately 46 –52 million US\$. Post-harvest losses compound the problem.
5. A recent analysis of data from Sub-Saharan Africa showed that 6 –26% of maize, 11 – 34% of tomato and 7 –22% of potato are lost post-harvest. Such losses would be difficult to mitigate without the use of effective and efficient pest control products.

Registration/approval of pesticides in Kenya: The process and requirements

6. In Kenya, pesticides are regulated by the Pest Control Products Board(PCPB). Rigorous risk assessment is conducted on each product by the regulator before being allowed to be availed for the introduction and use in the country.
7. PCPB is guided by international principles of pesticide regulation, including the Food and Agriculture Organization of the United Nations (FAO) guidelines and toolkit. FAO has been facilitating training to PCPB staff on registration.

8. In addition, PCPB attends JMPR and Codex meetings as Designated National Authority for pesticides. Data requested for registration of pest control products are as per internationally accepted protocols such as OECD guidelines. PCPB requires all applicants to submit specific data to assess the safety of the pesticide before approval for registration. These include the Toxicological, Environmental fate, Ecotoxicological and Residue data for the active substances and formulated products. The requirements are clearly outlined in the PCPB Act(Cap 346)and subsidiary regulations.
9. Toxicological data package evaluated by PCPB is aligned to the FAO Guidelines on Data Requirements for Registration of Pesticides. Data on the toxicology of both the active substance and the formulated product enable an assessment of the safety. They include;Acute toxicity studies–Acute oral LD50(mg/kg, rat/rabbit), Acute dermal LD50 (mg/kg, rat), Inhalation LC50(mg/l hour, rat), Skin irritation (rabbit), Eye irritation (rabbit), Skin sensitisation (guinea pig).Long term/chronic studies–Reproduction, Sub-chronic toxicity 90-day NOEL (mg/kg/day), Chronic toxicity NOEL (mg./kg/day), Carcinogenicity (lifetime) NOEL (mg/kg/day), Neurotoxicity NOEL (mg/kg/day), Teratogenicity NOEL (mg/kg/day), Mutagenicity /Genotoxicity, Metabolism (rat). The products which show positive chronic toxicity at the treatment rate are not eligible for registration in Kenya.
10. The FAO/WHO International Code of Conduct on Pesticide Management provides voluntary standards of conduct for all entities engaged in or associated with the management of pesticides throughout their life-cycle, from production to disposal. It complements legally binding instruments such as the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, the Stockholm Convention on Persistent Organic Pollutants and the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, and voluntary mechanisms such as the Strategic Approach to International Chemicals Management (SAICM).
11. The Code of Conduct is designed for use within national legislation as a guiding framework for regulation and enforcement of effective management of pesticides. The agrochemical industry adheres to the acceptable practices by ensuring the supply of quality products that are well labelled, proper advertising, conducts safe use and handling training for distributors and stockists of plant protection products among others.

Increase in the quantity of imported pesticides in Kenya

12. The Geographical position of Kenya along the tropics, coupled with climate change, favours the proliferation of pests and diseases all year round. Transboundary movement of pests has also led to severe epidemics with catastrophic consequences.

13. Among the most recent include the larger grain borer, *Tuta absoluta*, Maize lethal necrosis disease, the fall armyworm and new strains of cassava mosaic disease. The growth in the importation of pesticides increases with demand due to pest and disease pressure and particularly epidemic events. A typical example was from 2016 when the Fall Army Worm was reported, and it caused a devastating effect on the maize farms.
14. In 2017, FAW was reported in 43 counties and caused 20% maize yield loss of 1.05million bags with a value of KSh. 3.15 billion (MoA, 2017). In 2018, after the systemic intervention by the government with pesticide for FAW, the loss was reduced to 5% (MoA, 2018). In most of the counties affected by the FAW, application of pesticides on maize has traditionally not been common, particularly among subsistence farmers. However, the infestation necessitated insecticides spraying. Expansion of the agricultural sector, and significantly an increase in commercial horticulture, had resulted in increased demand for pesticides¹².
15. The increase in farming activities is also reflected in the increase in production. For example, in 2018, there was a significant increase in exports from Kenya to; United Arab Emirates (by Kshs 8.6 billion), India (by Kshs 3.1 billion), Netherlands (by Kshs 2.5 billion), Thailand, (by Kshs 2.3 billion) and Saudi Arabia (by Kshs 2.2 billion). This was mainly for tea and horticulture exports.
16. Shortage of labour in agricultural fields (e.g. as more and more young people venture into non-farming activities, such as motorcycle taxis and other services, and the government's push for 100% transition from primary to secondary schools) resulted in increased use of herbicides since hand weeding was no longer tenable and use of family labour had vastly decreased.
17. The change in the quantities of pesticides imported from year to year is highly variable and is influenced by several factors. Key among them include prevailing climatic conditions, carry-over stocks, commodity prices, government policies such as taxation, pest outbreaks, among others. A reliable assessment of the general trend in the number of pesticides imported may be estimated by analysis of a wider span of time such as 10 or more years

The safety profile of active ingredients registered in Kenya

18. Before a pesticide product is registered, a registrant or the owner of the product is required to provide data or studies as per internationally accepted guidelines indicating that the risk assessment was done and the pesticide was shown to pose no chronic toxicities.

19. Besides, the registrant of the pesticide should prove that the product had been approved for use in some of the countries with reputable registration systems such as the US, EU, Canada, Japan, among others.
20. The Route to Food Initiative in its publication had given a list of active ingredients, most of which are in the process of being removed in the EU. However, critical investigation on the list shows that the active ingredients were still approved for use in most countries with the rigorous pesticide approval process. For example, whereas Chlorothalonil, Clodinafop and permethrin are marked for withdrawal in the EU, they are still approved for use in many countries, including the US.
21. It is prudent to report that rigorous risk assessment of each pesticide product is conducted by Pest Control Product Board following the international guidelines. As noted in the status of approval in EU versus other countries globally, approval status of the products in EU changed due to shifting in the evaluation process as per the EU guideline 1107/2009 which do hazard assessment and not a risk assessment. It is important to note that the EU approval process had been contested by WTO members as a barrier to trade.

Human health and environmental impact data considered before product registration in Kenya

22. During pesticide registration studies are provided by the manufacturer to PCPB, as per the requirements of the PCP Act. The dossier includes;
 - i. Chemistry and purity profile of the active substances and formulation of the pesticides;
 - ii. Toxicological studies (acute & chronic toxicity) of both active substance and the formulation ;
 - iii. Fate and behaviour of the product in the environment, ways of degradation, degradation products in soil: Major metabolites, DT50 (days), Mobility of active ingredient, Adsorption/desorption, Mobility of metabolites;
 - iv. Behaviour, ways of degradation, degradation products in water: Major Metabolites, DT50 (days), Surface, Groundwater;
 - v. Behaviour, ways of degradation, degradation of products in the air. Rate and Route of degradation in the air (for fumigants and other volatile products); and
 - vi. Effects on non-targets: Birds, Fish, Daphnia, Algae, Bees, Earthworms and Soil micro-organisms.

