DFID Natural Resources Systems Programme

NPA TOOLKIT VOLUME II

National Plan of Action (NPA) Guideline Annexes

Development Implementation and Monitoring & Evaluation of a NPA for Agrochemical management in the Caribbean

CGPC

ACKNOWLEDGEMENTS

This publication is an output from a research project funded by the UK Department for International Development (DFID) for the benefit of developing countries, under its Natural Resource Systems Programme (NRSP). The views expressed are not necessarily those of DFID or NRSP.

The authors of this report include Herold Gopaul and Avril Isaac from the Caribbean Environmental Health Institute and Charlotte Howard and Chris Mees from Marine Resources Assessment Group Ltd.

We wish to acknowledge the support and assistance of the Coordinating Group of Pesticide Control Boards of the Caribbean (CGPC) for their feedback on the Tool Kit.

The project R8364 Caribbean Agro-chemical Management Project (CAMP) was funded through the Land Water Interface (LWI) programme within NRSP from January 2004 to September 2005. It followed on from a previous NRSP project (R7668) Impact and amelioration of sediment and agro-chemical pollution on Caribbean coastal waters which had undertaken a situation analysis of agro-chemical use and management in the Caribbean and assisted the CGPC to develop a Strategy for Improved Agro-chemical use and management. For further information see www.mrag.co.uk/MRAG/Projects_R7668.htm.


EHI
CARICOM


MRAG


NRSP
MRAG
DFID Natural Resources Systems Programme

TABLE OF CONTENTS

ANNEX A

A- 1 Undertaking a Stakeholder Analysis

What is a Stakeholder Analysis?

Stakeholder Analysis is a way of identifying groups of people and organisations that have a role or an interest in a process, and describing what their involvement or interest is.

Why undertake a Stakeholder Analysis?

It is important for the development and implementation of the National Plan of Action (NPA) to be participatory. A Stakeholder Analysis gives a clear picture of who is, or should be, involved in the process and what influence different groups might have on the development and outcomes of the NPA.

Steps in undertaking a Stakeholder Analysis

The main steps of a stakeholder analysis are:

1. Draw up a list of all potential stakeholders and classify them (primary or secondary)
2. List each group's interests
3. Assess the potential impact of the process on each stakeholder
4. Indicate their relative priority and influence of each stakeholder
5. Assess stakeholder capacities and potential role in NPA
6. Record your results

1. Draw up a list of all potential stakeholders

A stakeholder is:

- Someone ***affected*** (positively or negatively) by the impact of an activity; or
- Someone who can ***influence*** the process or impact of an activity.

List all potential stakeholders (or stakeholder groups) who are likely to be affected or can influence the NPA. Think through the entire chain of agro-chemical use and management from import through to manufacture, use, and disposal.

You may want to write down each stakeholder on a separate piece of paper so you can group them together or separate them as you consider their relationships and roles.

2. List each group's interests

For each stakeholder group, list their interests in relation to the NPA development process and outcomes. Remember that each group may have several objectives and roles in the process.

3. Assess the potential impact of the process on each stakeholder

Assess whether the NPA development process and outcomes will potentially have a positive or negative impact on each stakeholder group, for example using the following symbols:

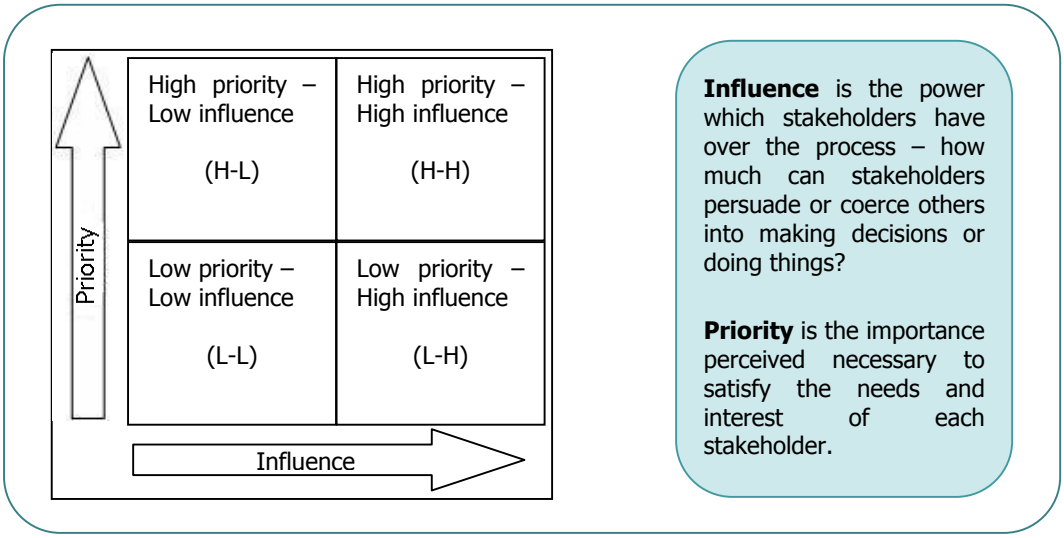
\+ potential positive impact

– potential negative impact
+/– possible positive and negative impacts in different circumstances
? uncertain

4. Indicate the relative priority and influence of each stakeholder

Diving a large sheet of paper into four squares, write each stakeholder on a separate piece of card or paper, and position them on the paper according to their priority in the process and the influence they may have on the process and its resulting impact. From bottom to top is from low priority to high priority; from left to right is from low influence to high influence.

Priority and Influence matrix for the Stakeholder Analysis



The issues to consider for the stakeholders that fall into each 'box' are as follows:

Top right-hand square - high priority and a high influence. It will be important to build good working relationships with these stakeholders to ensure an effective coalition of support for project implementation.

Top left-hand square - high priority and low influence. The NAP may need to make provisions to keep these stakeholders and to consider the impacts on them.

Bottom left-hand square - low priority and low influence. These groups should be kept informed, but are not a priority to be actively involved.

Bottom right-hand square - low priority and high influence. These stakeholders may be important to involve either to gain their support or to ensure they do not disrupt the process with negative impacts for primary stakeholders.

5. Assess stakeholders' assets, abilities, skills, experience and their potential role in a NPA.

Assess the assets, abilities, skills and experience of each stakeholder in relations to a NPA.

6. Record your results

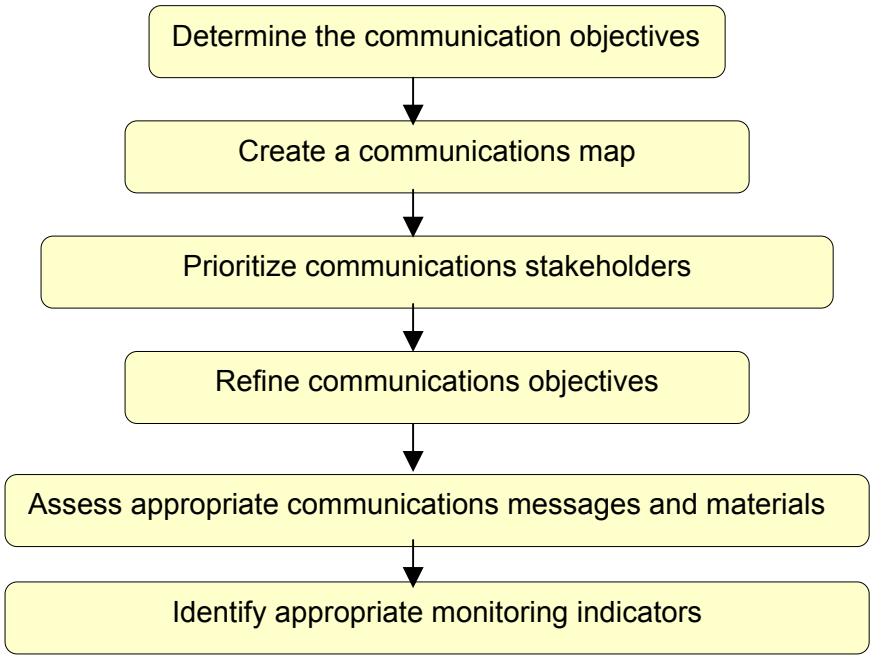
You can record your results in a table similar to that below:

Stakeholder	Interests	Likely impact of NPA	Priority - Influence	Capacities	Potential roles in NPA

A- 2 Developing a Communications Plan

Introduction

The diagram below summarizes the steps involved in developing a communications plan.



Determine the objectives of the Communications Plan

The first step in developing a communications plan is to determine the broad objectives of communicating with different stakeholder groups. Is it to inform, involve, influence, lobby stakeholders, or a combination of these?

A useful exercise to assist this process is to think of the constraints and opportunities in developing and implementing the NPA. Using these determine where effective communications can help address the constraints or enhance the opportunities. It should be remembered that communications objectives are not necessarily the same as the goals, sub-goals or objectives of the NPA but should assist in achieving these.

Create a communications map illustrating communications channels

Creating a communications map will clarify how different stakeholders are linked through communications channels and which of these can be used in relation to the NPA. See Figure 1 for a Communications Map.

Start by writing 'National Plan of Action' in the centre of a flip chart. This represents the process that is being undertaken and the team that are involved in its facilitation. Write the key stakeholders on the flip chart but arrange them so that the stakeholders most closely associated with the assessment are positioned closer to the centre and less associated stakeholders towards the edges of the page.

Use one colour of arrows to illustrate communications channels that exist between these stakeholders. Following this indicate with another colour the channels that can

be used for achieving the communications objectives supporting the NPA. Indicate with a solid line the direct communications channels and with a dashed line channels which will go through intermediates. For example the lead agency or the NCC may want to directly communicate with the Ministry of Agriculture, but may use NGOs as an intermediate to communicate with farmers.

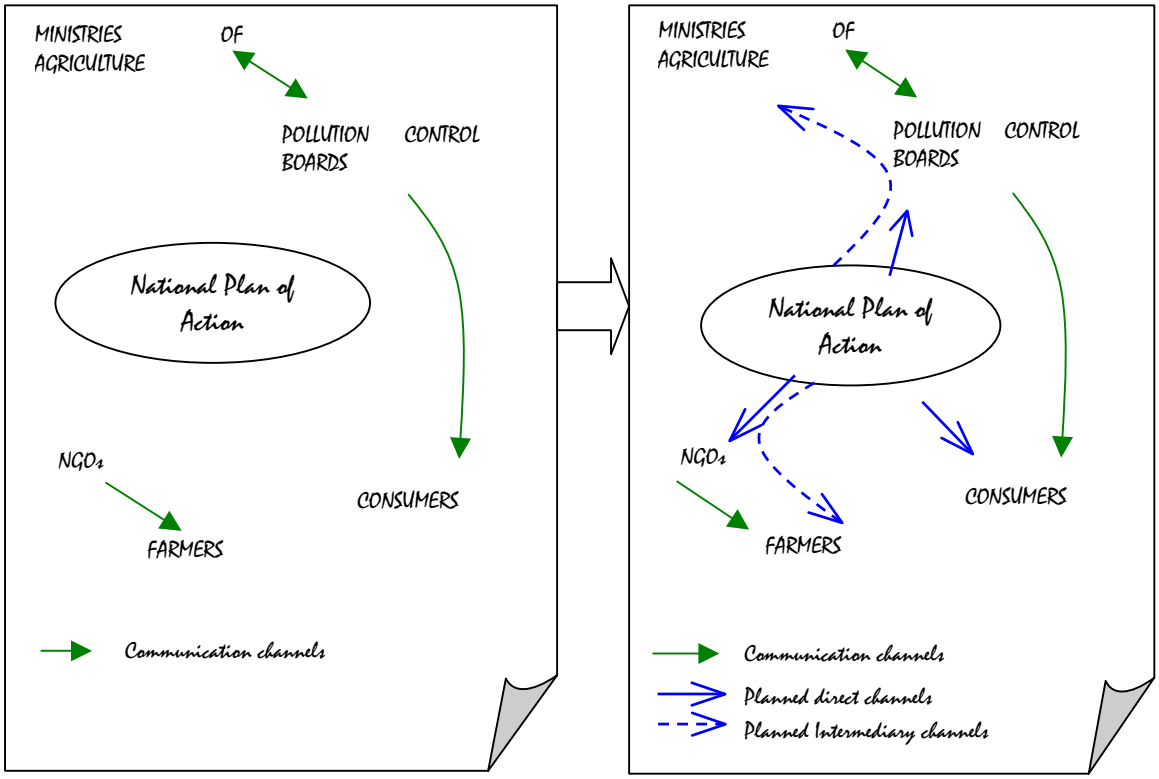


Figure 1 Communications Map

Prioritize communications stakeholders

As it will not be possible to communicate with all stakeholders (often due to limited resources) it is necessary to prioritize communications activities. The relative importance of each stakeholder as identified in the stakeholder analysis can be used to guide prioritization (See Annex A-1 Undertaking a Stakeholder Analysis). For example, you may want to prioritize stakeholders according to how much they are affected by the process (e.g. farmers) or according to what influence they will have over the process (e.g. key Ministries).

Refine communications objectives

Once communications stakeholders have been prioritized it is possible to review the specific objectives of the communications. You can consider what information it is necessary to convey and what attitudes or behaviours you wish to change as a result of the communications. For example early objectives may be to obtain overall support for the NPA.

Assess appropriate communications messages and materials

For each priority stakeholder group consider the message or concept you want to communicate in order to achieve the desired objectives. In some cases the messages or concept may be similar for different stakeholders, but in other cases

there may be specific messages for specific groups if you want to influence them in particular ways.

For each stakeholder, consider the best form of communicating the messages. Start by identifying how and where the stakeholders get their information. For example, consider whether farmers use the radio or community meetings, and whether policy makers are more influenced by policy briefs, newspaper articles or face-to-face meetings.

The resources available will be a consideration when determining the communications media and messages. For example, although television may be a very effective means for some groups it may not be possible with the available resources.

Identify appropriate monitoring indicators

It is necessary to monitor the effectiveness of the communications through the selection and measuring of appropriate indicators. These will enable you to see the impact of the communications efforts and make changes in the future if required. See Annex B for examples of developing indicators.

Communications plan indicators should be incorporated within the overall indicators to monitor the development, implementation and impact of the National Plan of Action (See Section 5 for details on monitoring and evaluation.)

Summarize and record the information

The information derived from the above steps should now be summarized. The summarized information should identify a) the priority stakeholders to communicate with; b) the objectives of the communication and c) the most appropriate messages and materials or channels to use.

