Policy Brief

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Scaling up the Spray Service Providers Model: Assuring Farmer Access to Safe and Quality Agrochemicals

Recommendations for scaling the SSP model to enhance safe handling and use of agrochemicals.

- The Federal Ministry of Environment should adopt and integrate the SSP model as part of Pesticide Regulation.
- NAFDAC, SON and NESREA should collaborate and increase investment in the wider application of the SSP model through improved budgetary provisions, for instance.
- Acting as the supervising institution FMARD should enhance integration of the SSP model with other solutions that could contribute to addressing identified gaps.
- All relevant Development Players should partake in ensuring the passage of the Pesticide Bill and its enforcement.

Every year, between 26 to 40 percent of the world's potential crop production is lost to weeds, pests, and diseases annually[1]. Without agrochemicals, particularly pesticides[2], more than half of the world's crops would be lost to insects, diseases, and weeds[3]. In Nigeria, such grave losses are recorded annually across several crops. In 2018, The Food and Agriculture Organization of the United Nations (FAO) reported that Fall Army Worm alone devastated 7.8 million hectares of cultivated cereal, robbing 1.5 million households of a cumulative value of $268 million[4]. No doubt, the use of agrochemicals is crucial to crop productivity. Although other Integrated Pest Management (IPM) methods exist, they are largely foreign to Nigerian farmers, hence, the reliance on chemical pesticides for pest control.

A Spray Service Provider (SSP) at work spraying pesticides on a farm. Photo credit: Propcom Mai-karfi

Although Crop Protection Products (CPP) are important for enhanced crop productivity, they are highly dangerous to human and environment health when utilised and disposed improperly. Crop pesticide resistance, damage to the soil, environmental hazards and lethal health effects are the main externalities generated using CPPs. More dangerous is the use of adulterated, substandard, or expired pesticides by farmers on account of illiteracy and poor skill to identify quality pesticides from adulterated and substandard ones. These issues coupled with unsafe handling, use and disposal of pesticide containers has an overarching implication on the millions of farmers in Nigeria that require quality pesticides to enhance production. Hence the need for regulatory actions around integrating a specialised supply chain into the value chain whilst supporting institutional strengthening in key institutions. The Spray Service provider network, initiated by a few years ago by Crop Life, with the support of FCDO/Propcom offers that specialised delivery channel that can be replicated to ensure last mile access as well as address the safety concerns associated with poor handling.

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The CPP regulatory environment, gaps and opportunities; findings from consultations and PM's experience

The Nigeria regulatory environment in the pesticide chain is highly fragmented, with attendant challenges.

Port of Entry

Multiple players are involved at the port of entry and registration of products, with duplicity of roles, creating multiple layers of pre-registration/licensing assessment and taxation. The institutions responsible for this process are the National Environmental Standards and Regulations Enforcement Agency (NESREA), Standard Organisation of Nigeria (SON) and the National Agency for Food and Drug Administration and Control (NAFDAC). On the one hand, some roles related to pesticide regulations by these institutions are vague, yet, where they are clearly defined within their legal framework, the requisite infrastructural and capacity requirements to deliver appear weak. By mandate, all three institutions are involved in different activities across the supply chain that span boarder inspection of pesticides, issuance of post inspection clearance certificate, market surveillance, and compliance and monitoring, albeit to varying degrees. However, there remains regulatory gaps exploited by suppliers of adulterated and substandard pesticides. For instance, there is no institution undertaking laboratory testing of imported pesticides to confirm reported content by the importers. There is, thus, no evidence indicating the quality of pesticides, and it is unclear if registration/import license numbers relate to quality assurance.

Consultations with stakeholders attribute the lack of clarity of roles and gaps in capacity to the absence of the Pesticide Act that is yet to be instituted in Nigeria. The absence of the Act creates a huge institutional gap for effective regulation and coordination of the actions of various actors in the industry.

Distribution and Application of Pesticides

The distribution and application of pesticides in crop production is largely managed by independent distributors known as agro-dealers, and members of the farming households. In most cases, agro-dealers are extremely reliant on CPP companies for technical information about their products and application protocols. Similarly, farmers rely heavily on agro-dealers for information on products to use and how and when to use them. Consequently, farmers' knowledge of products is completely dependent on the extent of the agro-dealers' knowledge and their accessibility to the farmers. Also, the quality of products available to farmers is whatever the agro-dealer has access to. Recent field assessments indicate low product knowledge across the chain – agro-dealers and farmers show limited knowledge on CPP measurements and specialised applications.