23. Data on human and environment are generated under Good Laboratory Practices (GLP) conditions and are universally accepted in all jurisdictions globally. Study protocols are internationally prescribed, such as the OECD Guidance Documents for Pesticide Registration. Mutual acceptance of data is an international best practice, provided that specific criteria are met (OECD Mutual Acceptance of data; FAO guidelines on data requirements for registration of pesticides):
- i. If the studies have been conducted according to internationally agreed test guidelines and principles;
 - ii. The studies have been conducted in test facilities that are accredited for GLP; and
 - iii. Representative environmental conditions.
24. By reducing duplication, mutual acceptance of data generates significant cost saving and reduces the number of animals used in testing. For this reason, it is not necessary to generate these data locally. Biological efficacy data is, nevertheless, always generated locally. Efficacy trials are only allowed after all other data have been submitted.

Monitoring of pesticides in the environment

25. Data on environmental fate and effects are required before a product is registered in Kenya. PCPB may refuse to register a pest control product if in its opinion the use of the pest control product would lead to an unacceptable risk or harm to public health, plants, animals or the environment (PCPB Cap 346, Article 10(d))
26. Environment monitoring of toxic and hazardous substances is already prioritized in the National Environmental Policy (2013). Monitoring for environmental contamination is a mandate of the National Environment Management Authority (NEMA) under the Environmental Management and Coordination Act (EMCA), 8 of 1999.
27. Some data exists to indicate the level of contamination of the environment with pesticides. For example, 164 environmental samples were submitted to KEPHIS in 2017, 14 for analysis of Organophosphates, Organochlorines, Pyrethroids, Polychlorinated Biphenyls (PCBs) and Triazines. The environmental samples analyzed included fish, water, sediment, soils, fertilizers and wheat samples. No contaminants were detected in all the submitted samples.

Food safety and pesticide residues

Protection of users

28. AAK, through its stewardship program in conjunction with development partners and Crop Life in 2014, came up with a concept of Spray Service Providers (SSP) where individuals were trained to offer private spray services and other advice to farmers.

29. This service reaches more than 7,000 farmers regularly. As of October 2018, 862, SSPs had been deployed in the 12 Counties. This is intended to professionalize the service, and thereby achieve greater protection for operators and the environment.
30. Stewardship activities also include establishing of Empty Pesticide Collection Centres and clearance and safe disposal of obsolete stocks. So far, 252 Empty pesticide collection centres in 8 counties (Trans-Nzoia, Nyeri, Embu Nakuru, Taveta Kirinyaga, Makueni and Laikipia) had been established. AAK Kenya is currently establishing more centres in other counties.
31. Pest Control Operators and Agrodealers are licensed and inspected by the Pest Control Products Board after fulfilling certain conditions. The same agro-dealers are also trained by AAK on the code of conduct and responsible use of pesticides.

Epidemiological studies in Kenya

32. Most manufacturing companies and large farms already have medical records on the personnel working on their premises. PCPB requires data of medical surveillance on manufacturing plant personnel during the dossier submission before a product is registered.
33. Regarding the allegation that pesticide use had led to an increase in diseases such as cancer in Kenya. According to Kenya, STEPwise Survey for non-communicable diseases risk factors in 2015, risk factors for cancer in Kenya included genetic predisposition, behavioural risk factors (mainly smoking, alcohol use, inadequate physical inactivity and poor diet), environmental carcinogens (e.g. aflatoxin and asbestos), and infections (e.g. HPV in cervical cancers, Hepatitis B and C in liver cancers, H. Pylori in stomach cancers, HIV in Karposi Sarcoma).
34. In a 2002, Dr Geoffrey Mutuma, former Chief Government Pathologist, confirms that data on Cancer incidences in Kenya had been irregularly collected making it challenging to analyze long term trends and relate them to specific causes.
35. Many types of epidemiological studies can be performed, such as case-control studies investigating exposure to different factors; or ecological studies that could be used to relate disease rates and exposure to certain factors, among others.
36. Recent media reports have brought to light a significant number of factors that are contributing to pollution in the country, including contamination of river water with industrial effluent, raw sewerage, etc. Air pollution from industrial activities and burning of wastes in the open in dumpsites are also among many other sources of pollution with potentially harmful impacts on the health of communities.
37. Since epidemiological studies require significant investment, the study question must be clearly defined, and the studies should be appropriately designed to address the specific

objectives. In particular, the design should enable the isolation and a fair estimation of the magnitude of impact attributable to single factors in disease development.

38. The government has the primary responsibility to safeguard the health of communities and should trigger any necessary epidemiological studies, including where pesticides are suspected to be part of the etiology. The agrochemical industry in Kenya would be willing to partner with the relevant authorities in such initiatives since the outcomes would be relevant in directing stewardship efforts.


Blanket banning of pesticides in Kenya

39. Blanket banning of pesticides by hazard without due consideration of risk assessment will not help, especially in the tropical conditions and areas experiencing an invasion of pests and diseases throughout the year.
40. Severe limitation on the number of products available without all the necessary considerations will make sustainable use of plant protection products difficult, particularly managing the development of resistant pest populations.
41. A ban on the use of pesticides that are needed in order to grow food will result in the following ripple effect:
- i. Threat on food security –insufficient production due to the effect of crop diseases and pests;
 - ii. Expensive food which will make it not accessible to the majority of the Kenyan population;
 - iii. Reduced farmer income caused by insufficient production will have a high impact on their livelihoods;
 - iv. Reduced foreign exchange as fresh produce export will be affected;
 - v. Job losses –manufacturers will have to let go of some of their employees; and
 - vi. The Job losses will lead to reduced taxes—from PAYE to tax earned from the purchase of goods and services due to the effect of loss of income.

MIN. NO.NA/DC.H/2020/146:

ADJOURNMENT

And there being no other business, the meeting adjourned at 4.01 PM.

Sign.......... Date.....12-08-2020.....
(Chairperson)

MINUTES OF THE FIFTY- SECOND (52ND) SITTING OF THE DEPARTMENTAL COMMITTEE ON HEALTH HELD IN HILTON GARDEN INN ON MONDAY 11TH NOVEMBER, 2019 AT 2.00 P.M.

PRESENT

1. The Hon. Sabina Chege, MP - Chairperson
2. The Hon. Dr. Swarup Ranjan Mishra, MP - Vice-Chairperson
3. The Hon. Dr. Eseli Simiyu, MP
4. The Hon. Dr. James Kipkosgei Murgor, MP
5. The Hon. Dr. Mohamed Dahir Duale, MP
6. The Hon. Muriuki Njagagua, MP
7. The Hon. David Ochieng', MP
8. The Hon. Prof. Mohamud Sheikh Mohamed, MP
9. The Hon. Martin Peters Owino, MP
10. The Hon. Tongoyo Gabriel Koshal, MP
11. The Hon. Esther M. Passaris, MP

ABSENT WITH APOLOGY

1. The Hon. Dr. James Nyikal, MP
2. The Hon. Alfred Agoi Masadia, MP
3. The Hon. Stephen Mule, MP
4. The Hon. Gladwell Jesire Cheruiyot, MP
5. The Hon. Kipsengeret Koros, MP
6. The Hon. Mercy Wanjiku Gakuya, MP
7. The Hon. Patrick Munene Ntwiga, MP
8. The Hon. Zachary Kwenya Thuku, MP

NATIONAL ASSEMBLY SECRETARIAT

1. Mr. Benjamin Magut - Clerk Assistant I
2. Mr. Muyodi Emmanuel - Clerk Assistant III

PEST CONTROL PRODUCTS BOARD (PCPB)

Mr Peter Opiyo – Chief Executive Officer

KENYA PLANT HEALTH INSPECTORATE SERVICE (KEPHIS)

Dr Esther Kimani - Managing Director

MIN. NO.NA/DC.H/2019/125:

PRELIMINARIES

The Chairperson called the meeting to order at 2.07 p.m. and said a prayer.