Your communications plan can be recorded in a table as the example below:

Table 1 Communications Plan

Stakeholder	**Ministries of Agriculture**	**Farmers**	**Other stakeholders**
Communication objectives	Support the NPA and provide resources to achieve its objectives.	Aware of the national plan of action, how it aims to protect their health and what role they have to play.	(add a column for each stakeholder as appropriate)
Communication message	Agro-chemical management is a concern for farmer and consumer health. It is also important to ensure sustained exports to international markets. Improved agro-chemical management will improve production. A holistic NPA tackles all	Agro-chemicals can have serious consequences for health including children within the household. There is a national undertaking to reduce the impacts which will involve training sessions for farmers and greater access to health	

	the related issues (e.g. import, manufacture, labeling etc) so that constraints are addressed.	advice on pesticides. Farmers need to attend training and follow the recommendations.	
Communication material	Policy briefs Workshops	Radio broadcasts Posters	
Communication channels (if different from above)	Face-to-face meetings Workshops	As above	
Monitoring Indicator	Endorsements for the NPA from Ministry of Agriculture, commitment of funds by the ministry to implement or develop NPA.	No of farmers attending training, No farmers changing behavior following training	

Update the communications plan

The communications plan should be a living document and should be updated at regular intervals. The initial draft may have a number of gaps but can be developed as the plan is being implemented. The objectives of communications may also change at different stages of the NPA process e.g. preparation, development or implementation and the plan will need to be updated to reflect this. By monitoring the implementation of the Communications Plans, it would be much easier to incorporate the necessary changes.

A- 3 Conducting a Situation Analysis

This tool provides you will guidance on what can be assessed during a situation analysis.

Chapter 1: Agro-chemical Production, Import, Export, Use and Disposal
Chapter 2: Environment and public health impacts of Agro-chemicals
Chapter 3: Legislative, regulatory and institutional framework
Chapter 4: Supporting administrative systems

- Data management issues
- Financing mechanisms
- Awareness

Chapter 5: Summary of key issues: identify problems and priorities

This tool takes you through each of the suggested chapters within an analysis and considers what should be looked at, the purpose of assessing these issues, the current knowledge in the region and information sources.

Chapter 1: Agro-chemical Manufacture, Import, Export, Use and Disposal

What is being looked at in this chapter?

This chapter should review the current levels of production, import, export, use and disposal of agro-chemicals.

Purpose

Having an understanding of the current use of agro-chemicals helps in determining the full range of issues surrounding their management and in identifying the likely areas of concern surrounding agro-chemical practice e.g. methods of disposal, safety practices.

Current Knowledge

The quantity of agro-chemicals manufactured in the Caribbean is relatively low, with the majority being imported. Exports are therefore also low.

Overall the imports of agro-chemicals are increasing into Caribbean countries; however there is considerable variance between the different types of agro-chemicals. For example overall agro-chemical imports have increased within St Lucia 1999 and 2001, but while imports of insecticides have increased imports of fungicides have declined. This corresponds with a decline in banana production over recent years.

The use of agro-chemicals is relatively high within the Caribbean for a number of reasons including the prevalence of mono-culture agriculture and high soil erosion. Mono-culture often increases the chance of pest outbreaks and decreases natural nutrients which need to be replaced through fertilisers. Soil erosion (resulting from farming on hill sides, heavy rainfall and deforestation) also leads to the loss of natural nutrients.

A review of the use of agro-chemicals in St Lucia and Jamaica has led to the following recommendations that can be equally applied to other Caribbean countries:

- Increase research, implementation and awareness of Good Agricultural Practice (GAPs) and Integrated Pest Management (IPM).
- Review costs and benefits of organic farming, IPM and agro-chemical use for different farming practices;
- Improve pesticide management within the farming community;
- Increase training on environmental protection against the misuse of agro-chemicals;
- Increase soil testing on farms prior to application of fertilisers; and
- Increase use of soil conservation techniques such as mulching; vegetative barriers; and tree planting.

Information Sources

Literature review	Consultations	Data collection
Scientific literature	Pesticide Control Boards Statistics Unit Custom & Excise Ministry of Agriculture	Site visits Farmer surveys (see TOOL #)

Information sheets:

- **Information Brief 3:** The quantification and toxicity of agro-chemical imports into St. Lucia and Jamaica (2003)

- **Information Brief 4:** The on farm use of agro-chemicals and associated soil management and farming practices in St. Lucia and Jamaica (2003)

CAMP Project Reports:

- **Report 1:** Esteban, N., P. Espeut, B. Hay, C. Mees and S. Seddon-Brown, 2003 Importation, administration and harmonisation of agrochemical management in St. Lucia, Jamaica and the wider Caribbean. DFID NRSP Project R7668. C-CAM and MRAG Ltd.

- **Report 2:** Simpson, L., 2003. Review of soil management and farming practices, including the use of agro-chemicals in the Caribbean, with particular reference to St. Lucia and Jamaica. DFID NRSP Project R7668. CARDI (Jamaica).

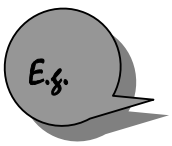
Guidance Questions

Manufacture

Q **What are the quantities and types of agro-chemicals being manufactured?** What has been the trend over time?

Imports

Q **What are the quantities and types of agro-chemicals imported into the country?** Are these quantities recorded? Have imports of agro-chemicals increased/declined over the years? Which agro-chemicals constitute the largest proportion of imports?



In St Lucia the quantity of some agro-chemicals (e.g. nematicides, fungicides, and herbicides) has declined between 1999 and 2001, while imports of insecticides have increased from 1999 to 2001. This has implications on where the priority for management of agro-chemicals should be placed.

Exports

- **What are the quantities and types of agro-chemicals being exported?**

Use of Agro-Chemicals

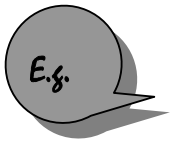
- **What type of agriculture is being applied?** Is monoculture agriculture being applied or are farms planting a diverse range of crops?

- **What has been the trend in farm practice over the past 20 years?**

In St Lucia there has been an increase the in the number of permanent crops resulting in more intensive land-use and therefore a likely increase in the use of agro-chemicals.

- **What are the likely trends in farm practice over the next 20 years?** Is agriculture diversifying? What implications will this have for agro-chemical use?

- **What size farms are there, and what are the different types of farming systems?** Are there mainly large, medium or small farms? What implications does this have for agro-chemical use and management?



In Jamaica there are three main farming systems: the estate or plantation system (production of export crops); the medium scale farming system (25-100 acres of wide ranging products); the small scale farming system (production mainly for the domestic market). Monoculture dominates the first two systems which are likely to use higher amounts of agro-chemicals.

- **What are the major crops under production?** This will help determine the types of agro-chemicals being used.

- **When are agro-chemicals used by farmers?** Are they used of pest, disease and weed control?

- **Are farmers 'soil testing' before applying fertilisers?**

Less than 20% of farms surveyed in Jamaica and St Lucia were using soil testing prior to applying fertiliser: this points to an area of potential intervention.

- **Are farmers using alternatives to chemicals for pest controls?**

Disposal

- **What safety systems are being put in place by farmers in the use, storage and disposal of agro-chemicals?**

In St Lucia and Jamaica a farmer survey found that the majority of farmers use protective clothing when spraying but when disposing of chemicals either bury or burn it. However a large number of farmers dispose of chemicals through burning and burying with potential health implications if there is resulting air or water contamination.

Summary and conclusions

This section should summarise the issues below, related to the import, manufacture, export, use and disposal of agro-chemicals. It should also highlight recommended actions to address the key issues raised:

- Farming practices that have an implication for agro-chemical use & management;
- Possible areas of agro-chemical abuse – e.g. over-use, disposal;
- Possible interventions to improve the efficiency of fertiliser and pesticide use;
- Potential alternatives to agro-chemical use; and
- Major health risks and areas of pollution. [This will inform *Chapter 3: Environment and public health impacts of Agro-chemicals*]

Chapter 2: Environment and public health impacts of Agro-chemicals

What is being looked at in this chapter?

This chapter should review the recorded and potential environmental and health impacts of agro-chemicals, and address the following issues:

- Susceptibility of the environment;
- Agro-chemical characteristics;
- Recorded environmental impacts; and
- Health impacts.

Purpose

Reviewing these issues helps in considering the likely level of agro-chemical impact on the environment and human health. It involves consideration of whether impacts are serious in nature, what is known about them, the areas that might be most susceptible to impacts and the most appropriate areas of intervention.

Current Knowledge

The environment of the Caribbean is especially vulnerable to agro-chemical pollution due to the small size of the islands, and the ease with which pollutants within watersheds can reach the coastal and marine environment.

Fertilisers are generally considered to play a major role in eutrophication and algal blooms in water bodies resulting in deoxigination and reduced light penetration with implications for aquatic organisms. Pesticides are also considered toxic to organisms (e.g. aquatic fauna, birds and livestock). The majority of studies covering the fate, breakdown, transport, bioaccumulation and human health effects have primarily been conducted in temperate countries, with very few undertaken in the Caribbean.

The distribution and toxicity of agro-chemical residues in the environment depends on a number of factors e.g. type of chemical, rate of degradation and water solubility. Highly soluble chemicals may easily dissolve in rain water can find their way into the wider environment via surface run off or leaching through the soil. Chemicals that bind to the soil may be transported with soil particles i.e. through soil erosion. Agro-chemical contamination in the environment increases with steep topography, high rainfall and low soil permeability.

Pesticides are the main concern for human health. Fertilisers are not usually considered as being dangerous to human health although they have been linked to blood disorders in babies and stomach cancer in adults. Acute poisoning from pesticide use may include a racing heart, loss of feeling in the limbs, disequilibrium, choking, nausea and death. Chronic health effects include cancer, birth defects, reduced fertility, damage to the immune system, genetic disorders, hormonal effects, damage to the nervous system and impaired learning.

Developing countries use only 10-25% of the world's pesticides but suffer up to 50% of the reported cases of acute poisoning and 73-99% of reported fatalities among pesticide applicators. Farmers in developing countries are particularly at risk because of inadequate training or the inability to read application instructions for hazardous pesticides.

Management issues that are likely to increase the risk of environmental and public health impacts include:

- Illegal imports resulting in the use of unregistered or regulated pesticides..
- The repackaging of pesticides by vendors without appropriate instructions and safety labelling
- Incorrect application of agro-chemicals
- Inadequate application equipment (e.g. protective clothing)

Information Sources

Literature review

Pesticide Control Boards:

- Annual Reports
- Sensitisation information

CGPC Annual Meeting Proceedings

Regional Research Institutes (research reports & papers; MSc; and PhD theses)

- Caribbean Agricultural Research Institute (CARDI)
- Caribbean Environmental Health Institute (CEHI)
- University of West Indies (UWI)

Newspaper articles

Consultations

Pesticide Control Boards

Ministry of Agriculture

Data collection

Commissioned research to sample for agro-chemical residues in the environment

Hospital records

Information sheets

Information Brief 2: The fate of agro-chemicals in the land-water interface in St. Lucia and Jamaica: Environmental monitoring (2003)

Information Brief 4: The on farm use of agro-chemicals and associated soil management and farming practices in St. Lucia and Jamaica (2003)

CAMP Project Reports

Report 1: Esteban, N., P. Espeut, B. Hay, C. Mees and S. Seddon-Brown, 2003 Importation, administration and harmonisation of agrochemical management in St. Lucia, Jamaica and the wider Caribbean. DFID NRSP Project R7668. C-CAM and MRAG Ltd.

Report 2: Simpson, L., 2003. Review of soil management and farming practices, including the use of agro-chemicals in the Caribbean, with particular reference to St. Lucia and Jamaica. DFID NRSP Project R7668. CARDI (Jamaica).

Report 3: Dasgupta, T. and C. Perue, 2003. Toxicity review for agro-chemicals in St. Lucia and Jamaica. DFID NRSP Project R7668. Chemistry Department, UWI, Mona.

Report 4: Boodram, N., 2002. The fate of agro-chemicals in the land-water interface, with reference to St. Lucia and the wider Caribbean. DFID NRSP Project R7668. CEHI.

Report 5: Edwards, P., 2001. The fate of agro-chemicals in the land-water interface, with reference to Jamaica and the wider Caribbean. DFID NRSP Project R7668. Centre for Marine Studies, UWI, Mona.

Report 6: Lewis, A. and N. Esteban, 2002. Environmental survey of agro-chemicals in the land water interface of St. Lucia. DFID NRSP Project R7668. CEHI and MRAG Ltd.

Report 8: Esteban, N., C. Mees and S. Seddon-Brown, 2003. Environmental monitoring options. DFID NRSP Project R7668. MRAG Ltd.

Guidance Questions

Susceptibility of the environment

Q **What factors exist that will affect the agro-chemical contamination of the environment?**

A summary of factors that affect agro-chemical contamination of the environment are listed below.

Factors affecting agro-chemical contamination of the environment
Steep topography
Thin soil cover
Low soil permeability
Considerable rainfall e.g. distinct rainy seasons
Strong adsorption of pesticides to soil particles
Lack of soil conservation
Method of application
Method of tillage
Formulation or mixture

In St Lucia bananas are cultivated under mono-cultural production systems which result in the depletion of natural nutrients and the need for increased fertiliser use. Furthermore, the majority of farms are on steep slopes increasing the chance of agro-chemical run-off, leaching and associated pesticide drift with soil erosion.

Q **What factors increase the likelihood of soil erosion** e.g. high population density in vulnerable areas, farming on steep slopes, heavy rainfall, deforestation, road construction?

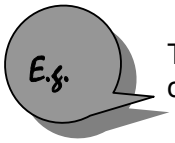
Much of Jamaica's agriculture is practiced on steep slopes, and a farmer survey carried out in 2003[1] reported that most farmers regularly observe soil erosion. Annual soil loss is as high as 150 to 200 tons per hectare, resulting in a high level of siltation in streams[2], and a corresponding risk of agro-chemical contamination in water courses.

Q **What soil conservation measures are currently in use?** Are these effective? Is their use widespread?

[1] Simpson, L, (2003)
[2] IICA (1998)

Agro-chemical characteristics

Q **What are the common chemicals in use and what is their recorded persistence in the environment and potential impacts?** Do these chemicals break-down to produce toxic by-products?



The table below is an example of how to record and illustrate agro-chemical characteristics.

Agro-chemical	Persistence in environment	Impacts	By-products
Endosulfan	2 weeks in water bodies	Inhibits respiratory, metabolic & reproductive physiology of fish and shrimps.	Breaks down to highly toxic endosulfan sulphate. If reaching coastal waters this can bio accumulate in mussels posing a risk to humans and other animals in the food chain.

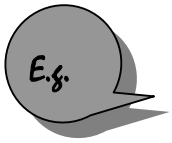
Recorded environmental impacts

Q **Have studies revealed impact information on the following?**

- **Water sources: Are there records of water sampling?** Can these be compared to US or European water quality standards? Are there long-term monitoring programmes in place?