Although NAFDAC and NESREA have the primary responsibility of offering post-market surveillance to drive availability of quality pesticides, NESREA and Federal Ministry of Agriculture and Rural Development (FMARD) play a major role in ensuring safe use and handling of pesticides through awareness and education Programmes.

Despite most consultations identifying resource gap as the factor limiting delivery on these mandates, the underlying issues identified by Propcom are;

- Difficulty finding an efficient and coordinated system that allows NESREA and FMARD deliver on compliance and monitoring
- Lack of an empowering policy/reform that allows NESREA and NAFDAC enforce punitive measures for non-compliance.

Disposal

Appropriately disposing of pesticide containers is closely linked to strengthening and regulating the supply chain. Currently, when agro-dealers sell pesticides, application of the pesticides and disposal of their containers become the sole responsibility of the purchaser, who in most cases are farmers. Pesticide containers can constitute health and environmental hazards in two major ways:

- when they're repurposed for storage for domestic use, such as storage of water for cooking, drinking and bathing, and as drinking bottles
- when they're resold to local producers of counterfeited pesticide products.

For public health and safety purposes, NESREA needs a system that can efficiently and effectively retrieve pesticide containers from the system, and CPP companies are interested in protecting their products from counterfeiting and their reputation from the

negative externalities resulting from poor container management. Both NESREA and the umbrella body and trade association of CPP Companies, CropLife, are yet to explore collaboration to address this issue. Proper container management and environmental safety will remain an illusion if the collaborative strengths of CropLife and NESREA are not harnessed to establish a link between the upstream and widely dispersed downstream farmers for a viable way of collecting pesticide containers.

At an industry level, CropLife influences member companies to comply with industry standards. CropLife is the trade association of all agrochemical companies worldwide. Funded by member companies, it has the political will to lobby governments for bills and regulations that promote business growth. Active at regional and national level, they have a vested interest to protect their reputational capital by ensuring that member companies are socially and environmentally responsible and have taken up some of these responsibilities on behalf of its members. This includes initiating the Spray Service Providers (SSP) model, recognising the importance of a specialised delivery chain in ensuring traceability, safe handling, and proper use of their agrochemicals with a view to minimising the negative externalities while enhancing access. Also, under CropLife, container management initiatives have been implemented in parts of Africa except Nigeria due to the absence of a recycler interested in recycling CPP containers according to global standards.

Despite its best efforts, CropLife is limited by the structure of the Nigeria's pesticide regulation. Besides government's limited input in streamlining the importation process, there are questions about the capacity of federal/state institutions to assess the quality of CPPs in circulation, and a growing concern about existing counterfeiting in local markets due to the absence of post market surveillance after distribution. The Association is, thus, at the fore front of lobbying for the Pesticide Bill, which provides appropriate institutional and legal framework for effective regulation of all segments of the Nigerian pesticide industry. It also proposes a Pesticide Council under the leadership of FMARD, with a view to addressing issues around technical capacity that has exposed the industry to substandard and adulterated pesticide.

Spray Service Providers (SSP) and overcoming access barriers to quality CPPs and their proper use – Propcom Mai-karfi's experience

The Spray Service Providers (SSP) model is a localised last mile delivery channel made up of entrepreneurial individuals who have received comprehensive training on pesticides and their application, are equipped with Private Protective Equipment (PPE), and linked to appropriate sources for quality pesticides. Once trained, the Sprayers offer their services (advice and spray services) to farmers at a fee. The model has been proven to lead to increase in yield and reduction in crop production cost. The model also has an operational component that will train the selected sprayers on the technicalities that will ensure safe application.