MIN. NO. NA/DC.H/2019/126:

ADOPTION OF AGENDA

The Committee adopted the agenda as hereunder after being proposed by Hon. Martin Peters Owino, MP and seconded by Hon. Dr. Swarup Ranjan Mishra, MP.

AGENDA

1. Prayers
2. Adoption of the Agenda
3. Substantive Agenda

Meeting with stakeholders regarding Public Petition No. 70 of 2019 regarding the withdrawal of Harmful Chemicals pesticides in the Kenyan Market

MIN. NO. NA/DC.H/2019/127:

SUBMISSION BY THE STAKEHOLDERS

While appearing before the Committee, Pest Control Products Board (PCPB) and Kenya Plant Health Inspectorate Service (KEPHIS) submitted, as follows;

Pest Control Products Board (PCPB)

1. Ten years ago moderate pesticide application could suffice, but this was no longer the case, Farmers in Kenya have opted to use pesticides because of invasion of new pests such as the Fall Armyworm and Maize Lethal Necrosis disease and demands from the export markets.
2. The export markets, such as the European Union (EU) and Australia, prohibit the exportation of commodities with pests. Their presence leads to the interception of such commodities and may lead to loss of market.
3. Also, different climatic conditions determine pest control strategies. The EU is a temperate region (winter/summer), where a plunge in temperatures during winter makes conditions unfavourable for pests, thereby reducing their population; in contrast tropical conditions in Kenya favour proliferation of pests and diseases throughout the year. This requires different pest control strategies, including the use of pesticides.
4. The increase in the importation of pesticides in Kenya has generally followed the agricultural production. There has been an average growth rate of 4.14% per annum in the quantity of pesticide imported over the last 10 years which is attributed to the progressive intensification of agricultural production to meet the national demands for food, exports and the emergence of new pests.
5. However, during the period between the financial years 2014/2015 to 2018/2019, there was a decrease in the quantity of pesticide imported from 16.3 tonnes to 14.2 tonnes respectively representing a 12.8% decrease.

6. But, in 2017/2018 the volume of pesticide (13.61 tonnes) imported was slightly higher compared with 2018/2019 (14.2tonnes) representing a 10.18% increase, this was attributed to the emergence of new pests in the country such as the Fall armyworm in maize and Tuta absoluta in tomatoes.
7. To ensure that only products that have undergone registration enter the Kenyan market, all imports and exports of pesticides are approved in accordance with the Pest Control Products (Importation and Exportation) Regulations, Legal Notice No. 146/1984, and Pest Control Products (Importation and Exportation) (Amendment) Regulations, L. N. 125/2006.
8. The Pest Control Products Board (PCPB) also utilizes international guidelines, including the Food and Agriculture Organization of the United Nations (FAO) Code of Conducts for Pesticide Management, for registration and post-registration surveillance of Pest Control Products (PCPs).
9. In Kenya, during the process of registration of pesticides, extensive reviews of technical/scientific data are conducted to determine the safety of active substances. Evaluation reports from other countries that conduct risk assessments are also considered, such as Canada, Australia, the US, and the EU. There are similarities in active substances approved in Kenya, the USA, Canada, and Australia. The difference in evaluation between these four countries and the EU is the criteria for risk assessment.
10. The EU Regulation (EC) 1107/2009 marked a considerable shift in the pesticide evaluation approach by introducing a 'hazard-based' evaluation (previously EU followed the "risk-based approach), which means that each active substance is first evaluated for its intrinsic hazardous properties. The regulation requires the use of 'cut off' criteria, i.e., if a substance shows hazardous properties against one of those criteria, the evaluation process ends at the hazard identification stage, and a risk assessment is not performed.
11. Risk assessment considers the hazard properties of a product and the likelihood of harm occurring in case of exposure with a product. PCPB uses risk-based assessment and takes into account all relevant scientific information when determining the likely risk before registering a product. The evaluation determines whether a product used according to label instructions could result in a level of exposure that poses an unacceptable risk to humans and the environment.
12. The use of hazard-based evaluation has led to varying decisions on approvals of pesticides in the EU compared with other countries that use risk-based evaluation. Many products that are not approved in the EU are approved in the USA, Canada, Australia, India, Japan and many other countries that use risk-based evaluations, which take into account the hazard properties of a product and the likelihood of exposure.

13. In July 2017, Australia, Brazil, Canada, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Honduras, Malaysia, Nicaragua, Panama, Paraguay, Peru, United States, and Uruguay raised concerns to the World Trade Organization (WTO) on EU implementation of hazard-based criteria as non-tariff trade barriers.
14. PCPB is the designated National Authority in conventions related to pesticides and implements the decisions arising from Multi-lateral Environmental Agreements, including Rotterdam, Stockholm, Basel, Montreal, Minamata Conventions.
15. Kenya has banned/restricted some pesticides in compliance with the Conventions. Since the year 2003, PCPB has made various efforts to register safer pest control products such as biopesticides (microbial, macrobials, and biochemicals). Ninety (90) Products currently registered for use in crop protection are biopesticides. Post-registration surveillance is conducted routinely to ensure compliance with set specifications.
16. The regulation of Pest Control Products in Kenya is benchmarked with FAO/WHO International Code of Conduct on Pesticide Management. For example, Article 3.3 states, "Governments should ensure that the requirements of relevant international agreements are followed." Kenya is a signatory to various international conventions on pesticides, for example, Basel, Stockholm and Rotterdam conventions. PCPB has been implementing relevant decisions in Conventions on Pesticides.
17. To date, Kenya has banned or severely restricted the importation and use of over 30 products. PCPB encourages the registration of low-risk pesticide products such as biopesticides through the provision of guidelines that make it easier for the introduction of such low-risk pest control products. To date, there over ninety (90) registered biopesticides for use in Kenya based on microbials, macrobial and biochemicals. This is in line with WHO and FAO International Code of Conduct *Article 3.10 that encourages and promotes research on and the development of alternatives to existing pesticides.*
18. PCPB has come up with several initiatives to address the emerging issue in the pesticides industry, such as :
- i. It initiated the construction of a residue laboratory in 2018, which unfortunately stalled due to a lack of funds. The stalled PCPB residues laboratory has a section dedicated to the monitoring of pesticide residues in food commodities, water, and soils.

Once completed, it will offer various services including residue analysis (in food, water, soil, air), inorganic chemical analysis, organic chemical analysis (chemical identity, chemistry), formulation quality analysis, microbial assay, conduct training to build capacity and strengthen food control systems.

PCPB intends to use the laboratory to commission a routine monitoring plan of pesticide in food destined for the local market and environment; the data obtained will be used to make an informed decision on the approval of pest control products.

- ii. Prepared the Pest Control Products Bill 2019, which is meant to address emerging issues affecting consumers, users, and the pesticide industry. The proposed Pest Control Products Bill 2019 provides the object and purpose of the Act under Section 3 to safeguard human health and the environment from risks associated with pest control products.
- iii. The PCPB is seeking its categorization as a State Corporation. This categorization must be fast-tracked for the Board to attract and retain competent personnel.
- iv. PCPB partnered with the Agrochemicals Association of Kenya and Kenyatta National Hospital to operationalize Toll-Free Emergency Numbers (24 hours) (0800720721 & 0800730030) located at Kenyatta National Hospital. These Toll-Free emergency numbers are included on all Pesticide labels for use by consumers. However, there is a need to strengthen the human and physical infrastructure capacity at the Poison Information Centre.