In Jamaica a study in 1999[3] found that levels of endosulfan; sulphate; dieldrin and diazinon exceeded the United States Environmental Protection Agency standards to protect aquatic life (0.22ug/L) in 20% of samples from Yallah's River and 11% of samples from the Black River watershed. However long-term monitoring is required to give a clearer picture of the extent of the impacts within all the different watersheds and throughout the year.

- **Aquatic, marine and coastal environment: Are there studies that have looked at the accumulation of pesticides in coastal or estuarine species?** Are there any long-term monitoring systems in place?



In Jamaica one study found the level of endsulfan had increased in shrimps within the Rio Cobre basin between 1982 and 1996[4]. This indicates there is the potential for certain agro-chemicals to bio-accumulating in different species. However, further studies are needed to

[3] Martin, R D (1999)
[4] Mansingh et al (2000)

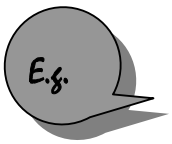
see if the problem is widespread, and whether it poses serious risk to the environment or human health.

Health Impacts

Q What agro-chemicals in use pose a threat to human health?

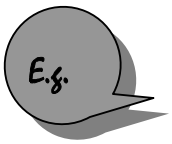
For example, paraquat is a common herbicide in use in St Lucia which can have chronic effects in humans including liver and gatrointestinal damage[5] if it contaimates drinking sources or agricultural produce.

Q Are there any records that illustrate agro-chemical health impacts?



In Jamaica studies have shown that 10% of all recorded poisonings in hospitals are due to pesticides. In general it is the poor, less educated and socio-economically disadvantaged groups who are at greater risk from improper pesticide use.

Q Are there any studies that have looked at the residue of agro-chemicals in drinking sources?



For example as study in 1998[6] in St Lucia 75% of water samples in the Roseau Valley had residues of pesticides over the European Standard for drinking water e.g. 0.1ug/l.

Q What information is available on the residues of agro-chemicals on agricultural produce sold locally, regionally and internationally? What are the potential impacts of residues on food? Are Maximum Residue Limits (MRLs) being applied to produce sold locally, regionally and internationally?

Summary and Conclusions

This section should summarise the issues below environmental and health impacts of agro-chemicals. It should cover the key issues, the main knowledge gaps and the recommendations for action:

- Which agro-chemicals are of most concern for potential impacts on the environment and public health?
- What characteristics of the environment, farming practices or management increase the likelihood of environmental or public health impacts?
- What evidence is there of environmental or health impacts? Where should research be targeted if there are significant knowledge gaps?
- What are the priority actions that could be taken to reduce environmental to public health impacts?

[5] Briggs, S A ed (1992)
[6] Woudneh, M. B (1998)

Chapter 3: Legislative, regulatory and institutional framework

What is covered in this chapter?

This chapter should provide an overview of the existing legal instruments and non-regulatory mechanisms for managing agro-chemicals, including their implementation and enforcement. It should also describe the roles and responsibilities of different ministries, institutions and agencies involved in management.

Purpose

Reviewing the legislative, regulatory and institutional framework of agro-chemical management enables us to identify relevant strengths, weaknesses and gaps. It also helps in assessing whether management is effective at each point of the agro-chemical life-cycle i.e. import, manufacture, trade, use and disposal (Figure 1).

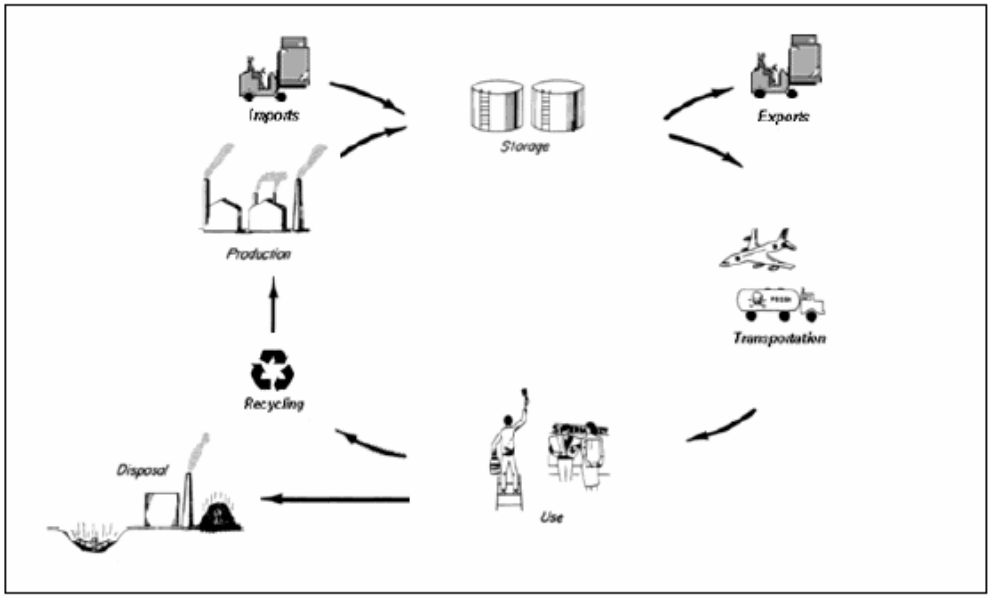


Figure 1 The Agro-chemical life cycle (Source UNITAR Guidance document)

Current Knowledge

There are a number of international and regional initiatives to improve agro-chemical management. The Cartagena Convention (1983) and the Protocol Concerning Pollution from Land Based Sources and Activities promotes the control of land based pollution to protect marine and coastal environments. The protocol covers the run-off of agro-chemicals, although implementation to date has focussed on sewage pollution.

Another key development is the OECS model legislation for the control and management of Pesticides and Toxic Chemicals which has been adopted by some Caribbean countries (e.g. St Lucia and St Kitts & St Nevis), but needs to be reviewed

and promoted to other countries in the region. Further to this the Rotterdam convention on prior informed consent (PIC) allows for greater control over the importation of agro-chemicals and the provision of tools and information for importers to identify potential hazards and exclude chemicals they are unable to manage safely. Although there has been considerable progress, this convention has not yet been ratified and implemented by all countries in the Caribbean. There has also been an initiative recently to promote the harmonisation of pesticide registration and a number of proposals are currently being considered through the CGPC.

There is growing interest in implementing GAP throughout the region. This has a much wider remit that the control of agro-chemicals but can improve their management through more appropriate use (e.g. through Integrated Pest Management) and the reduction of soil erosion. The requirement of these standards by trading partners such as the EU (i.e EUREGAP certification standards) is a further incentive for Caribbean countries to implement GAPs, and other good agricultural codes of conduct.

The review of agro-chemical management in St Lucia and Jamaica revealed a need for harmonisation of agro-chemical management throughout the Caribbean to increase efficiency. This harmonisation could cover:

- Pesticide registration;
- Licensing arrangements;
- Legislation;
- Certification of pest control operators;
- The packaging and labelling of chemicals and guidance on their storage, distribution and disposal; and
- Data management.

Information Sources

Literature review	**Consultations**	**Data collection**
International, Regional and National legislation CGPC Proceedings Pesticide Control Board Reports UNEP CGPC Regional Action Plan Regional database proposal submitted to FAO	Customs and Excise Air and Sea Port Authorities Pesticide Control Boards Chemical industry Statistics Office Ministry of Agriculture	Importation statistics

Information sheets

Information Brief 1: Management of agro-chemicals for improved public and environmental health (2003)

Information Brief 5: Harmonisation of agro-chemical management in the Caribbean (2003)

Information Brief 6: Management options for the use of agro-chemicals (2003)

CAMP Project Reports

Report 9: Seddon-Brown, S., C. Mees and N. Esteban, 2003. Management options for the use of agro-chemicals in the environment. DFID NRSP Project R7668. MRAG Ltd.

Report 10: Mees, C., N. Esteban and S. Seddon-Brown, 2003. Management of agro-chemicals for improved public and environmental health—A strategy for improved agro-chemical use and management for the Wider Caribbean: DFID NRSP Project R7668. Policy and management strategy document, MRAG Ltd.

Guidance Questions

International and Regional obligations

Q **What is the national status with regard to regional & international initiatives to improve agro-chemical management?** What is the progress towards signing up and implementing these initiatives? Which initiatives have been signed, ratified or implemented? Where are the gaps?

A summary of the national status with regard to regional and international initiatives can be summarised in a table as the example given below:

Table: List of regional and international initiatives

Initiative	Signed	Ratified	Plans for Implementation	Implemented
OECS draft legislation for Pesticides and Toxic Chemicals (1998)				
LBS Protocol to the Cartagena Convention				
Prior Informed Consent (PIC) procedures from the Rotterdam Convention				
Harmonised guidelines for pesticide registration and control				
Guidelines for certification of commercial pesticide operators in the OECS				
Others				

National Legislation and regulations

General

Q **What chemicals are banned or are severely restricted for import, manufacture or use?**

Import

Q **What are the administrative procedures for import of agro-chemicals? Are the regulations in place sufficient to control imports?** What organisations are involved in import procedures, and what are their roles and responsibilities?

Q **Are importers/agents required to have a licence before ordering agro-chemicals?** What are the penalties if they do not obtain licenses?

Q **How are agro-chemicals stored before they are released from customs?** Are these facilities inspected and are they adequate?

Trade

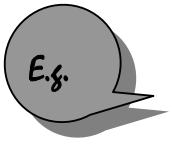
Q **What regulations or mechanisms are in place to control the trade of pesticides? Are these sufficient?** What major problems exist and what are the potential mechanisms for addressing these problems?

Q **Are sellers or traders of agro-chemicals registered and trained?**

For example in Jamaica the PCA has recently started to register pesticide sellers through the Pharmacy Council but it has not yet introduced training as a pre-requisite to the registration.

Pesticide application

Q **What regulations exist for controlling the application of pesticides? Are these sufficient and are they effectively implemented and enforced?** Are pest control operations certified or registered? Are there any training programmes in place for pest control operators?

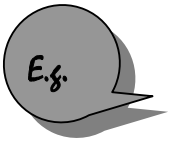


In Jamaica the Pesticides Act, 1975 defines categories of prohibited pesticides, registered pesticides, restricted pesticides and minor use pesticides and the Minister of Health has the authority to amend the lists in consultation with the PCA. However a review in 2003 [insert reference] found that categories need to be clarified to assist management, and penalties for importing non-registered pesticides need to be increased to be more prohibitive.

GAP and agriculture management

What Good Agricultural Practices (GAPs) are in place? Consider if these practices are in place, what programmes are supporting these practices and where the major problems may exist. Are alternatives to agro-chemicals being promoted?

Management Practices	Check box	Comments
Soil testing before application of fertilisers [and pesticides?]		
Use of protective clothing while applying pesticides		
Integrated pest management (IPM)		
Integrated management of pest and pesticides (IMPP)		
Soil conservation techniques (engineering or vegetative barriers?) – also see earlier		
Water management techniques		



For example in Jamaica endosulfan was still being used in 2003 although more environmentally friendly and equally effective alternatives exist.

What certification schemes are currently in use?

In St Lucia the Windward Islands Banana Development Corporation (WIBDECO) have a banana certification programmes for growers for the export trade. There is therefore the opportunity to work with WIBDECO in promotion of other GAP certification schemes to banana farmers.

What agricultural agreements are in place and how do these influence future agro-chemical use?

In St Lucia preferential access to EU markets came to an end in 1996 with the introduction of a new tariff system. This resulted in a reduction in banana exports between 1996 and 2000 and a corresponding decrease in imports of fungicide. This may mean that the focus of management should be shifted from fertilisers to insecticides.

Disposal

Are there regulations or guidelines to promote the safe disposal of agro-chemicals? Are there penalties in place for illegally disposing of agro-chemicals? Are there mechanisms or contingencies in place if there are chemical spills?

Does the PCB/PCA provide guidance on disposal or provide disposal as a service?

Overview

Q **What are all the relevant legal instruments, policies or non –regulatory mechanisms relating to the agro-chemical life-cycle?**

It may be useful to summarise all the relevant legislation and regulations within a table. Examples of useful tables are given below. Also consider non-regulatory mechanism such as voluntary actions by industry, economic incentives or other government incentives.

Table: Existing legal regulatory and administrative instruments which address the management of agro-chemicals

Legal, Regulatory or administrative instrument (Type, reference)	Responsible Ministry or Institution	Objective of regulation, legislation etc	Resources Allocated (Budget and person years)	Enforcement ranking (effective, fair or week)	Monitoring of enforcement (low, med, high)

Table: Overview of legal, regulatory and administrative instruments to manage chemicals

	Import	Manufacture	Storage	Distribution	Use	Disposal
Legal and regulatory instruments						
Non-regulatory mechanisms						
Administrative mechanisms						

Institutional review

Q **What relevant ministries, agencies exist with responsibilities for agro-chemical management?** Does a PCB/PCA exist? What is its structure and duties? What other agencies influence agro-chemical management? Are there gaps in the assigned roles and responsibilities?

In St Lucia the Pesticide Control Board (PCB) has the responsibility of registering pesticides and issuing licences. Custom and Excise also plays a key role in verifying that importers have a licence and seizing un-licensed products. The St Lucia Air and Sea Ports Authority also shares a

responsibility for the procedures surrounding the release of highly toxic substances from Port. Reviewing the responsibilities and involvement of these different agencies (e.g. in importation) reveals where there are gaps or overlaps in management and who should be involved in improving management and addressing key problems.

Q **What is current capacity for agro-chemical management within relevant ministries, agencies etc?**

A review of capacity for agro-chemical management can be summarised in a table as the example given below:

Table: Resources available in government ministries/institutions

Ministry/Agency	No. of staff involved in agro-chemical management (full time or part-time)	Types of Expertise available	Financial Resources Available (per year)
Environment			
Health			
Agriculture			
Trade/Commerce			
Industry			
Customs			
Legal			
Foreign affairs			
Others			

The Pesticide Control Authority in Jamaica has eight full time staff, which is considerably higher than other countries in the Caribbean. However a review of the capacity (in 2003) found that there is still a need for additional inspectors to assist in enforcement responsibilities, and other staff with expertise in ecological issues to address the potential environmental impacts of agro-chemicals.

Q **What relevant industries, public interest group, research bodies exist in relation to agro-chemical management?** What role do these organisations have in decision-making concerning the management of agro-chemicals? Which of these agencies or organisations should be involved in development or implementation of a NPA either as key partners or participating stakeholders?

Q **Are there any inter-ministerial commissions or co-ordinating mechanism among the institutions involved in agro-chemical management?** Are any existing coordinating mechanisms working effectively?

Q **What capacity is there for research e.g. laboratories for testing, measuring impacts etc?**

Q **Are there any on-going technical assistance projects that relate to agro-chemical management?** What are the objectives of these projects or programmes? What is the duration of the projects or programmes? Can the project or programme's participants be collaborators for the NPA?

