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DFID Natural Resources Systems Programme

Policy Brief

THE LEGAL ENVIRONMENT AND AGRO-CHEMICAL MANAGEMENT

CGPC

THE LEGAL ENVIRONMENT AND AGRO-CHEMICAL MANAGEMENT

Caribbean societies are becoming increasingly aware of the importance of developing a regulatory framework for appropriate agro-chemical management and use in an attempt to address serious concerns in the areas of trade, agriculture, health and the environment.

The poor management and use of agro-chemicals in the Caribbean has thus been recognised as requiring a prudent mix of scientific, organisational and legislative interventions.

The Legal Unit of the Organisation of Eastern Caribbean States (OECS) has, for example, developed model pesticides legislation for the Caribbean region. If this model is adopted at national levels, it is expected to deliver a number of clear benefits.

It is now acknowledged that appropriate, regionally-harmonised legislation will assist Caribbean territories in meeting a number of international obligations in the areas of agriculture and trade.

These include requirements associated with Good Agricultural Practices (GAP), and include compliance with the Protocol to the 1983 Cartagena Convention on Land Based Sources (LBS) of Pollution and the Rotterdam Convention for Prior Informed Consent (PIC).

There exist, as well, international certification schemes such as EUREPGAP. This scheme defines minimum standards acceptable to European Union (EU) retailers. Furthermore, the United States Certification scheme includes a range of standards that Caribbean countries are required to meet.

Plans to institutionalise GAPs for selected commodities in the Caribbean region have been initiated through the OECS and promoted via the Coordinating Group of Pesticide Control Boards of the Caribbean (CGPC). Additionally, a large number of internationally recognised codes of conduct and good practice guidelines for the use and application of agro-chemicals exist, including some developed specifically for the Caribbean region.

At the national levels, there is also the need to develop licensing regimes for the import/manufacture of pesticides, and the definition of the responsibilities of the importer/manufacturer for stewardship of the chemicals.

Regionally, common licensing procedures for the handling and use of agro-chemicals and a common definition of standards are clearly required.

The consequences of not matching the socio-economic challenges with an appropriate menu of regulatory and legislative devices are considerable.

There is now greater acknowledgement of the economic cost of poor agro-chemical management and use, the inherent threat to human health and life, the threat to the health of non-target and/or beneficial organisms, the persistence of agro-chemicals within the environment and other effects on the environment, and the potential benefits of proper agro-chemical management to immediate users and the wider society.

Caribbean environments are especially vulnerable to agro-chemical pollution mainly because of the small size of the islands that comprise the region. Pollutant sources within watersheds are closely linked to the wider coastal and marine environment and upstream land-generated pollutants are thus to be found in high concentrations in coastal waters throughout the region.
The Cartagena Convention and its Protocol on Land Based Sources of Pollution provide a framework to address this problem and outline the obligations of Caribbean states in ameliorating agro-chemical pollution, including the development of national action plans to address land-based pollution.

The negative impacts of the phenomenon of poor agro-chemical practices are not exclusive to the Caribbean but there is now mounting evidence that developing countries worldwide suffer a disproportionate share of its more serious consequences.

For example, the statistics show that while developing countries use between 10% and 25% of the world's pesticides, they suffer up to 50% of the reported cases of acute poisoning and between 73% and 99% of the reported fatalities among pesticide applicators.

In the Caribbean, it is the poor, little-educated, socio-economically disadvantaged who are at greatest risk from improper pesticide use.

Activities to which the more serious impacts of this problem have been attributed include:

- Illegal imports and their use
- Repackaging of chemicals by vendors without labeling
- Incorrect application
- Inadequate application equipment
- Failure to wear protective clothing
- An absence of consistent long-term monitoring, and insufficient research is conducted
- A lack of long-term monitoring programmes and targeted research activities, including bioaccumulation
- Few comprehensive studies on agro-chemicals and their impacts
- A paucity of information on the fate of agro-chemicals in the land-water interface.

It is thus readily evident that a cohesive region-wide agro-chemical management strategy needs to be developed and employed. Its central focus would be to reduce toxic flows and to employ better health and safety practices to protect people and safeguard the environment and economic resources.

Such a strategy is necessarily a multi-disciplinary challenge. Government agencies straddling the areas of Legal Affairs, Agriculture, Health, Trade, Tourism and the Environment are thus jointly confronted with the need to formulate an appropriate response.

The Coordinating Group of Pesticide Control Boards of the Caribbean (CGPC), in collaboration with regional inter-governmental agencies such as the Caribbean Agriculture and Research Development Institute (CARDI) and Caribbean Environmental

Health Institute (CEHI) and its international collaborators, is proposing an approach to the current situation.

The CGPC Strategy for Improved Agro-Chemical Management in the Wider Caribbean outlines the 10 key prioritised management recommendations that have been developed. These recommendations are grouped in the four principal priority areas of Harmonised Agro-Chemical Management, Support for the System for Agro-Chemical Management, Good Agricultural Practices (GAP) and other Good Practices related to the mitigation of pollution and, the use of Monitoring and Research to inform Management Decisions.

Harmonised agro-chemical management

Harmonised procedures for agro-chemical management should be adopted throughout the Wider Caribbean:

- Model legislation on Pesticides and Toxic Chemicals should be ratified and adopted. This will dictate the administration, use, and monitoring of agro-chemicals.

- Administrative procedures should reflect the requirements of the harmonised legislation and be promoted.

- A locally owned and managed database should be developed for harmonised administration and information sharing.

- Regionally acceptable (or local) standards for Maximum Residue Limits should be established, in the absence of which the Food and Agriculture Organisation (FAO)/ World Health Organisation (WHO) Codex Alimentarius standards should be applied where possible.