Kenya Plant Health Inspectorate Service (KEPHIS)

- 19. Kenya Plant Health Inspectorate Service is a State Corporation under the Ministry of Agriculture Livestock and Fisheries (MOALF) established by the KEPHIS Act No.54 of 2012. It has been in operation since 1997, having been established under the State Corporations Act (CAP 446) pursuant to Legal Notice No. 3 18th October 1996.
- 20. KEPHIS is mandated to regulate all matters relating to plant health, seeds, and plant varieties and to be the principal advisor to the government on issues relating quality of agro-input, planting materials, and produce, among others.
- 21. KEPHIS undertakes inspection at points of exit to certify against Phytosanitary requirements as guided by International Plant Protection Convention.
- 22. KEPHIS has invested in capacity building of the value chain through; facilitating traders who have been registered by Horticultural Crops Directorate (HCD) only, training on requirements for export, sampling and testing of products before issuance of a certificate of export and sampling at points of exit to verify and gauge compliance levels.
- 23. To ensure that Kenya's exporters comply with the MRLs regulations of the European Union (EU), KEPHIS carries out pesticide residue monitoring through a periodic

sampling of agricultural produce and testing for MRLs, audits, training and awareness creation.

24. KEPHIS samples typical agricultural produce in the local market, which are critical in giving information in the pattern of chemical use in Kenya. The focus on other commodities is because most of the farmers growing peas and beans for export also grow other crops in the same piece of land for subsistence or rotational crops. Getting information about pesticide residues in these other crops could shed light on the likelihood of non-compliance for export crops whenever a banned molecule tests positive in the non-export crop.
25. KEPHIS has established analytical chemistry laboratories that analyze agricultural inputs (soil, fertilizer and formulation, chemical contaminants in agricultural produce (pesticide residue, heavy metal, mycotoxins) and environmental contaminants (Persistence chemical in the environment). The laboratory can analyze about 300 active ingredients specific to pesticides.
26. KEPHIS analytical laboratories are accredited by the South African National Accreditation System (SANAS). Accreditation to this standard is an important international recognition of the competence of the KEPHIS laboratory to analyze pesticide residue in agricultural products.
27. The operations of the laboratories are guided by Standard Operating Procedures (SOPs) and are supported by the Laboratory Information Management Systems (LIMS). KEPHIS also participates in proficiency and inter-lab testing to enhance its competitiveness in the market.
28. KEPHIS through various means has enhanced capacity of its stakeholders by:
 1. Training of all exporters before approval for shipment is allowed;
 2. Profiling of exporters on compliance levels to support determination basing on risk to dictate the nature of effort as regards inspection, monitoring surveillance and capacity building to these clients;
 3. Regular interaction with stakeholders through workshops and meetings to inform them of new Phytosanitary export market requirements and train them on means of complying with existing Phytosanitary export market requirements;
 4. Training through the Centre of Phytosanitary Excellence (COPE) in various modules that support compliance to market requirements for export of such product;
 5. Training and information sharing through forums like field days, shows and exhibitions on need and means for compliance to export market requirements;and

29. In March 2019, KEPHIS was appointed the Agent and Public Analyst of the Public Health Department of the Ministry of Health with respect to the analysis, certification and enforcement of the pesticide residue standards with regard to fresh produce presented for sale in the Kenyan market
30. In pursuance to this appointment, KEPHIS had developed a monitoring program that started in June 2019 and is yet to provide its first annual report with regard to the new appointment. This program is envisaged to monitor pesticide residues for imports and local agricultural produce.
31. KEPHIS requests for the formalization of the appointment of KEPHIS as the Public Health Analyst through a gazette notice by the Cabinet Secretary for Health appointing KEPHIS as the Public Health Analyst; this would be in line with the provisions of the Food and Drugs Act CAP 254 Laws of Kenya.
32. In order for KEPHIS to implement the above (number 1) function, high investment is required in infrastructure (satellite laboratories, equipment, and consumables) and staffing levels to ensure effective monitoring is undertaken through the counties to provide data on the food safety status in the country.
33. KEPHIS requires above 40 (forty) million per financial year to run the program annually. This cost does not, however, include the costs of initial investment of infrastructure and staff emolument. KEPHIS recommends an increase in its annual budgetary allocation to allow the implementation of the said function.
34. The government was in the process of drafting the food safety bill on the regulation of food safety in local foods. The Bill will further strengthen law enforcement agents when dealing with individuals who deliberately present pesticide-contaminated food and produce for sale. This will go a long way in strengthening the national food safety control systems as implemented by various regulatory organs for access to safe food by Kenyan citizens. Equally, the law will provide for a framework for prosecuting the individuals contravening the law in the respective mandated institutions.

MIN. NO.NA/DC.H/2019/128:

ADJOURNMENT

There being no other business, the meeting adjourned at 5.03 pm.

Sign.......... Date.....21-11-2019.....

(Chairperson)

MINUTES OF THE FIFTY - FIRST (51ST) SITTING OF THE DEPARTMENTAL COMMITTEE ON HEALTH HELD IN HILTON GARDEN INN ON MONDAY 11TH NOVEMBER, 2019 AT 10.00 A.M.

PRESENT

1. The Hon. Sabina Chege, MP - Chairperson
2. The Hon. Dr. Swarup Ranjan Mishra, MP - Vice-Chairperson
3. The Hon. Dr. Eseli Simiyu, MP
4. The Hon. Dr. James Kipkosgei Murgor, MP
5. The Hon. Dr. Mohamed Dahir Duale, MP
6. The Hon. Muriuki Njagagua, MP
7. The Hon. David Ochieng', MP
8. The Hon. Prof. Mohamud Sheikh Mohamed, MP
9. The Hon. Martin Peters Owino, MP
10. The Hon. Tongoyo Gabriel Koshal, MP
11. The Hon. Esther M. Passaris, MP

ABSENT WITH APOLOGY

1. The Hon. Dr. James Nyikal, MP
2. The Hon. Alfred Agoi Masadia, MP
3. The Hon. Stephen Mule, MP
4. The Hon. Gladwell Jesire Cheruiyot, MP
5. The Hon. Kipsengeret Koros, MP
6. The Hon. Mercy Wanjiku Gakuya, MP
7. The Hon. Patrick Munene Ntwiga, MP
8. The Hon. Zachary Kwenya Thuku, MP

NATIONAL ASSEMBLY SECRETARIAT

1. Mr. Benjamin Magut - Clerk Assistant I
2. Mr. Muyodi Emmanuel - Clerk Assistant III

STAKEHOLDERS

1. Dr. Catherine Kunyanga - Senior Lecturer (UON)
2. Professor Raphael Wahome - The University of Nairobi (UON)
3. Ms. Esther Jepkoge Bett - Smallholder farmer from Uasin Gishu County
4. Mr. Njaibu Edward - Smallholder farmer from Rumuruti, Laikipia County
5. Dr. Silke Bollmohr - Ecotoxicologist

MIN. NO.NA/DC.H/2019/121:

PRELIMINARIES

The Chairperson called the meeting to order at 10.17 a.m. and said a prayer.

MIN. NO. NA/DC.H/2019/122:

ADOPTION OF AGENDA

The Committee adopted the agenda as hereunder after being proposed by Hon. Martin Peters Owino, MP and seconded by Hon. Dr. Swarup Ranjan Mishra, MP.