Summary and conclusions

Answers from the questions will help identify priorities and gaps in understanding of the legislative, regulatory, and institutional framework. This section should summarise the issues below and provide recommendations for action:

- Where is regulation, guidance or enforcement lacking?
- Are there over-laps in the existing legislative, non-regulatory and administrative system?
- What are the potential overlaps between the roles and responsibilities of different stakeholders;
- Which voluntary initiatives in industry or incentive programmes are effective in improving agro-chemical management?
- What are the relevant existing structures upon which cooperation for improved agro-chemical management can be built?
- What stakeholders are involved in agro-chemical management and which potential partners can be identified to support a NPA? [This informs the *Stakeholder Analysis* in *Section 2.3*].
- The strengths of various ministries and institutions in terms of their capacity to address agro-chemical issues;
- The extent to which national institutions need strengthening.

Chapter 4: Supporting administrative systems

What is covered in this chapter?

This chapter should review the supporting systems in place for agro-chemical management, such as data management, adequate financing and public and policy-level awareness.

Purpose

Supporting systems are critical to an effective agro-chemical management system and any gaps or priority issues need to be highlighted so that effective action can be taken.

Current knowledge

A review of data management systems for agro-chemicals in the Caribbean undertaken in 2002[7] found that a regional database could provide significant benefits to the harmonised management of agro-chemicals. It also found that none of the current operating databases (the FAO funded OECS database and the GTZ funded GEREFI database), are delivering user-requirements, due to the following reasons:

- Both databases are based on outdated software which has proved difficult to update;
- There is a lack of ownership over the databases due to the lack of consultation during their design (Many PCBs/PCAs still maintain handwritten records or use spreadsheets rather than either of the databases available.)
- There is a lack trained IT staff familiar with database development or use.

A regional proposal has been developed for submission to FAO to develop a web-based database.

A general recommendation of the CGPC strategy is to improve sustainable financing for agro-chemical management within all the member countries. A regional proposal to investigate sustainable financing mechanisms is also under development lead by the PCA in Jamaica.

A further recommendation is to promote awareness of agro-chemical issues. Knowledge needs to be improved on the potential health and environmental impacts of agro-chemicals and ways of reducing these impacts.

Information sources

Literature review	**Consultations**	**Data collection**
Information sheets and CAMP Project Reports	Pesticide Control Boards Ministry of Agriculture Ministry of Health Ministry of Environment	Surveys or questionnaires

Information sheets

[7] Pearce, J and Esterban, N (2002)

Information Brief 6: Management options for the use of agro-chemicals (2003)

CAMP Project Reports

Report 7: Pearce, J. and N. Esteban, 2002. Database review and user requirements analysis prepared for the Coordinating Group of Pesticide Control Boards of the Caribbean. DFID NRSP Project R7668. MRAG Ltd.

Guidance questions

Data management

Q **What are the current systems for data management in the context of the regional database review?** What systems are currently in place? What are the main gaps in terms of data management?

Q **Are there any plans for improving data management system?** What will a regional database project address? What other issues will be outstanding?

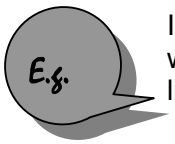
Financing

Q **How is agro-chemical management currently financed?** What are the recommendations of the regional sustainable financing project?

In Jamaica a tax on 2%is levied on imports of pesticides allowing for considerable capacity within the PCA.

Awareness

Q **What is the level of awareness of agro-chemicals issues of those in government?** For example, are Port Authorities and Customs fully aware of their roles and responsibilities and the regulations surrounding agro-chemicals?



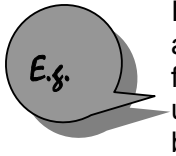
In St Lucia it was found that although the customs and port authorities were fully aware of agro-chemical regulations they required up-to-date lists of permitted and banned substances.

Q **What is the level of public awareness on agro-chemical regulations?** Are details of regulations publicly available?

Q **What is the level of awareness of GAPs?** How far are these approaches being promoted, and by who?

Q **What is the level of health and safety advice given to farmers by extension workers, chemical sales personnel or PCBs/PCAs?** Review whether public awareness campaigns are in place, whether this reaches farmers and is having an impact on behaviour.

Q **What is the average age and education level of farmers?** What implications does this have for their awareness of agro-chemical issues?



In Jamaica and St Lucia the majority of farmers are above 40 years of age and have only had primary level education. This has an implication for the level knowledge on impacts of agro-chemicals, ability to understand labels and safety advice and likelihood of changing behaviours.

Q **What is the current attitude of farmers towards agro-chemicals?** Do farmers use agro-chemicals above other methods? Do they appreciate the negative sides to agro-chemical use and the potential environmental and health impacts?

Q **What are the current awareness, training and education programmes in place at all stages of the agro-chemical life-cycle?** Are education materials provided on the point of sale e.g. that covers application regimes or safety procedures?

Summary and Conclusions

Answers from these questions will help determine priorities related to sustainable financing, data management, and awareness of agro-chemical issues. This section should summarise the issues below and draw out key recommendations:

- Is financing for agro-chemical management sufficient? Where are the opportunities for improving sustainable financing?
- What are the key data management priorities? Will all of these be addressed by the regional database project?
- What are the key areas within the agro-chemical life-cycle where public or policy-level awareness needs to be increased e.g. health and safety; responsibilities; risks.
- Who are the key stakeholders that should participate in development and implementation of a National Plan of Action? What are the means of engaging their interest?

Chapter 5: National overview

What is being looked at in this chapter?

This chapter should summarise the key implications of the situation analysis. It should summarise the key drivers for a National Plan of Action and give an analysis of the priorities for action and the major gaps in the current management system. This section can also summarise how the situation analysis was undertaken i.e. which institutions were involved; what meetings or workshops were held; and the current status of the analysis and future plans.

Purpose

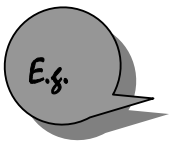
This overview enables the key findings of the situation analysis to be summarised and directly inform the development of a National Plan of Action. The following aspects can be addressed:

- Priority problems related to chemical import, use and disposal;
- Opportunities for improving national legal and regulatory instruments, including its implementation and enforcement;
- Potential for improving information collection to support agro-chemical management;
- Actions that can improve the awareness of public, government and other institutions related to concerns with agro-chemical use and management;
- Means for mobilising human and financial resources for effective agro-chemical management;
- Opportunities to link with on-going initiatives; supportive stakeholders; bi-lateral programmes;

Guidance

➔ Summarise the key problems

Drawing from the analysis within each Chapter, summarise the key problems that have been identified. This can be done for each theme or for all stages in the agro-chemical life-cycle.



For example the main problems identified for St Lucia and Jamaica are listed below:

Pesticide Use	**Sediment/soil loss** *contributing to agro-chemical pollution and requiring further use of fertilisers*
Lack of soil conservation allows pesticide contamination to be carried downstream	Lack of soil conservation allows pesticide contamination to be carried downstream
Use of illegal pesticides	Soil erosion from steep slopes
Wrong use/application:	Flood waters remove protection

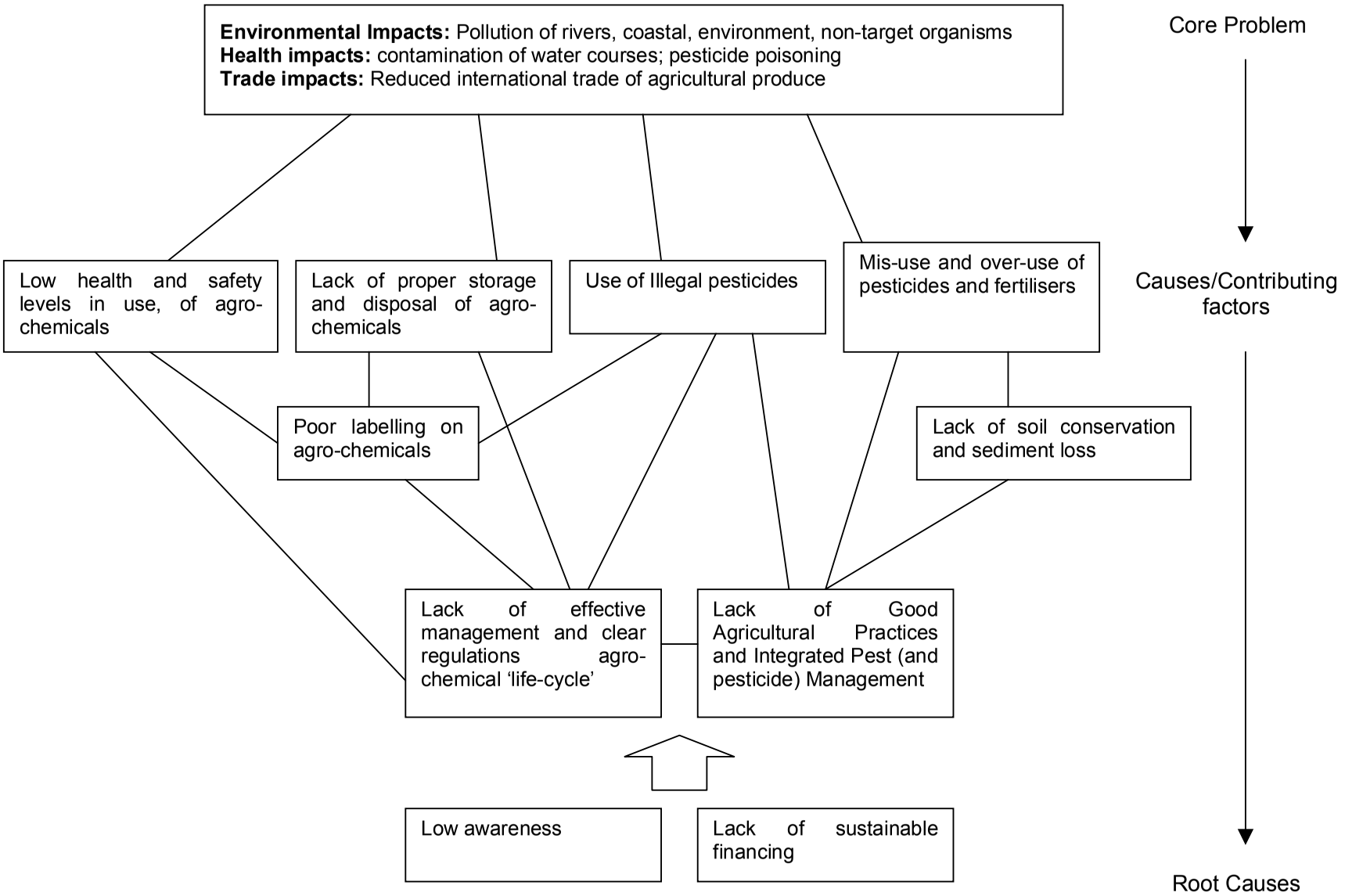
Over-use of pesticides Wrong application rate/timing Wrong pesticide for pest or disease	systems
Use of cocktail of pesticides	Wrong type of soil protection
Poisoning of user/family Chronic Acute	Removal of trash
Pollution: River Coastal Environmental Non-target species	Farming of unsuitable soil/slopes
Improper storage and disposal induces contamination	
Repackaging by vendor removes labelling	
Improper or no protective clothing	
Inefficient or dirty application equipment	

➔ Construct a problem tree

You may also want to see how these problems and issues are linked, in which case it can be useful to construct a problem tree (see Figure # for an example).

Drawing a problem tree requires identifying the core problem and how this is caused by underlying factors and root causes. This exercises helps to see how different problems are linked and which issues need to be tackled to get to the root of the problem.

Figure #: Example of a Problem Tree



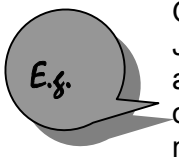
➔ **Identify the stakeholders involved or concerned with these different issues**

Once the issues have been addressed it is possible to determine which stakeholders will be concerned for each issue, or which stakeholders will need to be involved in identifying and implementing solutions. This will inform the stakeholder analysis and engagement plan described in *Section 2.3*.

An example analysis for St Lucia and Jamaica is given below illustrating the different stakeholders that are concerned with the key identified issues.

Stakeholder	Issues								
	Illegal import	Wrong use	Cock -tail	Health	Poll- ution	Storage/ Disposal	Re- pack- age	Protecti ve wear	Equipm ent
Import									
Port Authority	✓				✓	✓		✓	
Customs& Excise	✓				✓				
PCB	✓			✓	✓	✓		✓	
Import agent	✓					✓	✓		
Manufacture									
Chemical co					✓	✓	✓		✓
PCB				✓	✓		✓	✓	
Distribution									
Agric board		✓	✓	✓	✓	✓	✓	✓	✓
Farm shop			✓			✓	✓	✓	✓
Chemical depot			✓			✓	✓		
Application									
Pest operator		✓	✓	✓	✓	✓		✓	✓
Farmer	✓	✓	✓	✓	✓	✓		✓	✓
Agencies/ Institutions									
Health Authority	✓	✓		✓				✓	
Extension Service (agriculture, fish, forestry)	✓	✓	✓	✓	✓	✓	✓		
National NGO's	✓	✓		✓	✓	✓			
International PAHO, FAO	✓	✓	✓	✓	✓				

➔ **Summarise knowledge gaps:** What gaps are there is research and monitoring? What research or monitoring information would assist agro-chemical management?



One of the key knowledge gaps that were identified for St Lucia and Jamaica was a lack of long-term monitoring programmes that allow for a comprehensive view of the environmental and public health impacts of agro-chemicals. More consistent monitoring would help inform management decisions by understanding where the major problems existed and whether management measures are begin effective.

➔ **Prioritise the key problems**

The main problems can be prioritised by ranking them in a matrix. A possible matrix is given below although it can altered as necessary and relevant problems inserted.

Nature of Problem	Scale of problem (Local, national, regional)	Level of concern (low, medium, high)	Ability to control problem (low, medium, high)	Availability of data (sufficient, insufficient, no data)	Priority ranking (1 to 5; 1 = most severe)
Pollution of watercourses					
Marine and coastal pollution					
Soil contamination					
Residues on food					
Drinking water contamination					
Hazardous disposal					
Health concerns for farmers					
Public health					
Spillage/accidents					
Storage of obsolete chemicals					
Unknown chemical imports					

This approach provides an initial prioritisation of problems, however there may be other factors that will influence the priorities, such as:

- Drivers (see *Section 2.2*);
- Results from stakeholder consultations.

It will therefore be necessary to review priorities as discussed in *Section 2.4*.