- Regional environmental reference sites need to be established.

Supporting the system for agro-chemical management

- Sustainable financing and cost recovery mechanisms must be investigated and, where necessary, novel and creative means found to develop capacity, and to fulfil all the functions of the various institutions involved in all aspects of agro-chemical management. External sources of funding must be explored and fully utilised.

- Communications experts should be engaged for communication, education, and training purposes; change-management concepts should be applied.

- Undertake an institutional analysis and evaluation of the capacity and resource needs of Pesticide Control Boards (PCBs) and other relevant executing agencies (e.g. extension services, monitoring and research agencies, medical laboratories) throughout the Wider Caribbean. Duplication of effort should be rationalised.

- PCBs must be adequately staffed and financed to administer and implement national legislation relating to agro-chemicals. There should be a dedicated full-time staff. The composition of the Board of Directors should include representation from the private sector and persons with experience in ecological issues and the fate of agro-chemicals in the environment.

GAPs and other good practices (Mitigation of Pollution)

GAP and other good practice codes of conduct for agro-chemical use need to be implemented, particularly for domestic products not already covered by existing arrangements.

Informing management decision (monitoring and research)

- Promote implementation and further research on Integrated Pest Management (IPM) and Integrated Management of Pests and Pesticides (IMPP) as a means of improved management of use of pesticides.

- Socio-economic analyses, including cost-benefit analyses, should be conducted for different farming practices, including options for agro-chemical use (e.g. IPM).

- Carefully designed public health monitoring plans must be developed. Ensure adequate analytical capacity to enable monitoring for compliance with standards for public health (i.e. medical and food residue monitoring laboratories).

- Carefully designed long-term environmental monitoring plans must be developed (from the farm to the sea).

THE WAY FORWARD

It is vitally important that issues of capacity and financial resources in the relevant organisations are investigated to see what further research and long term monitoring programmes are possible.

Governments, NGOs, and chemical companies should investigate sustainable financing mechanisms to fund research institutions and laboratories and to conduct further investigations and continuous monitoring of the use of agro-chemicals on farms, including soil testing, in order that data can be used for comparative purposes.

Greater collaboration between Caribbean states is also needed. This process will require the assistance of the relevant regional bodies, through partnerships for collaborative research and the development of improved mechanisms for the sharing of information.

Mechanisms also need to be devised to aid in the pooling of resources to enable the funding of research and long-term monitoring programmes through a regional agency or body like the CGPC. Research could be shared between the countries through a common regional database that is maintained by the CGPC Secretariat, UNEP, CEP, or a dedicated team.

There should also be an evaluation of the potential for locally shared reference conditions or sites relating to similar habitats throughout the Caribbean while data on undisturbed and less disturbed habitats are compiled to develop a regionally applicable set of reference conditions.

The region also needs to evaluate the potential for harmonisation of standards throughout the Caribbean. It is important that Caribbean territories jointly explore

standards appropriate to the local environmental conditions, and establish national/ regional standards.

Regionally acceptable national standards for Maximum Residue Limits should be established, in the absence of which the FAO/WHO Codex Alimentarius standards should be applied where possible.

Environmental monitoring is also an essential tool in the development of an appropriate management regime. Such a strategy should be developed and placed in the context of watershed management.
There is also a definite need for further research on the impact of agro-chemicals on humans to identify pesticide poisonings and to see whether there may be correlations between pesticide exposure and certain medical conditions such as cancers, infertility, and other health effects.

Additional studies should also be conducted on the use and fate of agro-chemicals in tropical ecosystems (including their impact on marine biota) and especially in terms of their persistence in the environment in areas of heavy pesticide use.

Chronic and acute toxicity of residues in the environment need to be monitored. Priorities for monitoring should be adjusted periodically to reflect changes in the knowledge base of agro-chemicals' properties, importation and usage patterns, as well as social conditions.

A programme should be developed that aims to educate the general public, users of agro-chemicals, and the medical profession of the many detrimental effects of pesticides on human health and the health of other organisms.

This programme should also include increased awareness of Integrated Pest Management (IPM) and Integrated Management of Pests and Pesticides (IMPP), the undesirability of pesticide persistence in the environment, acute and chronic toxic effects of pesticides, and change-management concepts. This must be accompanied by training and certification of Extension Officers, farmers, and pesticide applicators.

Furthermore, it is recommended that a regional database for recording registration and management of pesticides would be a valuable tool to support the process of harmonisation and enable information sharing.

Harmonised administrative procedures could include common legislation; a common definition of the structure and function of the PCBs; regionally-developed and accepted lists of registered and prohibited substances and common registration procedures, and specification of the circumstances under which chemicals may be used.

There is also a need for common licensing procedures for the import/manufacture of pesticides, and the definition of the responsibilities of the importer/manufacturer for stewardship of the chemicals; common licensing procedures for the handling and use of agro-chemicals; a common definition of standards (i.e. permissible residue limits in the environment) and a common approach to promoting alternatives to pesticides and shared analytical capacity through CEHI and other institutions.

It is notable, in all this, that limited human and financial resources are the major constraint to the full implementation of national and regional obligations and good practice codes of conduct for agro-chemical management. But the region needs to employ appropriate strategies to make best use of what is already available.

The passage of legislation to control the use and application of agro-chemicals is one requirement which can address many important elements of this issue. Already, the Organisation of Eastern Caribbean States (OECS) offers model for the harmonisation of legislation in the area of concern.

This can be supplemented by greater clarity, within national systems, on the question of the jurisdiction over agro-chemical user groups.

Additional information is available on the following websites:

- PCA website: http://www.caribpesticides.net
- MRAG website: http://www.mragltd.com
- CEHI website: http://www.cehi.org.lc/agrochemical.htm