AGENDA

1. Prayers
2. Adoption of the Agenda
3. Substantive Agenda

Meeting with stakeholders regarding Public Petition No. 70 of 2019 regarding the withdrawal of Harmful Chemicals pesticides in the Kenyan Market

MIN. NO. NA/DC.H/2019/123:

SUBMISSION BY THE STAKEHOLDERS

Appearing before the Committee the following stakeholders submitted as follows;

Dr Catherine Kunyanga, Senior Lecturer in the Department of Food Science, Nutrition and Technology, The University of Nairobi (UON)

1. The high number of foodborne illnesses is a significant public health issue for all countries. The cost in human suffering is far too high, especially amongst the vulnerable population groups (infants, young children, pregnant women, the elderly, the ill and the poor).
2. WHO/FAO International Conference on Nutrition (Rome, 1992) recognized that '*Access to ... safe food is a right of each individual*'. Therefore, the availability of suitable food should be a top priority by governments, industry and consumers.
3. But still, the cases of food poisoning were on the rise, and new hazards associated with the presence of chemical contaminants or toxins that form when food is processed or prepared are discovered every year.
4. Food safety cannot be used as a sales argument because it is illogical to sell foods that are 'safer' than others (they are either safe or not!). This aspect is nevertheless promoted by some retailers who oblige suppliers to apply their standards in the place of regulations such as MRL (maximum residue levels) authorized for pesticides.
5. Food safety and quality have become a significant concern for the European retailing & distribution industry, which uses it as a marketing argument to address consumers concerns and calls for change from some pressure groups. Retailers have thus also become 'standards developers', and given their economic clout, they can easily take the place of regulations.
6. Whether food is sold locally or exported, it must be produced in accordance with the general principles of hygiene that are recognized throughout the world. According to the latest 'Eurobarometer', (2010) -a survey of 26 691 individuals in all 27 Member States, showed that:
 - a) 79 % stated they were deeply concerned about the safety of their food (much more important than dietary matters);
 - b) 48 % worried about food affecting their health (compared to 44 % for road accidents); and
 - c) 72% were worried about pesticide residues; this was the number one 'risk' (freshness ranked fourth, and GMOs ranked sixth).
7. To ensure that food is harmless and restore consumers' confidence and sense of security, it is necessary:

- a) To reinforce and continually update the regulatory framework to reflect technical changes and the results of risk analyses;
 - b) Operators to organize self-evaluation and risk control systems based on HACCP principles;
 - c) To identify data to be recorded to ensure product traceability; to be able to trace the history, destination or origin of a product; and
 - d) To guarantee the application of these measures through inspections, monitoring plans, and internal and external audits.
8. Consumer confidence can only be restored when;
- a) Food hygiene is guaranteed (by taking measures and organizing the conditions to prevent hazards and ensure that food products are suitable for consumption);
 - b) Food safety is guaranteed (by using production modes that assure that the food is not harmful to health: acceptable practices and quality strategies);
 - c) Efforts are taken to provide correct information to all stakeholders and the population in general (information, traceability, withdrawal, and recall procedures); and
 - d) All actors in the food chain adopt an approach towards food safety that entails continuity of responsibility through the whole life cycle of the product (farm to fork).
9. Implementation of the holistic approach to food safety along the food chain requires both an enabling policy and regulatory environment at the national and international levels with clearly defined rules and the establishment of food control systems and programs at national and local levels throughout the food chain.
10. Adopting a food chain approach goes beyond ensuring the safety of food. It facilitates more generally a consumer-driven approach to agriculture and food safety systems, implying potential future shifts in the agricultural sectors.
11. Farmers may need to make new farming and technology choices to meet demands for a safe and healthy diet in response to: new regulations and standards; changing global consumption patterns; improved market access and value-added opportunities, as well as respond to increasing concerns over the sustainability of existing agricultural systems.
12. Food safety principles recommend that governments should decide how best to encourage the implementation of the principles to:
- a) Protect consumers adequately from illness or injury caused by food;
 - b) Policies need to consider the vulnerability of the population or different groups within the population;
 - c) Assure that food is suitable for human consumption;
 - d) Maintain confidence in the internationally traded food; and
 - e) Provide health education programmes which effectively communicate the principles of food hygiene to industry and consumers.

National food safety system

13. A country should have a national food safety system that integrates the activities of FBOs & government. To ensure that foods and their production systems meet requirements to protect consumers against foodborne hazards and deceptive marketing practices and to facilitate trade based on accurate production description. To meet these objectives, the following principles should apply:
- i. The whole food chain approach - Food safety control measures should cover the entire production to consumption continuum (primary production, processing, storage, distribution, transport, retail, import & export);
 - ii. Application of risk-based, science-based, and evidence-based decision making - National food safety systems should be designed and operated based on risk analysis principles that are consistent with internationally accepted approaches; and

18. The over 1,000 pesticides used in modern agricultural practice, & residues of pesticides in the food from plant origins have been an increasing concern for consumers.
19. According to the Environmental Protection Agency, pesticides present numerous health risks. Laboratory studies show that pesticides can cause health problems such as diabetes, Alzheimer's, cancer, osteoporosis, chronic lung disease, stroke, and heart disease, amongst other diseases.
20. In 2018 Kenya imported 17,803 tones valued at 128 Million dollars of pesticides: 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.
21. The volume of imported insecticides, herbicides, and fungicides has more than doubled within four years from 6,400 tones in 2015 to 15,600 tones in 2018, with a growth rate of 144%.
22. According to data on domestic food safety in Kenya. Fruits and vegetable sampled in both open-air and supermarket retail outlets were contaminated with pesticides residues some of which were beyond the allowed limits such as Dimethoate (>0.02mg/kg), Bifenthrin (>0.05mg/kg), Metribuzin (0.05mg/kg), Cyromazine (>0.05mg/kg), metalaxyl (>0.05mg/kg) and Pyrimethamil (>0.02 while mango had thiabendazole (0.031mg/kg) and contained heavy metals with Lead concentration ranging from < 0.01 mg/100g to >0.06 mg/100g compared to Cadmium levels of 0.01mg/100g. Microbial pathogenic contamination was also reported.
23. There are products on the Kenyan market, which are undoubtedly classified as carcinogenic (45 products), mutagenic (31), endocrine disrupter (51), neurotoxic (175) and many which show apparent effects on reproduction (360) of particular concern, are the active ingredients chlorothalonil, carbendazim, acephate, and permethrin which are not approved in Europe, have more than one chronic health effect and are sold in many products in Kenya. Over 33% of the active ingredients in the Kenyan market pose a profound potential impact on human and environmental health and had been withdrawn from the EU market.
24. There are factors limiting effective control of pesticide use in Kenya:
 - i. Limited data on epidemiological health studies related to pesticide exposure in Kenya and toxicological effects on human, animal and environmental health;
 - ii. Limited data on the status of Kenyan pollinator populations and their importance for food production;
 - iii. Lack of awareness/education/illiteracy - Kenyan consumers and farmers, are not aware of the extent of pesticide use, their concentrations in food and environment and their possible effects on the environment and ecosystem services;
 - iv. Limited extension and advisory services – misuse and over-use of chemicals based on agro-vets advice;
 - v. Equipment use/availability (knap sank sprayers) & PPEs not available or not used – they are expensive & uncomfortable to wear;
 - vi. Limited technology/knowledge of IPM strategies & risks;
 - vii. Sufficient human data from epidemiological studies are often not available; and
 - viii. Risk assessors frequently rely on results from toxicological studies in experimental animals and in vitro studies.