A- 4 Further Reading

General

Inter-organisation programme for the sound management of chemicals (IOMC) under UNITAR (United Nations Institute for Training and Research) Guidance for preparing National Profiles to Assess the National Infrastructure of Chemicals http://www.unitar.org/cwm/publications/inp.htm (UNITAR Website, Integrated National Programme for Sound Chemicals Management)

Monitoring & Evaluation

"Performance Indicators for Environmental Compliance and Enforcement Programs: The U.U. EPA Experience" by Michael M. Stahl; presented at the 6th Conference of the International Network for Environmental Compliance and Enforcement (INECE), Costa Rica, April 15, 2002

Communication planning

Norrish, P; Lloyd Morgan K; Myers M (2001) Improved communication strategies for renewable natural resource research outputs. Natural Resources Institute, UK. http://www.dfid.gov.uk/pubs/files/BPG08.pdf

ANNEX B

B- 1 Indicators for the CAMP Project

Monitoring and Evaluation Indicators

for the

Uptake of the Strategy for Improved Agrochemicals Management in the Wider Caribbean

DFID NRSP Project R8364

Caribbean Environmental Health Institute

Table of contents

List of Tables

Cover Photo credit: **www.bananalink.org.uk/ photos/photos.htm**

List of Acronyms

CAMP	Caribbean Agrochemical Management Project
CARDI:	Caribbean Agricultural Research Institute
CEHI:	Caribbean Environmental Health Institute
CGPC: Caribbean	Coordinating Group of Pesticide Control Boards of the
GAPs	Good Agricultural Practices
IPM	Integrated Pest Management
M&E	Monitoring and Evaluation
MOA	Ministry of Agriculture
MRAG:	Marine Resources Assessment Group
NPA	National Plan of Action on Agrochemical Management.
PCA	Pesticide Control Authority Jamaica
PCB	Pesticides Control Board, St. Lucia

Introduction

The *Caribbean Agrochemicals Management Project (CAMP):* (DFID NRSP project, Project No. 8364) is an uptake promotion project aimed at "Increased awareness of the need for improved agrochemical use and management to achieve implementation of best practice pro-poor integrated natural resource and pollution prevention management in coastal zones in the Wider Caribbean". This project seeks to promote a Strategy for Agrochemical Management in the Caribbean, derived from a previous project (NRSP research project R7668) on the Impacts and amelioration agrochemical pollution in Caribbean Waters. Project 8364 has national and regional components. The national component focuses on two case study countries namely, Jamaica and St. Lucia

The outputs of this project include:

1. The promotion of the strategy (derived from NRSP R7668) for the improved use and management of agrochemicals at the Regional Level
2. The sensitisation of key national decision/policy makers/influencing bodies in St. Lucia and Jamaica on the need for improved agrochemical management in general and the R8364 Agrochemical strategy in particular
3. The sensitisation of relevant user groups on the R7668 strategy and the need to participate in local mechanisms for the development of National Action Plans for improved agrochemical use

The aforementioned outputs are to be achieved through the Project Communications Strategy.

The project also has a monitoring and evaluation (M & E) component. This component aims to establish the baseline situation in the case study countries and at the regional level with regards to:

1. The level of awareness of key regional decision/policy makers/influencing bodies on the need for an improved approach to agrochemical management
2. The current status of NPA development in each case study country
3. The level of awareness of key national decision/policy makers/influencing bodies in the case study countries on the need for an improved approach to agrochemical management
4. The level of awareness of the need to improve agrochemcial management among
   relevant user groups and the need to participate in the local mechanism for developing the NPA strategy

The M& E component will then seek to document changes (if any) on the aforementioned parameters once the communications strategy is applied.

Objective

The M&E component utilises, *inter alia*, indicators to measure changes in the parameters.

An Indicator is an

"Observed value representative of a phenomenon to study. In general, indicators quantify information by aggregating different and multiple data. The resulting information is therefore synthesised. In short, indicators simplify information that can help to reveal complex phenomena." (European Environment Agency 2004)

This report outlines the indicators to be used in the M&E component, providing their rationale for selection, the units of measurement and the data sources. These indicators will be used in the situation analyses at the beginning and end of the CAMP project. They will provide information on the status of awareness of the need for improved agrochemical management at the national and regional level. The indictors will also provide information the status of NPA development in the two case study countries.

Indicators

Three sets of Indicators have been developed:

1. Regional Policy Level Indicators. These are designed to measure awareness and buy–in at the Regional level of the need for Improved Use and Management of Agrochemicals. (Table 1).

2. Public Awareness Indicators. (Table 2): These fall into three main areas:
    a. National awareness at the policy/decision maker level (Table 2a)
    b. National level public awareness of priority stakeholders. (Table 2b). These test priority stakeholder awareness of agrochemical issues and their buy in to the need for improved agrochemical management in general, and components of the R7668 agrochemical strategy in particular.
    c. National level public awareness of broader stakeholders (Table 2c)

3. NPA Mechanism Indicators. These fall into three main areas

    a. Progress indicators towards development of a NPA. These indicators focus on the actual establishment of a NPA for the Improved Use and Management of Agrochemicals. While the establishment of the NPA may be beyond the scope of the project, the related indicators will be used for the facilitators tool kit to be compiled at the end of Project 8364. (Table 2a)

    b. Progress indicators towards establishing a mechanisms for NPA (Table b)

    c. Progress indicators towards public level buy-in the need for improved agro-chemical management in Jamaica and St Lucia and a NPA to address this need (Table 2c)

Indicators are detailed in Tables 1-3 seen below.

Table 1: Regional Policy Level Indicators: Indicators to Measure Awareness and Buy–in at the Regional level of the need for Improved Use and Management of Agrochemicals.

Name of Indicator	Rationale	Unit of Measurement	Data Sources
Endorsed Regional Agrochemical Strategy	The primary indicator for the regional aspect of the project is the endorsement of the R7668 Agrochemical Strategy at the highest levels namely the COTED meeting and the Ministers of Health Meeting. If the strategy is endorsed at these meetings then there is significant awareness at the regional level and one of the major objectives of the CAMP project R8364 has been achieved.	No. and type of endorsements	R8364 reports COTED/MOH meeting reports
Inclusion of Agrochemical Strategy on the COTED and MOH meetings Agendas	While the primary indicator is the actual endorsement of the strategy, if the strategy is presented at the relevant regional meetings then there is some progress towards awareness of the need for improved agrochemical management at the regional level.	Presence/ absence of the Agrochemical strategy on the COTED and MOH meetings agendas	R8364 reports COTED/MOH meeting reports
Endorsement of the Agrochemical Strategy by "Champion" Ministers	One of the steps towards the endorsement of the strategy at the regional level is the presence of "Champion" Ministers who will lobby for the strategy at the regional meetings. Endorsements from these Ministers would indicate some progress towards increasing awareness at the regional level on the need for improving agrochemical management	No. and type of endorsements	R8364 reports COTED/MOH meeting reports
Endorsement of the Agrochemical Strategy by Influential Regional Organisations	One of the steps towards the endorsement of the strategy at the regional level is support from regional organisations who will lobby for the strategy at the regional meetings. Endorsements from agencies such as CARDI, FAO and IICA would indicate some progress towards increasing awareness at the regional level on the need for improving agrochemical management	No. and type of endorsements	R8364 reports Team leader to record & report
Disseminated Communication material	While the communications strategy will be applied in Jamaica and St. Lucia some of the communications materials will be sent to non case study countries. These materials include generic videos and posters. The dissemination of the material is one of the indicators of improved awareness in non-case study countries	No. and types of recipients for the communication material in non-case study countries	R8364 reports Communications specialist to record and report

	and at the regional level.		
Use of Communication Materials	While the communications strategy is will be applied in Jamaica and St. Lucia some of the communications materials will be sent to non case study countries. These materials include generic videos and posters. The use of these materials in pesticide related events for example Pesticide Awareness Week will indicate improved awareness in non-case study countries and at the regional level.	No. of events during which communication materials are used	R8364 reports Caribbean PCBs to record and report
Regional Press releases on the need for improved agrochemical management	The regional media is one of the main channels for improving the awareness of Agrochemicals in the Caribbean. The greater the media attention to agrochemical issues the greater the public awareness outside of case study countries	No. of regional press releases	R8364 reports Communications specialist to record and report
Regional Press articles published on the need for improved agrochemical management	The regional media is one of the main channels for improving the awareness of Agrochemicals in the Caribbean. The greater the media attention to agrochemical issues the greater the public awareness outside of case study countries	No. of regional press articles	R8364 reports Communications specialist to record and report
Hits on Project Partner Websites with information on The need for improved agrochemical management	Descriptions of Project R8364 as well as copies of the Agrochemical Strategy and Information Briefs have been uploaded to Project partners' websites. The greater the number of hits on these websites the greater the public awareness outside of case study countries	No. of Hits on Relevant Websites	R8364 reports Project Partners to record and report

Table 2: Public Awareness indicators

Table 2a: National awareness at the policy/decision maker level

Name of Indicator	**Rationale**	**Unit of Measurement**	**Data Sources**
Endorsed Strategy for Improved Agrochemical Management by Relevant Ministries and Influential Organisations	Endorsement/political buy-in is a crucial element for improved agrochemical management in the target countries. The project seeks endorsement for the R7668 strategy in Jamaica and St. Lucia. Ministers and Permanent Secretaries are targeted, however Influential organisations such as pesticide retailers will also be approached for endorsement of the strategy. It is envisioned that these influential organisations will lobby the relevant Ministers to endorse the approach for improved agrochemical management.	No. and type of endorsements	R8364 reports PCBs to record and report

	The baseline situation analysis will document if there were any existing related endorsements prior to the inception of this project. The follow-up analysis will outline endorsements gained during the project.		
Reference to Strategy for Improved Agrochemical Management by Ministers	Awareness at the policy level is a crucial element for improved agrochemical management in the target countries. If there is awareness then there is a greater likelihood of endorsements If there is reference to the strategy in Ministerial Speeches or Briefs then there is increased awareness of agrochemical issues at the policy level. The situation analyses will document any such references during the project life	No. and type of references to the agrochemical strategy	R8364 reports PCBs to record and report
Reference to Strategy for Improved Agrochemical management by influential stakeholder organisations e.g. in Stakeholder publications	Influential stakeholder awareness is a crucial element for improved agrochemical management in the target countries. If there is awareness then there is a greater likelihood of the stakeholders endorsing the strategy and influencing the relevant political figures Stakeholder awareness can be measured by their inclusion of articles on the strategy and agrochemical issues in their publications	No. and type of references to the agrochemical strategy	R8364 reports Pers. Comm. with relevant stakeholders/ Survey
Disseminated Agrochemical Strategy, Information Briefs and PCB Correspondence	The first step in gaining endorsement would be increasing awareness via the dissemination of appropriate communication materials to the relevant Ministers, Permanent Secretaries and Influential bodies. After this preliminary step has been carried out, other aspects such as face to face meetings can follow.	No. of documents sent out and to whom	Distribution Lists Project 8364 Reports PCBs/ MRAG/ CGPC and CEHI to record and report
Executed Face to Face meetings with with Ministers, Permanent Secretaries and Representatives from identified	The Communications Strategy identifies face- to- face meetings as the primary means of interacting with Ministers, Permanent Secretaries and Influential Organisations to inform and gain their support for improved agrochemical management in the case study countries. Thus the execution of these meetings is a key indicator towards political support for	No. of Meetings and with whom	Project 8364 Reports PCBs to record and report

Influential Organisations	improved agrochemical management.		
Executed Workshop for Technical Staff from relevant Ministries, Agencies and Influential Organisations	The Communications strategy suggests half–day workshops as the appropriate mechanism for influencing the technical staff in Ministries, relevant agencies and Influential organisations. It is envisioned that workshop attendants will lobby their Ministers and Head of agencies/departments with regards the need for improved agrochemical management. The technical staff will also disseminate the information materials within their respective agencies. Thus the execution of these workshops is an important step in gaining support at the policy level for improved agrochemical management	Workshop executed	Project 8364 Reports PCBs to record and report

Table 2b: National level public awareness – of priority stakeholders

Indicator	**Rationale**	**Unit of Measurement**	**Data Sources**
Stakeholder awareness of agrochemicals and their impacts	Support for the strategy for improved agrochemical management can only come about if the stakeholders are aware of agrochemicals and the issues surrounding their use. The initial baseline study will examine the familiarity of stakeholders with agrochemicals and their impact on the environment, human health, agricultural sustainability and trade. Any change in status will be noted in the follow-up study	No./ Percentage of Stakeholders	Survey
Stakeholder Awareness of Integrated Pest Management (IPM)	The strategy document highlights IPM as an important component of an improved approach to agrochemical management. The baseline situation analysis will examine the initial levels of awareness of IPM and the follow up analysis will examine any changes in status.	No./ Percentage of Stakeholders	Survey
Stakeholder Awareness of Good Agricultural Practices (GAPS)	The strategy document highlights the promotion of GAPS and other good practice codes of conduct through information, training and outreach work as an important component of an improved approach to agrochemical management. The baseline situation analysis will examine the initial levels of awareness of these codes of conduct and the follow up analysis will examine any changes in status.	No./ Percentage of Stakeholders	Survey
Stakeholder buy–in for the need for improved agrochemical	Provision of information and improved awareness of agrochemical management issues is a key step towards improving agrochemical management in case study countries. However stakeholders must also be convinced of the need	No./ Percentage of Stakeholders	Survey

management	for improved agrochemical management. The baseline situation analysis will describe the initial stakeholder attitude towards the need for improved agrochemical management and the follow–up situation analysis will document any changes in attitudes.		
Stakeholder buy–in for the need for harmonised procedures throughout the Caribbean	This is one of the elements proposed in the R7668 strategy. The baseline situation analysis will describe initial stakeholder buy-in to the need for harmonised agrochemical management procedures and the follow–up situation analysis will document any changes in attitudes.	No./ Percentage of Stakeholders	Survey
Stakeholder buy–in for the need for sustainable finance and cost recovery mechanisms to fulfil the functioning of relevant institutions	This is one of the elements proposed in the R7668 strategy. The baseline situation analysis will describe initial stakeholder attitude on the need for sustainable finance and cost recovery mechanisms to fulfil the functioning of relevant institutions and the follow–up situation analysis will document any changes in attitudes	No./ Percentage of Stakeholders	Survey
Stakeholder buy–in for the need for improved collaboration between relevant institutions	This is one of the elements proposed in the R7668 strategy. The baseline situation analysis will describe initial stakeholder attitude to the need for improved collaboration between relevant institutions and the follow–up situation analysis will document any changes in attitudes	No./ Percentage of Stakeholders	Survey
Stakeholder buy–in for the need for the implementation and further research on IPM	This is one of the elements proposed in the R7668 strategy. The baseline situation analysis will describe initial stakeholder attitude to the need for the implementation and further research on IPM and the follow–up situation analysis will document any changes in attitudes	No./ Percentage of Stakeholders	Survey
Stakeholder buy in for the need for socio-economic analyses for different farming practices	This is one of the elements proposed in the R7668 strategy. The baseline situation analysis will describe initial stakeholder attitude on the need for socio-economic analyses for different farming practices and the follow–up situation analysis will document any changes in attitudes	No./ Percentage of Stakeholders	Survey
Stakeholder buy–in for public health and environmental monitoring	This is one of the elements proposed in the R7668 strategy. The baseline situation analysis will describe initial stakeholder attitude to the need for public health and environmental monitoring plans and the follow–up situation analysis will document any changes in attitudes	No./ Percentage of Stakeholders	Survey

