

2.0 CHEMICALS

2.1 Summary - Chemicals

The implementation of a robust pesticide and chemical management system is critical particularly aspects relating to chemical Analysis Service and Licensing, Compliance and Monitoring and use of chemical for pesticide. To sustain agricultural production, the use of agriculture chemical for plant protection and pesticide use is inevitable to maintain increasing production. The Ministry of Agriculture (MOA) through the Research Section has ensured that chemicals used are properly analysed through proper quality control process before approval is given for public use.

Furthermore, the Republic of the Fiji Islands was the second country in the world to ratify the Stockholm Convention on Persistent Organic Pollutants, having done so on 20th June 2001. The objective of the Stockholm Convention is to protect human health and the environment from persistent organic pollutants (POPs). The convention currently covers the following twelve chemicals: aldrin, chlordane, Dichlorodiphenyltrichloroethane (DDT), dieldrin, endrin, heptachlor, mirex, toxaphene, hexachlorobenzene (HCB), polychlorinated biphenyls (PCBs), polychlorinated dibenzo-*p*-dioxins, and polychlorinated dibenzofurans. The first nine of these are pesticides. HCB is also classed as an industrial chemical, as are PCBs, while the dioxins and furans are formed as unintentional by-products in combustion processes and some industrial activities. These chemicals are to be controlled through various actions, including prohibiting future production and use of most of the pesticides and industrial chemicals, and the application of a range of measures for the reduction of releases of the unintentional POPs.

A Project was developed by the Government of the Republic of the Fiji Islands with financial assistance from the Global Environment Facility (GEF). Funds were provided for an enabling activity project to assist the country in meeting its obligations under the Stockholm Convention. The work for the project was guided by a National Coordinating Committee, which included representation from central government, non-governmental organisations, education and research institutions, and the private sector.

2.2 Systematic Evaluation and Labelling of Chemicals

All chemicals are tested against target pest and crops for three (3) crops

Cycle: This can take 2-3 years

Classification: All pesticides are classified under pharmacy schedules A, B, C and labelling of chemicals based on Food and Agricultural Organisation (FAO) guidelines of highly toxic, Harmful, and Caution.

Assessment Criteria's and linkages: Based on lethal dose (LD) and lethal concentration (LC) 50 values and also on oral injection and dermal application, we register products which are of low toxicity to the user and the environment. First Aid, precautions and storage disposal are written in 3 languages in English, Hindi, and Fijian with FAO colour band & pictogram.

Information exchange and corporation: FAO code of conduct on distribution and use of chemical are also distributed by International agencies like FAO, National Agriculture Research Institute (NARI), Greenpeace, South Pacific Regional Environment Programme (SPREP), Universities and Registrar of Pesticides of various countries.

2.3 Sound Management of Toxic Chemicals

Progress within large framework of strategic approach to International chemical: We follow the FAO guidelines on registration, testing, disposal and management of chemical and registration of pesticides coming in the country.

Initiative and innovation of risk reduction: Almost all chemicals imported are of lower risk; however, controls are taken not to purchase excessive stocks. Great care taken not to pollute environment, with care taken in following disposal system.

Precautionary measures: Use overall gumboot, tuff boot, face shield, wash hands, bath after use, keep under lock and keep away from food/ animal feed, and no refilling and selling of pesticides.

Policy measures to control chemicals that are high risk to human: Looking for safer alternatives and selective and importation of safe chemicals permit granted to only specialized dealers, and trained technicians.

Policy frame work of prevention of accidents:

- Store in original containers properly labelled;
- Use protective clothing etc;
- Store in proper house /shops separate from food/ and general public area; and
- Training of pesticides users.

Policy aimed at reducing risk: All chemicals are to be properly labelled and clear instructions to be put on the labels. Do not mix insecticides with herbicides to protect contamination to user and the environment. Distribution of technical bulletin, leaflets training of farmers and pesticide dealers are to be effectively carried out.

Initiative to reduce overdependence on the use of agricultural chemicals: Implementation of integrated pest management programmes have been undertaken with regional organisations such as the Secretariat of the Pacific Community (SPC). Developments of organic production systems for agricultural commodities that fetch a higher price have been developed. . Use of control, resistant crops and the phased planting time for crops has been also introduced. There has also been an increasing awareness through mass media on safe use of pesticides.

2.4 Constraints - Research, Development and Monitoring

The technical infrastructure for POPs monitoring and research in Fiji is very limited. The only laboratory with capabilities in this area is the Institute of Applied Science at the

University of the South Pacific, and these are currently restricted to the monitoring and analysis of POPs pesticides and PCBs.

2.5 Implementation Plan

Consultation with stakeholders was an important element in the preparation of the National Implementation Plan, 2006. This was achieved through a combination of one-on-one consultations, presentations and a number of national workshops. The National Implementation Plan is based around a number of specific action plans. The goals and objectives of each action plan reflect the requirements of the Stockholm Convention, but are intended to address the specific issues identified as being most relevant for Fiji.

The plans are as follows:

- Action Plan to address Unintentional Releases of POPs (Dioxins and Furans);
- Action Plan for Chemical Stockpiles and Contaminated Sites;
- Action Plan for Public Awareness, Information and Education; and
- Action Plan for Research, Development and Monitoring.

The action plans were developed based on the outcomes of the National Priority Setting Workshop for the Implementation of the Stockholm Convention in Fiji. Recommendations considered at that workshop came out of the various major consultancy reports that were prepared for different aspects of the project. The plans include the following specific proposals for capacity building:

POPs Pesticides

- Staff training for effective control over imports and use of pesticides
- Staff training for regulation and management of pesticides, including enforcement of the Pesticides Act
- Education and awareness to improve practices for pesticide handling, storage, use and disposal

PCBs

- Upgrading of laboratory facilities for PCB analysis
- Training in identification and sampling
- Development of guidelines for the storage and safe handling of PCB wastes
- Staff training for effective control of PCB imports

Unintentional POPs

- Review and strengthening of monitoring systems for all possible sources
- Development of BAT/BEP information, education and awareness programmes
- Establish sampling capabilities for dioxins and furans
- Education and awareness programmes for specific target groups relevant to the specific sources of unintentional POPs (waste operators, health-care and vehicle maintenance personnel)

Stockpiles and Contaminated Sites

- Training programmes for the assessment and management of contaminated sites
- Training programmes for the safe management of obsolete and unwanted chemicals
- Training programmes in safe storage, handling and use of hazardous chemicals

Research and Development

- Upgrading of existing laboratory facilities and staff training for POPs analysis.

The implementation of these plans are intended to be carried out over the next three years, although some involve on-going commitments which will continue for many years in the future.

In addition to this, a National Air Pollution Control Strategy and the incorporation of the Air Pollution Permit System under the Waste Disposal and Recycling Regulations were formulated in 2007, and are currently enforced, targeting all commercial and industrial facilities. The formulation of this set of policies, together with the regularized National Air Pollution Standards fulfils obligations under the Stockholm Convention.

The Department of Environment have also worked with institutions, communities, business, hospitals schools etc for the disposal of obsolete chemicals. This is a challenge due to the absence of disposal facilities in Fiji. For assistance the Department seeks assistance with regional organization in terms of advice and disposals. The Department had nominated a new focal point for the Stockholm Convention on Persistent Organic Pollutants to the Secretariat, the earlier focal point has migrated overseas and there is a need for this nomination in order for programs relating to POP's to continue.

Likewise, a new nomination had been made for the Strategic Approach to International Chemicals Management (SAICM) Project in order for the program to continue. The earlier focal point has migrated to overseas also.