Professor Raphael Wahome, The University of Nairobi (UON)

25. The misuse and over-use use of pesticides have been blamed for the rise in cancer, respiratory, cardiovascular, and nervous system diseases in Kenya.
26. There is also an increase in the cases of autism, hypertension, diabetes (even in stress-free rural environments), and loss of biodiversity (especially birds) and arthropods.

27. The pesticides are supposed to be used under particular directions developed after extensive experimentation and testing. However, many farmers do not follow appropriate safety measures hence putting everybody at risk.
28. Pesticides have long-term harmful effects on humans, animals, and other organisms and the environment at large. Therefore, there is an urgent need to educate people who use pesticides or regularly come in contact with them about potential health effects and preventive measures.
29. The government should withdraw the chemicals already withdrawn from the European market and impose a moratorium on their use pending independent prove from the Kenya Medical Research Institute (KEMRI) on their safety.
30. Pest Control Products Board should be compelled to present cost-benefit analysis of each of the other suspect chemicals before they can be used in Kenya. They should rely on data collected in Kenya.
31. To increase consumer awareness and to provide an informed consumer choice, all pesticide residue levels should be presented on labels, and any contraventions punished severely.
32. Parliament should make a law to award sufficient restitution to those affected by exposure to specific compounds in the pesticides.

Ms. Esther Jepkoge Bett, Smallholder farmer from Uasin Gishu County

33. Farmers in Kenya are more exposed to chemicals at different stages. Exposure to chemicals occurs while preparing solutions during the application, post-harvest handling, and consumption.
34. Women farmers who form 80% of the labour force in the agricultural industry in Kenya are the most vulnerable and most affected when it comes to the use of chemicals.
35. While the farmers are subjected to chemical exposure at their workplace, the rest of the population is exposed to the same chemicals through food and water contaminated with pesticide residues.
36. The following factors contribute to increased unsafe use of pesticides among farmers in Kenya:
 - i. lack of knowledge on the safe use of pesticides;
 - ii. lack of Personal Protective Equipment(PPEs) recommended by the chemical companies;
 - iii. lack of education training in farming compounded by high illiteracy levels; and
 - iv. lack of support from agricultural extension workers.
37. Due to unavailability of agricultural extension officers, the smallholder farmers in Kenya rely on fellow farmers and Agrovets for information about pesticides. Majority of these farmers and Agrovets lack capacity in terms of the use of pesticides.
38. What the Kenyan farmers require is to be enlightened on the importance of alternative farming. The government should invest in training farmers on the use of Sustainable Agriculture (SA) and integrated Pest Management (IPM).

Mr Njaibu Edward, Smallholder farmer from Rumuruti, Laikipia County

39. There is high pesticide use on food intended for local consumption as compared to food meant for export due to the irresponsible use of pesticides.
40. The chemicals do not only pose a significant threat to the consumers due to non-observance of PHI and risk posed by the nature of the active ingredient, such as those that are carcinogenic but also to farmers due to lack of training on safe spraying and the right procedure of disposing of debris.
41. A good number of seasoned farmers are sick and no longer able to spray for themselves due to prolonged exposure to toxic agricultural chemicals.

42. Conflicts between crop farmers and pastoralists have grown in intensity in Laikipia county, and this is attributed to the adverse effects of the toxic agricultural pesticides on the pastoralists herds.
43. Many smallholder farmers are unable to read and understand the meaning of instructions on pesticide bottles/containers, that are written in English and Chinese. The instructions are long and complicated for the farmers to understand.
44. The use of pesticides has had an adverse impact on fecundity among the agricultural farming community compared to the pastoralist communities in Rumuruti town, Laikipia County.

Dr. Silke Bollmohr, Ecotoxicologist

45. Agriculture is one of the most critical sectors in Kenya and worldwide and essential in terms of food production.
46. Although the use of pesticides has helped humanity tremendously to combat pest problems and thereby increase food production. The active ingredients found in the pesticides have harmed humans and the environment.
47. The issue of pesticides use and the possible effect on human and other non-target organisms has been discussed worldwide, and especially in Europe, there is an enormous awareness of the risk of pesticides; this is why pesticide use in Europe is decreasing.
48. In contrast to Europe, the pesticides import to Kenya its use increased in the last four years. The total volume had more than doubled for fungicides, herbicides, and insecticide. The value of pesticides sales to Kenya increased from US\$ 35 million in 2016 to US\$ 85 million in 2017.
49. Pesticides can be mobile. When a farmer sprays a pesticide, most of the chemicals should land on the crop. However, quite a bit falls on the soil and are washed off into nearby waterways, and transported via spray-drift, they leach into the groundwater which ends up being used by households.
50. Furthermore, pesticides can be evaporated and can be accumulated in fat tissue depending on the lipophilicity. All these characteristics are essential in a risk assessment. As a result of pesticides use and their mobility, pesticides can be found in all rivers worldwide.
51. According to the study done by Steele and Schulz from the University Landau in Germany, it was found that more than 50 % of the 11300 measured pesticides concentrations being published worldwide exceeded the maximum allowed levels in rivers to protect the aquatic system. This revealed that the risk assessment procedure does not really protect the environment. Kenya hardly has any data on pesticide concentrations in the river since it is not included in a monitoring program as it is in other parts of the world.
52. The world had witnessed a sharp decrease in insect biomass and diversity. Between 2008 and 2017, grassland and forest sites were sampled for insects and it was found that biomass and diversity declined by 80% and the number of species by 35%. These could be because of many reasons, including climate change, urbanization, and deforestation, but agriculture attributes to most of the changes, contributing to 46% to the decrease in insect biomass and diversity.
53. Pesticides have a negative effect on soil health. They influence the bacteria composition in the soil, significantly those responsible for nitrogen-fixing; they harm earthworms and other soil life, which usually make the soil fertile and provide nutrients to the plants.
54. Biodiversity in the soil is essential for healthy crop growth. Kenya faces problems concerning soil quality. The country's maize production dropped by 25% from 44 M bags in 2018 to 33 M in 2019 because of soil degradation.
55. There is no data available in Kenya about the extent of pesticide residues on food in the local market. Although there is random monitoring of pesticide residues on exported products to ensure the MRLs are not exceeded, there is no information regarding local products.
56. The withdrawal process of chemicals from the market is determined by whether they cause unacceptable harm to the environment or human health and whether there are

enough data to prove that there is a risk or there is not enough data provided by the industry.