plans			

Table 2c: Public awareness Indicators of broader national level stakeholders

SUMMARY INDICATOR: Exposure to Public Awareness materials	Awareness of agrochemical issues and buy–in to the need for improved agrochemical management can only come about if the stakeholders are exposed to the necessary information. If stakeholders have been exposed to the communications materials, then there is increased awareness and perhaps buy- in to the need for improved agrochemical management	No. and types of stakeholders exposed to communication materials	R8364 documents Survey Communication Specialist to record and report
Media articles on the need for improved use and management of agrochemicals	Media articles have been identified as one of the communication channels for the project. The greater the number of media articles the greater the awareness of and perhaps buy-in to the need for improved agrochemical management	No. of articles	R8364 documents Communication Specialist/ PCBs to record and report
Press releases on the need for improved use and management of agrochemicals	Press releases have been identified as one of the communication channels. The greater the number of press releases the greater the awareness of and perhaps buy- in to the need for improved agrochemical management	No. of press releases	R8364 documents Communication Specialist to record and report
Newspaper distribution	A newspaper supplement has been identified as some of the communication channels to be utilised for the project. The wider the newspaper distribution the greater the awareness of and perhaps buy- in to the need for improved agrochemical management	No. of newspapers distributed and to whom	R8364 documents Communication Specialist to record and report
Radio spots on the need for improved use and management of agrochemicals	Radio interviews, public service announcements and jingles have been identified as some of the communication channels to be used in the project. The greater the number of radio spots the greater the awareness of and perhaps buy- in to the need for improved agrochemical management	No. of radio spots	R8364 documents Communication Specialist/ PCBs to record and report
Television interviews on the need for improved use and management of agrochemicals	Television interviews have been identified as one of the communication channels for the project. The greater the number of television interviews the greater the awareness of and perhaps buy- in to the need for improved agrochemical management	No. of Interviews	R8364 documents Communication Specialist/PCBs to record and report
Radio and Television Audience	The larger the audience the greater the awareness of and perhaps buy- in to the need for improved agrochemical management	No. of viewers	R8364 documents Communication Specialist/PCBs to record and report
Video/Poster distribution	Videos and Posters have been identified as one of the communication channels to be used in the project and also to be made available to PCBS at the regional level.	No. of videos and posters distributed and to whom	Communication Specialist/ PCBs to record and report

	The number distributed gives and indication of the reach of the public awareness.		
Requests for public awareness materials on agrochemical management	Public awareness materials will be distributed to number of stakeholders. Further requests for materials from these same stakeholders or requests from other stakeholders, would indicate awareness of and perhaps buy- in to the need for improved agrochemical management	No. of requests for public awareness materials	R8364 documents Communication Specialist/PCBs to record and report
Public awareness events related to agrochemical management	Events during Pesticide Awareness Week have been identified as one of the communication channels for the project. The greater the number of events and attendance at these events the greater the awareness of and perhaps buy- in to the need for improved agrochemical management	No. of public awareness events and attendance	R8364 documents Communication Specialist to record and report
No. of participants in competitions related to agrochemical management	An inter-school competition on agrochemical management has been identified as one of the communication channels for the CAMP Project in St. Lucia. The greater the number of schools participating in this competition, the greater the level of awareness and perhaps buy-in to the need for improved agrochemical management.	No. of participating schools	R8364 documents Communication Specialist/PCBs to record and report

Table 3: NPA Mechanism Indicators

Table 3a. Progress indicators towards the establishment of the National Plan of Action for the Improved Use and Management of Agrochemicals

Name of Indicator	Rationale	Unit of Measurement	Data Sources
Established National Plan of Action (NPA) for the Improved Use and Management of Agrochemicals	The promotion of the establishment of a NPA for the Improved use and Management of Agrochemicals is one of the key aspects of the Uptake promotion project R8364. Currently, case study countries may not have a NPA in place, however any relevant past initiatives will be documented in the baseline situation analysis. Project 8364 seeks to promote the establishment of a NPA and the follow–up situation analysis at the end of the project will document if a NPA has been established or any progress towards this end.	Presence/ Absence of a NPA for the Improved use and Management of Agrochemicals	Project R7688 reports R8364 reports PCB/ PCA/ MOA reports
Established Policy for the Improved Use and Management of Agrochemicals	The development of an appropriate policy is one of the steps and supporting elements for the establishment of a NPA. While countries may not have a documented holistic/integrated policy on Agrochemical Management, there may be other relevant policies, which the baseline situation analysis will identify. The follow–up situation analysis at the end of the project will indicate if a policy has been established or any progress towards this end.	Presence/ Absence of a Policy for the Improved Use and Management of Agrochemicals	Project R7688 reports R8364 reports PCB/ PCA/ MOA reports
Established Legislative/ Regulatory framework for the Improved Use and Management of Agrochemicals	The presence of an appropriate legislative/regulatory framework is one of steps and supporting elements in the development of a NPA. While countries may not have legislative/regulatory framework for holistic/integrated Agrochemical Management, the baseline situation analysis will detail the existing legislative/regulatory framework. The follow up situation analysis at the end of the project will indicate progress towards this end.	Presence/ Absence of a legislative/regulatory framework for the Improved Use and Management of Agrochemicals	Project R7688 reports R8364 reports PCB/ PCA/ MOA reports

Name of Indicator	Rationale	Unit of Measurement	Data Sources
Established Institutional/ Administrative Framework for the Improved Use and Management of Agrochemicals	The presence of an appropriate institutional/administrative framework is one of the steps and supporting elements in the development of a NPA. While countries may not have an appropriate holistic/integrated institutional/administrative framework for the Improved Use and Management of Agrochemicals, the baseline situation analysis will document the existing framework and the follow up situation analysis at the end of the project will identify progress towards this end	Presence/ Absence of an Administrative/Institutional Framework for the Improved Use and Management of Agrochemicals	Project R7688 reports R8364 reports PCB/PCA/ MOA reports
Ratified International Conventions related to Agrochemical Management	Ratification of Relevant International Conventions indicates National Interest in Agrochemical Management and is one step and a supporting element for the development of a NPA. The baseline situation analysis will identify these Ratified Conventions and the steps taken to implement these conventions. The follow up situation analysis at the end of the project will document the progress for the implementation of the Conventions.	No. of conventions Ratified	Project R7688 reports/ National Environmental Reports
Signed/Implemented Regional Agreements related to Agrochemical Management	Implementation of Relevant Regional Agreements indicates national interest in Agrochemical Management and is one step and a supporting element for the development of a NPA. The baseline situation analysis will identify those Regional Agreements that countries have signed onto and the progress towards their implementation The follow up situation analysis at the end of the project will document the progress for the implementation of the Regional Agreements	No. of Signed/ Implemented Regional Agreements	Project R7688 reports/ National Environmental Reports

Table 3b. Progress indicators towards the establishment of a Mechanism for a National Plan of Action for the Improved Use and Management of Agrochemicals

Name of Indicator	Rationale	Unit of Measurement	Data Sources
Documented Mechanism for the development of a NPA for the Improved Use and Management of Agrochemicals	A documented mechanism is an important step in the establishment of a NPA for the Improved Use and Management of Agrochemicals as it serves as a reference point and guideline for establishing the NPA. The presence of any mechanism will be outlined in the baseline situation analysis and analysed for possible inclusion in the Facilitators Tool Kit. If there is no mechanism in place, the development of draft mechanisms or steps towards designing a NPA mechanism during the project life will be documented.	Presence/Absence of a Documented Mechanism for developing a NPA for the Improved Use and Management of Agrochemicals	Project R7688 and R8364 reports, PCB/PCA/ MoA reports
Endorsed Mechanism for an NPA for Improved Use and Management of Agrochemicals	Political endorsement/buy-in is a crucial element in the establishment of a NPA. The baseline situation analysis will document any such existing endorsements of NPAs or mechanisms for NPAs prior to the inception of this project. The follow-up analysis will outline endorsements during the project.	No. and type of endorsements	Project R7688 and R8364 reports, PCB/PCA/ MOA reports

Name of Indicator	Rationale	Unit of Measurement	Data Sources
Secretariat or Organising Committee for the development of a NPA for the Improved Use and Management of Agrochemicals	While a Secretariat or Organising Committee for the development of NPA for the Improved Use and Management of Agrochemicals should be part of a mechanism outlined in the indicator above, it merits mention as it would advance the operationalization of the development of an NPA for the Improved Use and Management of Agrochemicals. This Committee or Secretariat would be responsible for overseeing the process and implement the necessary steps identified in the mechanism. If no mechanism exists, the secretariat or organising committee will play an integral part in developing a mechanism. The baseline situation analysis and follow up will document the progress of this aspect for the establishment of a NPA for the Improved Use and Management of Agrochemicals	Presence/ Absence of a Committee	Project R7688 and R8364 reports, PCB/PCA/ MOA reports
NPA Mechanism Development Meeting Executed	An initial meeting is necessary to discuss proposed mechanisms for NPA development. This meeting could establish the Secretariat or Organising committee for the NPA or if the Secretariat already exists, the meeting should facilitate the exchange of ideas for an effective NPA Mechanism. More than one meeting may be necessary The baseline situation analysis and follow up will document the progress of this aspect for the establishment of a NPA for the Improved Use and Management of Agrochemicals	Presence/ Absence	Project R7688 and R8364 reports, PCB/PCA/ MOA reports

Name of Indicator	Rationale	Unit of Measurement	Data Sources
NPA mechanism development meeting/s attendance	The development of a mechanism for a NPA, requires the broad participation of various stakeholders. The baseline situation analysis and follow up will document the number and types of stakeholders involved in the development of a mechanism for a NPA for the Improved Use and Management of Agrochemicals	No. and types of stakeholders at meetings	Project R8364 reports PCBs to record and report
Reference to Agrochemical Issues and NPA meetings in stakeholder publications	The development of a mechanism for a NPA, requires the broad participation and awareness of various stakeholders Stakeholder awareness can be measured by their inclusion of agrochemical issues and NPA development articles in their publications	No. of references in stakeholder publications	R8364 reports Survey
Stakeholder buy–in for the need for an improved approach to the used and Management of Agrochemicals	For the successful development of a NPA for the Improved Use and Management of Agrochemicals there has to buy–in by a wide range of stakeholders for such an approach. The baseline situation analysis will identify stakeholder buy–in, and the follow–up situation analysis will highlight any subsequent changes.	No. and Type of Stakeholder buy-in	Survey
Stakeholder willingness to participate in the development of a NPA	The successful development and implementation of a NPA for the Improved Use and Management of Agrochemicals requires broad based participation. The situation analysis will document the willingness of various stakeholders to participate in the development of a NPA for the Improved Use and Management of Agrochemicals. The follow up situation analysis will document any changes at the end of the project.	No. and type of stakeholders willing to participate in the development of a NPA	Survey

Name of Indicator	Rationale	Unit of Measurement	Data Sources
Level of Consensus at NPA Mechanism Development Meeting/s	To move the process forward, there must not only be participation but consensus among the stakeholders as to the way forward after the initial NPA mechanism meetings. The baseline situation analysis and follow up will document the progress of this aspect for the establishment of a NPA for the Improved Use and Management of Agrochemicals	Presence/ Absence of a documented way forward in meeting minutes	Project R8364 reports PCBs to record and report
Launched NPA development Mechanism	A launch would signal the start of the NPA development process and serves as an important milestone.	Presence/ absence	Project 8364 reports PCBs to record and report

B- 2 Monitoring Forms designed to measure indicators

Form Name	M & E Instrument	Completion by
A	Recording Forms for St Lucia and Jamaica PCBs	St Lucia and Jamaica PCBs
B	PCB Questionnaires on NPA development	All PCBs
C	KAP survey form	National policy level stakeholders and CGPC external stakeholders
D	Recording forms for non-case study PCBs	Other national PCBs
E	Team Leader Recording Form	Team Leader
F	Project Partner Recording Form	Project Partners (CARDI, MRAG, CEHI)

FORM A: JAMAICA PCA AND ST LUCIA PCB RECORDING FORMS

This form is to be used by the Jamaica PCA and St Lucia PCB to record activities undertaken during the CAMP Project. It is split into two parts:

Form A, Part 1) Indicators for policy level and public awareness

This form needs to be kept up to date electronically through-out the project and then sent to Herold Gopaul (by email hgopaul@cehi.org.lc or Fax: 1- 758-453-2721). Mr Gopaul will request the forms quarterly and are likely to be around the following schedule:

- June – recording any activities to date
- August – recording the 2nd quarter of the project
- December – recording the 3rd quarter of the project
- January – to feed information into the final report.

Form A, Part 2) Recording forms for policy level meetings or workshops

This form needs to be filled in directly after any policy level meetings or workshops and returned to Herold Gopaul (by email hgopaul@cehi.org.lc or Fax: 1- 758-453-2721). You may need to make a number of copies of this form.

Throughout this form instructions will be given in italics to assist with its completion.

Form A 1

Part 1) Indicators of Policy Level Awareness

Instructions: This form should be filled in electronically and frequently updated activities. They will need to be emailed to CEHI following the schedule given above. Please insert additional rows or make rows larger to fit in additional information

1. Please record below any references to the CGPC Strategy in Ministerial Speeches or Briefs

Name of Minister or Ministry	Type of statement (e.g. speech or brief)	Date of statement	Brief explanation of content

2. Please attach a separate sheet that lists all the people you have sent the Strategy Paper to.

This list may be the same as that sent previously to MRAG, or it may be longer if you are continuing to send out Strategy Papers.

3. Please attach a separate sheet that lists all the people or organisations that you have sent the Information Brief to.

4. Please record below any meetings or workshop you have had with Ministers, PSs and representatives from stakeholders, about the CGPC Strategy or related National Plan of Action.

Type of meeting or workshop (e.g. awareness raising or planning)	Name/s of Minister, PS, or Stakeholder (for workshop do not list here the participants but list this on the form in Section A.1.2)	Date of Meeting

For each meeting or workshop listed above, a separate form from Section A.1.2 needs to be filled out.