The SSP model has been successful in enhancing access to quality pesticide and its safe use, including proper container management in other countries. In 2017, Propcom Mai-karfi (PM) embarked on a pilot of the SSP model in collaboration with CropLife Nigeria; the pilot was scaled after a successful first year. Currently, the SSP model is fully established across 8 States in Nigeria - Kaduna, Kano, Jigawa, Gombe, Bauchi, Taraba, Adamawa, and Yobe – with CPP companies and development partners adopting and replicating the model to drive market penetration and as an economic empowerment and crop protection system in communities. From the first year of pilot, farmers who accessed services of sprayers showed a 10 to 12 percent increase in yields compared to farmers who had not use their services. The farmers also spent between 19 to 52 percent fewer aggregate costs on crop production compared to non-users[5].

Over the years, PM has witnessed the direct benefits of the SSP model and the inherent opportunity to address issues of poor handling using the SSP network through the following documented facts:

1. **Improved supply efficiency.** Increase in farmers access to and availability of quality pesticides. Over 80,000 units of pesticides were safely delivered through the SSPs in the first year; this has grown geometrically over the years.

2. **Enhanced knowledge and skills on proper use.** Utilisation of the SSPs leads to safe use and disposal of pesticides. This is because sprayers have direct link to farmers and may retain containers after services are rendered.
3. **Integrated commerce**. Increase in income through provision of spray service by the trained SSPs, which incorporates sustainability element in the use of the model.

As successful as the SSP model has been, it is limited in scope of beneficiaries due to limited visibility, limited investment, and non-regulatory provisions to support its scale.

Implications

In the absence of regulatory support for the SSP model and its subsequent adoption, scale will remain limited with the following persistent problems:

1. **Adulteration and sub-standard pesticide will continue to thrive in the market** and may crowd out quality products and become dominant, further deepening information asymmetry, and leaving the farmers at the mercy of whatever the market offers. This is both a threat to livelihoods and food security.
2. **Unsafe handling and use by farmers** without the use of Personal Protection Equipment (PPE) and with limited knowledge on how to use, potentially raising the risk of increased pesticide residue on the crops with consequent critical health hazards to consumers and trade limitation for food exporters.
3. **Inappropriate disposal of container, increasing the threat to environmental safety and sustainability**. Worse still is the re-purposing done by some uninformed farmers such as use for ablution, drinking and storage. Scaling up the SSP model has an integrated component that reclaims the empty container for recycling.

Additionally, the absence of the Pesticide Bill will continue to drive non-synergy between regulatory bodies and limit institutional capacity to effectively regulate the sector. This will lead to continued neglect or duplicity of roles, as well as poor enforcement of regulations. The result will be the presence of a loophole that producers, marketers, and other actors in the distribution chain can leverage to avoid environmental accountable. Circulation of substandard pesticides, which in turn have implications on production and food security.

Recommended Policy Actions

1. **The Federal Ministry of Environment (FMoE)** should adopt and integrate the SSP model as part of pesticide regulation with NESREA and make it part of the certification requirements for pesticide companies that will ensure health and environmental safety of their products.
2. **Sectoral collaboration – NAFDAC, SON and NESREA** - to increase investment in the wider application of the model through budgetary provisions and greater visibility through effective communication by NESREA.
3. **FMARD** should be the supervising institution to extend integration of the SSP model with other solutions that could contribute proper handling and safe use of pesticides. Working alongside CropLife, this can be addressed in the draft Pesticide Bill.
4. On a longer term, **development players**, should support the process of passage of the Pesticide Bill and its enforcement in strengthening institutional capacity for better regulatory enforcement.

Propcom Mai-karfi's Role

Based on the life of the Programme, PM is poised to engage in advocacy that could lead to actualising the above proposed policy actions. PM will engage directly with NESREA to facilitate *action 1* and *action 2*, then work with CropLife and FMARD to support stakeholder engagement for that would lead to the realisation of action 3. *Action 4* can be advanced by other development programmes that would be interested to take this on.

Expected Results

Recognition, integration and scaling up of the SSP model which has the potential of leading to the following multiple results:

1. Established institutional framework that will drive sustained safe delivery of quality pesticides to protect farmers crops.
2. Product traceability, improved accountability, and better container management, ultimately

minimising the negative externalities. associated with pesticide distribution and use.
3. Positive spill-over effect, with economic opportunities for the wider network of trained SSPs, increasing farmer access.
4. Opportunities for strengthening the network of SSPs to increase their economic viability through cooperative formation, access to credit and other educational benefits that improve their delivery to farmers.

References

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