57. In Kenya, there are 230 active ingredients registered for horticultural use. One hundred thirty-four (134), are also approved in Europe, and 19 are not found in the database, which could mean that they are not relevant for European agriculture, since either the relevant crops are not growing there or the relevant pests are not occurring there.
58. However, 77 active ingredients are withdrawn from the market. Meaning they have been in use for specific crops and pests, but during re-registration, they had been withdrawn. 77 active ingredients account for 33% of all active ingredients. These translate to 329 products, which contain active ingredients withdrawn from the European market.
59. In terms of environmental issues, 317 products are highly toxic to fish, and 231 highly toxic to bees' this accounts for 37% being highly toxic to fish and 27% being highly toxic to bees.
60. This number might even be higher, as these tests are usually done with the European honey bee and not with the pollinators occurring here in Kenya (like African honey bee or stingless bee), which has been shown to be more sensitive than the European one.
61. Kenya cannot perform a proper risk assessment with these data due to lack of exposure concentrations, lack of monitoring data for the environment, and lack of data on fish populations and pollinators. This is a massive gap in the proper regulation of pesticides.
62. There are 45 products on the Kenyan market, which are undoubtedly classified as being able to cause cancer; 31 products can cause changes in human genes, which also leads to cancer; 51 products can interfere with the human hormone systems which can cause tumours or congenital disabilities; there are 175 products that are toxic to the nervous system which can lead to memory loss, headaches, impaired vision and are being linked to Alzheimer's disease; and 360 products with apparent effects on reproduction.
63. The following are some of the properties of active ingredients of great concern that are sold in Kenya:
 - a) **Chlorothalonil** - is an organochlorine fungicide with multiple Mode of Actions, which is why farmers like to use it, as it is unlikely that it creates fungal resistance. That's why it is also often used in Résistance management. It is registered in 20 products and is mainly used to control blight, rust, and downy mildew on various vegetables. In Europe, it was withdrawn from the list of authorized pesticides. Among the withdrawn active ingredients, it's the most sold pesticide to Kenya with a value of 4.5M dollars.

A review by EFSA recommended the withdrawal, as the approval criteria do not seem to be satisfied for a wide range of reasons:

Effects on the environment:

- i. The risk to the aquatic system with high toxicity towards fish and amphibians with relatively high persistence in waterways;
- ii. Chlorothalonil and its breakdown products have been found in groundwater in many European countries, not only in countries with sandy soil; and
- iii. It is very toxic to bumblebees, and there is a gap in testing since wild bees have not been tested yet (which are often more sensitive).

Effects on human health:

- i. There is a proven effect on the reproduction system. Test on mice showed inhibition of ovary development and affects spermatogenesis.
- ii. Breakdown product causes DNA damage.

Chlorothalonil was classified as category one (1) carcinogen from the European Chemical Agency (ECHA). This category is set by the International Agency for Research on Cancer (IARC): Category 1 means: The substance is carcinogenic to humans. This category is used when there is sufficient evidence of carcinogenicity in humans.

b) **Permethrin** - Permethrin is a synthetic pyrethroid insecticide mainly applied to grains for post-harvest storage (grain borer but also as a foliar spray to control termites and stalk borer in maize). In Kenya, it is sold in products like Actellic Super Dust, Ambush. It was withdrawn in Europe in 2003.

With regards to the environment, permethrin poses a risk to the aquatic system (fish), and they are highly toxic to various bees and other beneficial insects.

With regards to human health, it is classified as a likely human carcinogen (liver and lung tumour) and new research has shown that permethrin can cause potential carcinogenicity to human nasal mucosal cells

c) **Carbendazim** - It is a broad-spectrum fungicide registered for the control of rust, mildew, blight and other fungal diseases in various vegetables and staple crops. It is the breakdown product of benomyl, which had also been withdrawn in Europe. It is registered in 17 products and is imported to Kenya for a value of 0.44M dollars. In Europe, it was withdrawn in 2011.

Effects on the environment

Carbendazim significantly reduces earthworm weight, and earthworms show avoidance response at field relevant soil concentrations.

Effects on human health

- i. Benomyl (and metabolite carbendazim) has been known to cause adverse effects on the male reproductive systems, including decreased testicular and epididymal weights and reduced epididymal sperm counts and fertility in the rats.
 - ii. Carbendazim is a potent endocrine-disrupting substance
 - iii. Carbendazim is classified as a likely human carcinogen (liver tumor).
 - iv. Carbendazim is capable of disrupting chromosome unfolding, can cause infertility (effect on reproduction systems), and can cause malformation in the fetus at very low doses.
- d) **Dimethoate** - it is an organophosphorus insecticide and it is registered for use on coffee, potatoes, cotton, tobacco. It's still registered in 13 different products in Kenya and is the second-highest value in import with 2.41M dollars. It was withdrawn from Europe.

Effects on human health

- i. Dimethoate is possibly carcinogenic
- ii. Positive gene mutation effects were observed in bacterial and mammalian cells in vitro with dimethoate
- iii. Genotoxicity was observed associated with oxidative damage in the liver and kidney of mice, and dimethoate also acts on the antioxidant status of the liver and brain in rats.
- iv. Dimethoate is neurotoxic as other organophosphates.
- v. It is also suspected to be an EDC, possibly acting on the thyroid in mammals and wildlife, and it has a negative impact on reproductive performance of male mice.

MIN. NO.NA/DC.H/2019/124:

ADJOURNMENT

There being no other business, the meeting adjourned at 12.03 pm.

Sign.....  Date..... 2.1.2019

(Chairperson)

MINUTES OF THE FORTY-FIRST (41ST) SITTING OF THE DEPARTMENTAL COMMITTEE ON HEALTH HELD IN COMMITTEE ROOM, 2ND FLOOR, CONTINENTAL HOUSE, PARLIAMENT BUILDINGS ON TUESDAY 8TH OCTOBER, 2019 AT 9.30 A.M.

PRESENT

1. Hon. Sabina Chege , MP - **Chairperson**
2. Hon. (Dr.) Swarup Ranjan Mishra, MP – **Vice Chairperson**
3. Hon. (Dr.) James Nyikal, MP
4. Hon. (Dr.) James Kipkosgei Murgor, MP
5. Hon. (Dr.) Eseli Simiyu, MP
6. Hon. Stephen Mule, MP
7. Hon. Muriuki Njagagua, MP
8. Hon. Prof. Mohamud Sheikh Mohamed, MP
9. Hon. Martin Peters Owino, MP
10. Hon. David Ochieng' MP
11. Hon. Kipsengeret Koros, MP
12. Hon. Esther M. Passaris, MP
13. Hon. Gladwell Jesire Cheruiyot, MP
14. Hon. Zachary Kwenya Thuku, MP

ABSENT WITH APOLOGY

1. Hon. (Dr.) Mohamed Dahir Duale, MP
2. Hon. Alfred Agoi Masadia, MP
3. Hon. Tongoyo Gabriel Koshal, MP
4. Hon. Patrick Munene Ntwiga, MP
5. Hon. Mercy Wanjiku Gakuya, MP

IN ATTENDANCE

NATIONAL ASSEMBLY SECRETARIAT

- | | | |
|-----------------------|---|---------------------|
| 1.Mr. Benjamin Magut | - | Clerk Assistant I |
| 2.Mr. Muyodi Emmanuel | - | Clerk Assistant III |

MINISTRY OF HEALTH

- | | | |
|-------------------------|---|---|
| 1. Dr. Rashid Aman | - | Chief Administrative Secretary |
| 2. Dr. Patrick Amoja | - | Senior Deputy Director of Medical Services(SDDMS) |
| 3. Dr. Waqo Ejersa | - | Deputy Director of Medical Services (DDMS) |
| 4. Mr. Aaron Kimilu | - | Disaster Specialists |
| 5. Mr. Nicodemus Odongo | - | Ag. Chief Executive Officer |
| 6. Mr. Ibrahim Abdi | - | Parliamentary Liaison Officer |

PETITIONERS

1. Hon. Gladys Boss Shollei, MP
2. Ms. Anne Wanjiku Maina – National Coordinator, The Biodiversity and Biosafety Association of Kenya (BIBA-K)
3. Mr. Eutace Kiarii – Chief Executive Officer, KOAN)
3. Ms. Layla Liebetrau – Project Lead , Route to Food Initiative
4. Mr. Emmanuel Atamba – Ambassador, Route to Food Initiative

MIN. NO.NA/DC.H/2019/93:

PRELIMINARIES

The Vice-chairperson called the meeting to order at 9.40 am and said a prayer, followed by a round of introductions.