CHECKING THE FORM:
There should be the following attachments to this form:

- Distribution lists for the Strategy (question 2)
- Distribution lists for the information briefs (question 3)
- Form A 1

Part 2) Indicators of Public Level Awareness

Instructions: This form should be filled in electronically and frequently updated activities. They will need to be emailed to the CEHI following the schedule given above. Please insert additional rows or make rows larger to fit in additional information

1. Please record below details of any media articles that have been published in your country about the CGPC Strategy or related National Plan of Action

Article Title	Name of Paper/Journal Magazine	Date of publication	Estimated audience

2. Please record below any press releases that have been published on the subject of the CGPC Strategy or related National Plan of Action

Press Release Title	Distributed to whom	Date of publication	Estimated audience

3. Please record below the distribution of the planned newspaper supplement

Name of newspaper	Date of Distribution	Number Distributed	Estimated audience

4. Please record below the number of radio spots (i.e. interviews, jingles or public service announcements) on the subject of the CGPC Strategy or related National Plan of Action

Type of Radio spot	Date of release	Estimated audience

5. Please record below details of any television interviews on the subject of the CGPC Strategy or related National Plan of Action

Name of Channel	Date of Interview	Estimated audience

6. Please attach distribution lists for the CAMP poster

7. Please attach distribution lists for the CAMP video
8. Please record below any requests you have received for public awareness material

Organisation/Individual	Type of material requested

9. Please record below any public awareness events that have taken place and what public awareness material you used

Name of Event	Types of CAMP public awareness materials used.	Estimated number of people exposed to the CAMP public awareness materials.

10. (For St Lucia only) Please record below details on the school competitions

Name of Event	No. of schools Participating	Estimated number of students participating

CHECKING THE FORM:

- There should be the following attachments to this form:
- Distribution lists for the CAMP Poster
- Distribution lists for the CAMP video

Form A2

Recording meetings or workshops with policy makers and stakeholders

Instructions: This form should be filled out after face-to-face meetings with policy makers and stakeholders on the subject of the CGPC Strategy. Please photocopy the form and use as many as required. These should be emailed or faxed to CEHI following each meeting: Fax No. 1-758-453-2721.

If there are any sections that do not apply to the particular meeting please insert N/A in the space provided. Use additional pages for any other information you would like to include.

Section 1: General Information

Date

1. Name of person filling out form and organisation he/she represents

_____

_____

2. Description of event/meeting

_____

_____

3. Other CAMP Partner representatives present at the event

_____

_____

4. Target Communication Stakeholders present at CAMP meeting (e.g. Minister, Permanent Secretary, Technical Officer, Ministers at COTED Meeting). If this is a workshop please attach the list of stakeholders present.

_____

_____

Section 2: Agrochemical Strategy for Improved Agrochemical Management

Please indicate if the following objectives of the meeting have been achieved. Please tick Yes/No and elaborate as necessary in the space provided. For example you may elaborate on why the stakeholder has agreed to or decided against endorsing the strategy.

5. Has the stakeholder/s been informed about the Agrochemical Strategy and CAMP Project □Yes □ No

_____

_____

6. Has the stakeholder/s agreed to consider endorsing the strategy Yes No

7. Has the stakeholder/s endorsed the strategy Yes No

8. Has the stakeholder/s agreed to consider undertaking activities related to the Agrochemical Strategy Yes No

9. Has the stakeholder/s agreed to consider promoting the strategy at regional fora such as the COTED meeting Yes No

Section 10: Mechanism for a National Plan of Action for Improved Use and Management of Agrochemicals

9. Has the stakeholder/s agreed to consider attending a National Plan of Action meeting workshop Yes No

10. Has the stakeholder/s agreed to consider endorsing a mechanism for a National Plan of Action on Agrochemical Management Yes No

CHECKING THE FORM:

If this form is recording a workshop the following should be attached:

- The list of stakeholders present and their organisation

FORM B: PCB/PCA QUESTIONNAIRES

Introduction:

This is a questionnaire to be filled out all PCBs. It will serve as a baseline of the situation in June 2004, so that this can be followed up as agrochemical management in the Caribbean progresses.

Section A: General Information

Name _____

Organisation _____

Address _____

_____

Telephone _____

Fax _____

Email _____

Level within organisation:
- ☐ Senior Management/Policy Making
- ☐ Middle Management/Policy Making
- ☐ Senior Technical Staff
- ☐ Technical Staff
- ☐ Operational

Section B: National Plan of Action development

Please circle the appropriate responses

1. Which ministries or stakeholders have endorsed the CGPC Strategy within your country?

Name of Minister/ministries or stakeholder	Type of Endorsement

2. Is there a mechanism for the development of a National Plan of Action (NAP) for the improved use and management of agro-chemicals in your country?

   Yes No

3. If there is a mechanism for the development of a NAP has this been documented?

   Yes No

4. If a mechanism for the development of a NAP has been documented, please attach it here.

5. Which ministers or stakeholders have endorsed the mechanisms for developing a NAP?

Name of Minister/ministries or stakeholder	Type of Endorsement

6. Has a secretariat or organising committee been established for the development of the NAP?

Yes No

7. Have there been any meetings of the secretariat or organising committee for the development of the NAP? Did these meetings produce documented conclusions or way forward?

Type of meeting	Date of meeting	Documented way forward (Yes or No)

8. Please attach a list of people who have attended the meetings of the secretariat or organising committee for the development of the NAP.

9. Please attach the meeting minutes and/or documented way forward for each meeting with the date and title of the meeting clearly marked.

10. Has there been an official launch of the NPA mechanism?

Yes No

11. Has a NAP been established in your country for improved use and management of agro-chemicals?

12. If a NAP has been established, please attach copies of the NAP.

13. Has an institutional or administrative framework been established for the improved use and management of agrochemicals been established in your country?

Yes No

14. Has a legislative or regulatory framework been established to improve the use and management of agrochemicals been established in your country?

Yes No

15. Has a policy been established for improved use and management of agrochemicals been established in your country?

Yes No

16. Which of the following international conventions have been ratified by your country (the issues that were covered in these conventions have been given in brackets)?

- Cartegena Convention (LBS Protocol)
- Rotterdam Convention (Prior Informed Consent)

- Stockholm Convention (Persistent Organic Pollutants)
- Montreal Protocol (Ozone Depleting Substances)
- Basel Convention (Waste Disposal)
- World Trade Organisation SPS (Sanitary Measures)

17. Has your country implemented the OECS Model Legislation for Pesticide and Toxic Chemical Acts?

Yes No

Please list below any documents that you will need to attach to this form or forward to CEHI following completion:

…….

……..

……..

…….

FORM C: KAP SURVEY

Introduction:

A Strategy for Improved agro-chemical use and management across the wider Caribbean was endorsed by the Coordinating Group of Pesticide Control Boards of the Caribbean (CGPC) in June 2003. The Caribbean Agrochemical Management Project (CAMP) is promoting this strategy and its implementation at the national and regional level.

Objective of the survey:

This survey seeks to ascertain the knowledge, attitude and practice of key stakeholders on agrochemical issues in general and the CAMP project and Agrochemical Management Strategy in particular. All information provided during this survey will be treated in the strictest confidence. It will be used to produce a synthesis report but will not give reference to individuals. Please find a list of useful definitions overleaf

You may be asked to participate in a follow-up study at the end of the CAMP Project. Thank you for your assistance and cooperation.

Section A: General Information

Name_____

Organisation_____

Address_____

_____

Telephone_____

Fax_____

Email_____

Level within organisation:

- ☐ Senior Management/Policy Making
- ☐ Middle Management/Policy Making
- ☐ Senior Technical Staff
- ☐ Technical Staff
- ☐ Operational

Working Definitions

- **Agrochemical**: A chemical, such as a fertiliser, fungicide, or insecticide that improves or protects the production of crops.
- **Pesticide**: Substances or mixture of substances intended for preventing, destroying, repelling or mitigating any pest
- **Fertiliser**: Substance applied to provide a source of nutrients for plant growth
- **Holistic**: Referring to a whole or complete system rather than individual parts
- **Integrated**: A coordinated, united approach

Agrochemical Management: The system by which the import, sale, manufacture, use, disposal and impact of agrochemicals is organised, administered and controlled.

Integrated Pest Management (IPM): A pest management system that in the context of the associated environment and the population dynamics of the pest species, utilises all suitable techniques and methods in as compatible manner as possible and maintains the pest population levels below those causing economic injury (Smith and Reynolds, 1966).

EUREP GAP A Code of practice for good agricultural practices (GAP) initiated by the Euro-Retailer Produce Working Group (EUREP). In order to export to Europe from 2005 it will be necessary for exports to comply with this code of practice.

The Strategy for improved Agrochemical use and management using an integrated, holistic approach: A proposed approach to agrochemical use and management in the Caribbean with the following elements:

- Adoption of *harmonised procedures* throughout the Caribbean
- Implementation of *GAP* and other good practice codes of conduct through information, training and outreach work
- Investigation into *sustainable finance and cost recovery* mechanisms to fulfil the functioning of relevant institutions for example Pesticide Control Boards, extension services, and monitoring and research agencies.
- Improvement of *collaboration* between relevant institutions
- Implementation of *further research* on *Integrated Pest Management (IPM)* as a means of improved management of the use of pesticides
- Implementation of *socio-economic analyses* for different farming practices including options for agro-chemical use
- Development of carefully designed *public health and environmental monitoring plans*

The term **unfamiliar** applies where the interviewee does not know the term, **little familiarity** applies where the interviewee has some idea of the term but cannot provide a comprehensive working definition, **familiar** applies where the interviewee can provide a comprehensive working definition, **very familiar** indicates a thorough knowledge of the term and associated principles and the application of the principles.

The term **little need** indicates that the implementation of GAPS/IPM principles may have minimal impact, **need** indicates that the implementation of principles/practices will have some positive impact and their implementation is desirable, **great need** indicates that the implementation of principles/practices will have a major positive impact and is highly desirable.

Section B: Knowledge of Agrochemical Management

Please circle the appropriate responses

Before attending this meeting, what was your familiarity with the following terms?

	Not familiar	Little Familiarity	Familiar	Very familiar
Agrochemicals	1	2	3	4
Integrated Pest Management (IPM)	1	2	3	4
Good Agricultural Practices (GAPS)	1	2	3	4

2. a) Do you utilise Integrated Pest Management principles (IPM) in carrying out your work?

Yes No N/A

b) Is there a need for the implementation of IPM principles in your country?

1 = no need 2 = little need 3 = need 4 = great need

3. a) Do you utilise EUREP GAP (EU Good Agricultural Practices) in carrying out your work?

Yes No N/A

b) Is there a need for the implementation of EUREP GAP for locally consumed produce?

1 = no need 2 = little need 3 = need 4 = great need

4. What is your concern about the following issues in your country?

Concerns	Not a concern	Little Concern	Concern	Major concern
Agrochemical use in your country	1	2	3	4
Poor agrochemical management and human health	1	2	3	4
Poor agrochemical management and the environment	1	2	3	4

Poor agrochemical management and agricultural productivity	1	2	3	4
Poor agrochemical management and plant health	1	2	3	4
Poor agrochemical management and trade	1	2	3	4

5. For the questions below please circle the appropriate response:

a) i. Are you aware of any research in your country on agrochemical management and human health? Yes No	ii. If yes, how often do you use this research in carrying out your responsibilities: 1 = not at all 2 = hardly 3 = sometimes 4 = often	iii. Is the amount of research presently being conducted: 1 = too little 2 = little 3 = adequate 4 = too much
b) i. Are you aware of any research in your country on agrochemical management and the environment? Yes No	ii. If yes, how often do you use this research in carrying out your responsibilities: 1 = not at all 2 = hardly 3 = sometimes 4 = often	iii. Is the amount of research presently being conducted: 1 = too little 2 = little 3 = adequate 4 = too much
c) i. Are you aware of any research in your country on agrochemical management and agricultural productivity? Yes No	ii. If yes, how often do you use this research in carrying out your responsibilities: 1 = not at all 2 = hardly 3 = sometimes 4 = often	iii. Is the amount of research presently being conducted: 1 = too little 2 = little 3 = adequate 4 = too much
d) i. Are you aware of any research in your country on agrochemical management and plant health? Yes No	ii. If yes, how often do you use this research in carrying out your responsibilities: 1 = not at all 2 = hardly 3 = sometimes 4 = often	iii. Is the amount of research presently being conducted: 1 = too little 2 = little 3 = adequate 4 = too much
f) i. Are you aware of any research in your country on Integrated Pest Management (IPM)? Yes No	ii. If yes, how often do you use this research in carrying out your responsibilities: 1 = not at all 2 = hardly 3 = sometimes 4 = often	iii. Is the amount of research: 1 = too little 2 = little 3 = adequate 4 = too much
g) i. Are you aware of any research in your country on Good Agricultural Practices (GAPS)?	ii. If yes, how often do you use this research in carrying out your responsibilities:	iii. Is the amount of research presently being conducted:

Yes No	1 = not at all 2 = hardly 3 = sometimes 4 = often	1= too little 2= little 3= adequate 4= too much
h) i. Are you aware of any socio-economic research for different farming practices in your country? Yes No	ii. If yes, how often do you use this research in carrying out your responsibilities: 1 = not at all 2 = hardly 3 = sometimes 4 = often	iii. Is the amount of research presently being conducted: 1 = too little 2 = little 3 = adequate 4 = too much

6. Are monitoring plans for the effects of agrochemicals on public health in your country:

1 = non existent 2 = too little 3 = adequate 4 = too much 5= don't know

7. Is the level of collaboration between relevant institutions in your country with regards to agrochemical management?

1 = non existent 2 = too little 3 = adequate 4 = too much 5= don't know

8. What do you think about harmonised procedures throughout the Caribbean for the following?

a) agrochemical importation:
1= not useful 2 = little usefulness 3 = useful 4 = very useful

b) agrochemical registration:
1 = not useful 2 = little usefulness 3 = useful 4 = very useful

c) agrochemical monitoring:
1 = not useful 2 = little usefulness 3 = useful 4 = very useful

9. For the questions below please circle the appropriate response.

	Strongly disagree	Dis-agree	Agree	Strongly Agree	No Opinion
Agrochemical management in the country should be financed mainly by the Government.	1	2	3	4	5
Agrochemical management in the country should be financed mainly through projects/donors.	1	2	3	4	5
Agrochemical management in the country should be financed mainly by the sales of services (Registration fees, import licences, non compliances fees etc.)	1	2	3	4	5

Section C: The CGPC Strategy and CAMP Project

1. a) Before this meeting were you aware of the Coordinating Group of Pesticide Control Boards of the Caribbean **(CGPC) Strategy** for the improved use and management of agrochemicals in the Caribbean Region?

   Yes No

b) If yes, have you utilised this information in carrying out your work or in your organisation's reports or publications?

   Yes No

2. a) Have you been exposed to Caribbean Agrochemical Management Project public awareness material

   Yes No

   b) If Yes, through what media?

   - Newspaper article/supplement
   - Poster
   - Television interview
   - Radio Programme
   - Video
   - Other (Specify)_____

   c) If Yes to 2 a) have you utilised this information in carrying out your work or in your organisation's reports or publications?

   Yes No

3. Have you been exposed to information sheets from the Project on the Impacts and Amelioration of agrochemical pollution in Caribbean Waters

   Yes No

   b) If yes, have you utilised this information in carrying out your work or in your organisation's reports or publications

   Yes No

4. Would you like more information on improving agrochemical management in the Caribbean?

   Yes No

   If Yes, what is your preferred format or media?

   Print E-mail Internet CD Other: _____

Section D: National Plan of Action development

1. Do you perceive a need for a National Plan of Action on Agrochemical Management?
1= Strongly disagree 2 = Disagree 3 = Agree 4 = Strongly agree
5 = Don't know

2. If you perceive a need for a National Plan of Action on Agrochemical Management, would you be willing to participate in the development of the plan?

Please rate your answer from 1 to 4 where 4 is the greatest level of willingness to participate

1 2 3 4

3. Who should participate in the development of a NPA for agrochemical management in your country?

- Government
- Private companies
- NGOs
- User Groups

4. Do you think there are any particular requirements for the successful development of a NPA. If so outline briefly below?

_____

_____

5. If you have time can you suggest any key improvements to agro-chemical management in your country in the following areas? (Limit answers to 1 or 2 points per area).

Policy: _____

_____

Institutional/Administrative Framework: _____

_____

Regulatory Framework: _____

_____

Other:

_____

_____

FORM D: PCB RECORDING FORMS

This form is to be used by all PCBs to record activities related to the Caribbean Agrochemical Management Project. It would be useful if these forms could be kept up to date and then sent to Herold Gopaul (hgopaul@cehi.org.lc or Fax: 1- 758-453-2721) at the end of the project (December 04). It has the following Sections:

Section 1: Indicators of *Policy Level* Awareness of Improved Agrochemical Use and Management
Section 2: Indicators of *Public Level* Awareness of Improved Agrochemical Use and Management

Throughout this form instructions will be given in italics to assist with its completion.

SECTION 1 Indicators of Policy Level Awareness

Instructions: This form should be filled in electronically and frequently updated activities. They will need to be emailed to CEHI following the schedule given above. Please insert additional rows or make rows larger to fit in additional information

1. Please record below any references to the CGPC Strategy in Ministerial Speeches or Briefs

Name of Minister or Ministry	Type of statement (e.g. speech or brief)	Date of statement	Brief explanation of content

2. Please attach a separate sheet that lists all the people you have sent the Strategy Paper to.

3. Please attach a separate sheet that lists all the people or organisations that you have sent the Information Brief to.

4. Please record below any meetings or workshop you have had with Ministers, PSs and representatives from stakeholders, about the CGPC Strategy or related National Plan of Action.

Type of meeting or workshop (e.g. awareness raising or planning)	**Name/s of Minister, PS, or Stakeholder** (for workshop do not list here the participants but list this on the form in Section A.1.2)	**Date of Meeting**

CHECKING THE FORM:
There should be the following attachments to this form:

- Distribution lists for the Strategy (question 2)
- Distribution lists for the information briefs (question 3)

Section A.2 Forms for Recording Indicators of Public Level Awareness

Instructions: This form should be filled in electronically and frequently updated activities. They will need to be emailed to the CEHI following the schedule given above. Please insert additional rows or make rows larger to fit in additional information

1. Please record below details of any media articles that have been published in your country about the CGPC Strategy or related National Plan of Action

Article Title	Name of Paper/Journal Magazine	Date of publication	Estimated audience

2. Please record below any press releases that have been published on the subject of the CGPC Strategy or related National Plan of Action

Press Release Title	Distributed to whom	Date of publication	Estimated audience

3. Please record below the distribution of the newspaper supplement

Name of newspaper	Date of Distribution	Number Distributed	Estimated audience

4. Please record below the number of radio spots (i.e. interviews, jingles or public service announcements) on the subject of the CGPC Strategy or related National Plan of Action

Type of Radio spot	Date of release	Estimated audience

5. Please record below details of any television interviews on the subject of the CGPC Strategy or related National Plan of Action

Name of Channel	Date of Interview	Estimated audience

6. Please attach distribution lists for the CAMP poster

7. Please attach distribution lists for the CAMP video

8. Please record below any requests you have received for public awareness material related to the CAMP Project

Organisation/Individual	Type of material requested

9. Please record below any public awareness events that have taken place and what public awareness material you used (e.g. during Pesticides Awareness Week)

Name of Event	Types of CAMP public awareness materials used.	Estimated number of people exposed to the CAMP public awareness materials.

CHECKING THE FORM:
There should be the following attachments to this form:

- Distribution lists for the CAMP Poster
- Distribution lists for the CAMP video

FORM E: Team Leader Recording Form for Regional Achievements of CAMP

This form is to be used by the CAMP Team Leader to record regional level achievements of the CAMP Project.

This form needs to be kept up to date electronically through-out the project and then sent to Herold Gopaul (by email hgopaul@cehi.org.lc or Fax: 1- 758-453-2721). Mr Gopaul will request the forms quarterly and are likely to be around the following schedule:

- June – recording any activities to date
- August – recording the 2nd quarter of the project
- December – recording the 3rd quarter of the project
- January – to feed information into the final report.
-

Instructions: This form should be filled in electronically and frequently updated activities. They will need to be emailed to CEHI following the schedule given above. Please insert additional rows or make rows larger to fit in additional information

1. Please record below the inclusion of the CGPC agrochemical strategy in any regional level meetings

Name of Regional Meeting	Date of inclusion on the Agenda

2. Please record below any endorsements of the CGPC agrochemical strategy by 'champion ministers' influential at the regional level.

Name of Minister	Type of Endorsements	Date of endorsement

3. Please record below any endorsements of the CGPC agrochemical strategy by influential regional organisations/stakeholders.

Name of Organisation/Stakeholder	Type of Endorsements	Date of endorsement

4. Please record below any regional endorsements of the CGPC agrochemical strategy

Name of Institution (e.g. COTED, Ministers of Health)	Type of Endorsements	Date of endorsement

FORM F: PROJECT PARTNER RECORDING FORMS

This form is to be used by CARDI, CEHI AND MRAG to record activities undertaken during the CAMP Project. There are particular questions that will be most relevant to CEHI who is leading the communications component of the project.

Form 1) Indicators for policy level and public awareness

This form needs to be kept up to date electronically through-out the project and then sent to Herold Gopaul (by email hgopaul@cehi.org.lc or Fax: 1- 758-453-2721). Mr Gopaul will request the forms quarterly and are likely to be around the following schedule:
June – recording any activities to date
August – recording the 2nd quarter of the project
December – recording the 3rd quarter of the project
January – to feed information into the final report.

Form 2) Recording forms for policy level meetings or workshops

This form needs to be filled in directly after any policy level meetings or workshops and returned to Herold Gopaul (by email hgopaul@cehi.org.lc or Fax: 1- 758-453-2721). You may need to make a number of copies of this form.

Part 1) Indicators of Public and Policy Level Awareness

Instructions: This form should be filled in electronically and frequently updated activities. They will need to be emailed to the CEHI following the schedule given above.

Please insert additional rows or make rows larger to fit in additional information. Some of the questions may only be relevant to some project partners.

1. Please attach a separate sheet that lists all the people you have sent the Strategy Paper to.

2. Please attach a separate sheet that lists all the people or organisations that you have sent the Information Brief to.

3. Please record below details of any media articles that have been published in your country about the CGPC Strategy or related National Plan of Action

Article Title	Name of Paper/Journal Magazine	Date of publication	Estimated audience

4. Please record below any press releases that have been published on the subject of the CGPC Strategy or related National Plan of Action

Press Release Title	Distributed to whom	Date of publication	Estimated audience

5. Please record below the number of radio spots (i.e. interviews, jingles or public service announcements) on the subject of the CGPC Strategy or related National Plan of Action

Type of Radio spot	Date of release	Estimated audience

6. Please record below details of any television interviews on the subject of the CGPC Strategy or related National Plan of Action

Name of Channel	Date of Interview	Estimated audience

7. Please attach distribution lists for the CAMP poster

8. Please attach distribution lists for the CAMP video

9. Please record below any requests you have received for public awareness material

Organisation/Individual	Type of material requested

10. Please record below any public awareness events that have taken place and what public awareness material you used

Name of Event	Types of CAMP public awareness materials used.	Estimated number of people exposed to the CAMP public awareness materials.

11. Please record below details of any regional media articles that have been published about the CGPC Strategy or related National Plan of Action

Article Title	Name of Paper/Journal Magazine	Date of publication	Estimated audience

12. Please record below any regional press releases that have been published on the subject of the CGPC Strategy or related National Plan of Action

Press Release Title	Distributed to whom	Date of publication	Estimated audience

13. Please record below any references to the CGPC agrochemical Strategy in stakeholder publications. (These may need to be followed up from survey forms with telephone calls where individuals have answered that they have used the material in their publications)

Author	Title of Publication	Date of publication	Estimated audience

14. Please record the distribution of the newspaper supplement from CEHI

Newspaper	Country	Date of Publication	Estimated audience

15. Please record the number of hits on the page of your website about the CGPC agrochemical strategy

Website	No. Hits	Date of record

CHECKING THE FORM:

There should be the following attachments to this form:

- Distribution lists for strategy paper
- Distribution lists for information briefs
- Distribution lists for the CAMP Poster
- Distribution lists for the CAMP video
- Distribution lists for newspaper supplement (if relevant)

ANNEX C

See CD Rom

C- 1 CGPC Strategy for Improved Agrochemical management in the Caribbean

C- 2 Regional Plan of Action for Agrochemical Management

C- 3 LBS Protocol

ANNEX D

See CD Rom

D- 1 Communications Material from CAMP Project

ANNEX E NPA Training materials

E- 1 Training slides of the NPA Tool Kit

See CD Rom

E- 2 Working session instructions

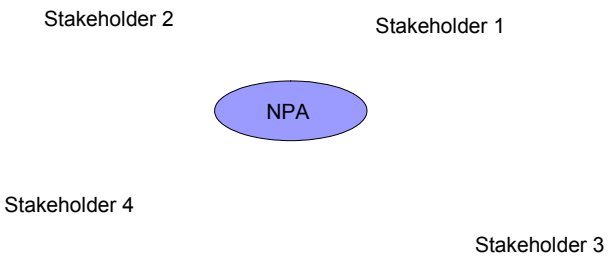
This annex summarises the instructions that can be given to working groups following the presentations as part of a NPA training programme.

Sessions 1: Stakeholder Analysis

Participants are asked to undertake a stakeholder analysis by listing all related stakeholders and determining their levels of interest and influence over the process. They are asked to determine their levels of involvement in the process.

Stakeholder List

- Identify stakeholders on a flip-chart/paper (keep this for later exercise)



Stakeholder Analysis Table

Stakeholder	Interests	Likely impact of NPA	Priority-Influence

Stakeholder Involvement Plan

Priority Stakeholder	Capabilities/Assets	Category (1-5)	Details of Involvement

Session 2: Developing a Communications plan

Participants are asked to complete a communications matrix. The following instructions is given:

- Complete exercise within a group with each person representing a different stakeholder
- Indicate communications channels on the stakeholder map
- Select five priority and five common stakeholders
- Complete the communications matrix for these stakeholders

Stakeholder	**Communication objective**	**Communication message**	**Communication channels**	**Monitoring indicator**

Session 3 & 4: Setting Goals & Objectives

Within this exercise participants are asked to convert overarching problems into goals by converting them into positive statements. They are also asked to consider how the defined goals fit within the CGPC Strategy. The following framework for defining goals is provided.

Goal	What problem/s does this address?	What conventions does this goal help to address?	Is this goal covered by another national plan of action or other activities?

They are then asked to agree on one goal and determine objectives for this goal. The following format is provided.

What CGPC area does this refer to?	Goal	Objectives

Session 5: Setting indicators

For this exercise participants are asked to:
- Select one goal
- Develop indicators for the purpose, goal and objectives
- Determine the means of verification for each of these indicators

Indicators

Purpose	**Indicator**	**Means of Verification**
Goal	**Indicator**	**Means of Verification**
Objective	**Indicator**	**Means of Verification**

Session 6: Defining activities and tasks

In this exercise, the participants are asked to select one objective, and list all activities for the selected objectives. For ONE activity the participants are asked to define a set of tasks. The following format is provided.

Objectives	**Activities (major)**	**Tasks**

Session 7: Defining a timeline and resources for activities

The objective of this exercise is to determine a time-line, responsibility and resource requirements for activities under a selected objective. The following Gantt chart and responsibility requirements matrices are provided.

Gantt chart

Objective: *[Complete]*

Activities	Responsibility	Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

Resource requirements matrix

Objective: *[Complete]*

Activity and Tasks	Human Resources	Facilities	Equipment	Materials	Other requirements	Total financial resources
Activity:						
						$ for 10 days
						$ for 22 days
						$ for 10 days for training printing manual, posters

Session 8: Updating the communications plan

Participants are asked to use the following framework to update the communications plan once the National Plan of Action is into the implementation phase. Up until this point the main objectives of the communications plan would be to bring stakeholders on board. While this will still be important throughout implementation, the main objectives at this stage would be to raise awareness of the plan, launch the plan and ensure that commitments are honoured.

Stakeholder	Communication objective	Communication message	Communications media	Communication channels	Monitoring indicator

Working Session 9: Monitoring & Evaluation

The following table was is to the participants. They are asked to look at the list of indicators and determine who would record the data for the indicator, where the data would come from and where it would be reported.

Indicator	**Who?**	**How? (data source)**	**Where report?**
1.Reduced rejection of agricultural produce for export			
2.Reduction in incidences of pesticide related illnesses by 75 % by 2007			
3.Reduced pesticide contamination of water and soil by 50 % by 2010			
4.100% of potable water samples tested indicate an absence of pesticide residues of 10 selected pesticides by 2010			
5.Vigour and abundance of X indicator species in the environment increased by 25% by 2010			
6.Pesticide residue levels (of 75% of agricultural produce samples tested) meet internationally accepted standards by 2008			
7.Reduction in incidences of pesticide related illnesses of employees responsible for handling by 75 % by 2007			
8.Designated disposal facilities use increased by 50 % by 2007			
9.50 % reduced contamination of environment around storage areas by 2007			
10.>75 % of pesticide applicators using appropriate and well maintained equipment and adequate personal protective gear by 2008			
11.50 % reduction in poisoning by 2008			
12. >90% of packages checked repackaged and/or labelled according to standards within 12 months of implementation of standards			

Working Group 10: Personal Development Action Plans

In this exercise the participants are asked to write down three activities they are going to do when they return from the workshop. They are also asked to determine when they will do these activities and what resources they require.

Activity	**Time-frame**	**Resources required**
1.		
2.		
3.		