MIN. NO. NA/DC.H/2019/94:

ADOPTION OF AGENDA

The agenda of the meeting was adopted as hereunder after being proposed by Hon. (Dr.) James Murgor, MP and seconded by Hon. Martin Peters Owino, MP.

AGENDA

1. Prayers
2. Adoption of the Agenda
3. Confirmation of the Minutes
4. Substantive Agenda:
 1. Response by the Cabinet Secretary to questions asked by Members of Parliament.
 2. Meeting with Hon. Gladys Boss Shollei, MP over the Petition regarding withdrawal of harmful chemical pesticides in Kenya.
5. Any Other Business
6. Date of the Next sitting

MIN. NO.NA/DC.H/2019/95:

**RESPONSE BY THE CABINET
SECRETARY TO QUESTIONS ASKED BY
MEMBERS OF PARLIAMENT**

Dr. Rashid Aman, the Chief Administrative Secretary, representing the Cabinet Secretary, submitted as follows, in response to various questions asked by Members of Parliament;

Question No. 380/2019: By Hon. John Oroo Oyioko, MP for Bonchari, on remittance of funds for the elderly to NHIF

Upon deliberations the Committee noted that the information provided was not satisfactory and requested that the Ministry provides a comprehensive response to the question in the next meeting with the Committee scheduled for 22 October, 2019.

Question No. 383/2019: By Hon. Florence Mutua, MP, on measures put in place to enhance disaster reduction in the country.

The Committee was informed that Hon. Florence Mutua, MP would not be available and that she had requested for the question to be deferred.

Question No. 384/2019: By Hon. Didmus Baraza Wekesa, MP, on number of patients seeking for cancer treatment abroad and measures taken by the Ministry in ensuring that cancer diagnosis is carried out at all levels of hospitals in the country.

The question was deferred pending Speakers ruling on whether a Chief Administrative Secretary (CAS) is legally allowed to appear before a committee to answer a question addressed to the Cabinet Secretary.

Question No. 424/ 2019 asked by the Hon. James Kamau Wamacukuru, MP on remittance of healthcare funds for the elderly.

1. The Health Insurance Subsidy program for the Elderly and Persons with Severe Disability covers a total of 42,000 households. Their annual premium payable by the government is Ksh. 252 Million.
2. In 2018/2019 FY, the allocation was provided for in the printed estimates for the Ministry. However, funds for older persons and people living with disabilities were not received from the exchequer.
3. The Ministry received Ksh. 2 Billion for Linda Mama program and Ksh. 636, 262, 500 for orphans and vulnerable children and the Health Insurance Subsidy Program for the poor (HISP) from the National Treasury. The funds received were transferred to NHIF for the implementation of the two programs.
4. The elderly and people with disability have been accessing care in the four piloted counties. The same will be replicated during the scale up to the remaining 43 counties. The Ministry had earmarked 3.15 Billion to cover for the elderly and severely disabled subsidy program during the FY 2019/20 as part of the UHC Fund.

Committee Resolutions

1. Ministry to provide a breakdown of persons benefiting from the Health Insurance Subsidy for the Poor (HISP), Elderly and Vulnerable Persons and the Inua Jamii (names and numbers of the beneficiaries per constituencies and counties).
2. Ministry to urgently engage with the Treasury to allocate adequate exchequer to social protection programmes in the health sector, specifically the funds meant for the elderly persons who had been issued with inactive NHIF cards.
3. The Cabinet Secretary should endeavor to appear before the Committee to respond and provide comprehensive responses to matters addressed to her office.

MIN. NO.NA/DC.H/2019/96:

MEETING WITH HON. GLADYS BOSS SHOLLEI, MP OVER THE PETITION REGARDING WITHDRAWAL OF HARMFUL CHEMICAL PESTICIDES IN KENYA

Hon. Gladys Boss Shollei, MP submitted, that:

1. There has been an increase in the prevalence of chemical pesticides in Kenya, which pose a risk to human health and harmful effects to the environment;
2. The volume of imported insecticides, herbicides and fungicides had more than doubled within four years from 6400 tons in 2015 to 15600 tons in 2018 with a growth rate of 144%;
3. There is no data available concerning the use of pesticides, concentration of pesticides in water, soil and food and their related impacts;
4. There are products on the Kenyan market, which are certainly classified as carcinogenic (24 products), mutagenic (24 products), endocrine disrupter (35 products), neurotoxic (140 products) and many which showed clear effects on reproduction toxicity (262 products); many of which had been banned in Europe, United Kingdom and USA;
5. The increase in pesticide use has not been accompanied by the necessary safe guards to control how they are applied;
6. During the pesticides registration process in Kenya, it's mainly the purity and efficacy of the product that is tested. Data on human and environmental health under local conditions

are scarcely taken into consideration. The Pest Control Product Act Cap 346 Laws of Kenya does not state environmental and/or human health as possible concern during the registration process;

7. The Kenya Plant Health Inspectorate Service (KEPHIS), has been contravening Section 15 of the Pest Control Product Act, by failing to publish available information on the actual levels of pesticides in food samples collected and put in place regular monitoring system.
8. There are no epidemiological health studies related to pesticides exposure on our health and their impact to the environment;
9. The Pest Control Products Board PCPB has not been adhering to the World Health Organization (WHO) and Food and Agriculture Organization (FAO) international Code of conduct on Pesticides Management.

The petitioners prayed that the Committee:

- i. Recommends for immediate ban of all products on the Kenyan Market, classified as carcinogenic, mutagenic, endocrine disruptors, neurotoxic and many which show clear effects on the reproduction toxicity;
- ii. Recommends withdrawal of all harmful and toxic pesticides in Kenya's market based on the active ingredients used, that pose serious health risks to Kenyans and develop and implement a strategy to remove such harmful pesticides from the market, recognizing that it could take several years for products to be completely unavailable through local shops and dealers;
- iii. Recommends that the Government establishes and strengthen monitoring system on the use of pesticides through increased data collection on food samples in the market and the level of pesticides contained; and
- iv. Recommends an amendment to the Pest Control Products law to include a list of pesticides that have been withdrawn from the market based on the serious health risks posed to Kenyans, and to make it mandatory for the Pest Control Products Board (PCPB) to assess data on environmental and human health impacts during the registration and re-registration process of products.

Committee Resolution

The secretariat was tasked to fix a date when the Committee will meet with the Kenya Plant Health Inspectorate Service (KEPHIS), Pest Control Products Board PCPB, National Environmental Management Authority (NEMA) to deliberate on the issues raised in the Petition.

MIN. NO.NA/DC.H/2019/98:

ANY OTHER BUSINESS

Hon. Stephen Mule, MP brought to the attention of the Committee the matter regarding Pre-Export Verification of Conformity to Standards (PVoC). The Member said that the requirement will increase the costs of medicine which will result in shortages of medicines and medical supplies in the country.

The Committee resolved to engage with both the Ministry of Health and Ministry of Trade to address the matter.

There being no other business, the meeting adjourned at 1.25 pm. Next Sitting would be on Tuesday, 15th August, 2019 at 9.30 am.

Sign.......... Date.....16-10-2019.....

(Chairperson)

