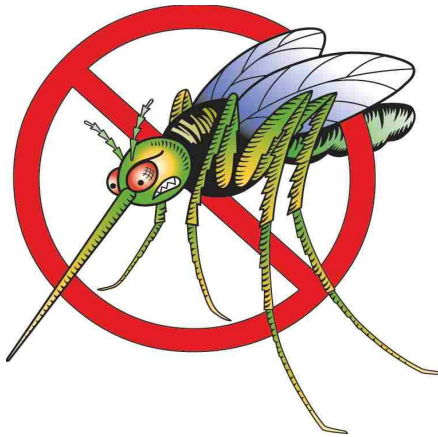


TRANSPARENCY AND ACCOUNTABILITY NETWORK



IMMC

INTEGRATED MOSQUITO AND MALARIA CONTROL

A comprehensive integrated mosquito and malaria control program to reduce the incidence of malaria, and other insect spread diseases.

BUSINESS PLAN PORTFOLIO OF IMMC INTERVENTIONS INTERIOR RESIDUAL SPRAYING (IRS)

July 2006

DRAFT – FOR DISCUSSION ONLY

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INTEGRATED MOSQUITO AND MALARIA CONTROL CONTEXT

**THIS DOCUMENT IS PART OF A SERIES THAT INCLUDES
THE FOLLOWING:**

EXECUTIVE SUMMARY – INTERNATIONAL

EXECUTIVE SUMMARY – LIBERIA

*BUSINESS PLAN – INTEGRATED MOSQUITO AND MALARIA CONTROL
COMPRISING:*

- A ... BP for IMMC – INTRODUCTION SECTION*
- B ... BP for IMMC – THE MALARIA CRISIS*
- C ... BP for IMMC – HISTORY OF SUCCESSES*
- D ... BP for IMMC – MOSQUITOES AND MALARIA*
- E ... BP FOR IMMC – THE IMMC STRATEGY*
- F ... BP for IMMC – DATA AND MANAGEMENT INFORMATION*
- G ... BP for IMMC – PORTFOLIO OF IMMC INTERVENTIONS*
 - GA – ENVIRONMENTAL MANAGEMENT*
 - GB – INTERIOR RESIDUAL SPRAYING (IRS)*
 - GC – EXTERIOR ADULTICIDE SPRAYING*
 - GD – MOSQUITO LARVA CONTROL*
 - GE – INSECTICIDE TREATED NETS (ITN)*
 - GF – MALARIA TREATMENT*
- H ... BP for IMMC – ORGANIZATION AND MANAGEMENT*

APPENDICES

IMMC – ORGANIZATION AND MANAGEMENT

(An Excel workbook/spreadsheet)

IMMC – REFERENCES, ETC.

(An Excel workbook/spreadsheet)

CONTACTS, ETC.

(An Excel workbook/spreadsheet)

SIMULATION MODEL

(An Excel workbook/spreadsheet)

IMMC – BEHAVIOR OF COSTS

(An Excel workbook/spreadsheet)

IMMC – FINANCIAL PROJECTIONS – MACRO OVERVIEW

(An Excel workbook/spreadsheet)

IMMC – FINANCIAL PROJECTIONS – COUNTRY VERSION

(An Excel workbook/spreadsheet)

IMMC – FINANCIAL PROJECTIONS – DISTRICT VERSION

(An Excel workbook/spreadsheet)

SLIDE PRESENTATIONS

Components of IMMC (21 slides)

History of Malaria Eradication (24 slides)

Economics of Malaria (17 slides)

Organization of IMMC (24 slides)

Introduction

Progress in the reduction of the prevalence of malaria is only going to be achieved if there are adequate physical anti-mosquito and anti-malaria interventions. The interventions included in a comprehensive IMMC strategy include the following:

- (1) neighborhood cleanup to reduce mosquito breeding places;
- (2) interior residual spraying (IRS);
- (3) ultra low volume (ULV) adulticide spraying to kill flying mosquitoes;
- (4) larvaciding to kill larvae and stop mosquito recruitment into the population;
and,
- (5) personal use of insecticide treated bednets (ITN).
- (6) medical treatment

Interior residual spraying (IRS)

The use of interior residual spraying (IRS), sometimes referred to as interior residual house spraying (IRHS) has been successful in many different settings, from South America to South Asia, in the Mediterranean region and in South Africa.

IRS works through three mechanisms: (1) there is a repellent action that keeps mosquitoes out of the house; (2) there is an irritant action that makes a mosquito leave a house quickly after entering; and, (3) a toxic action that kills the mosquito if it chooses to rest in the house. Broadly speaking, the size of the mosquito population is not affected by an IRS intervention, but behavior is modified so that there is less human blood meal taking by the mosquitoes. In an area where there is a substantial IRS intervention, the mosquito population moves outside, where it can be effectively subject to adulticide control.

IRS requires workers to enter houses and do the spraying according to a protocol that is safe for residents and the spray teams.



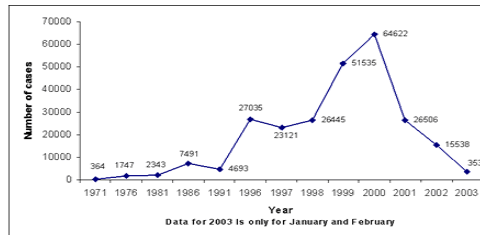
DDT

IRS is most effective when DDT is used as the pesticide, but DDT use is controversial. The use of DDT for IRS has been contentious since 1972 when the newly established US Environmental Protection Agency banned DDT use in the United States. This was mainly a result of excessive use of DDT in agriculture and concern about the persistence of DDT in the food chain and the impact on a number of predatory birds. Other countries followed the US lead and use of DDT for any purpose was banned in a number of countries around the world including Canada and several countries in Europe including Norway and Sweden. These northern countries were concerned about DDT showing up in the tissues of arctic residents whose diet included various sea mammals that also had DDT in their tissues.

The ban on DDT use has been a significant factor in the failure to control malaria. Use of other chemicals increases the cost of IRS by a factor of more than 4, in large part because of the need to respray up to 4 times a year instead of just once. Other chemicals are usually not as effective as DDT. IRS still works, but is much less effective when DDT is not used ... perhaps 10 times less effective. In practical terms Africa has stopped doing malaria control because of cost and

budget constraints, and no countervailing initiatives from the donor community to make malaria control a priority.

The graphic below shows what happened In KwaZulu-Natal, South Africa, when IRS with DDT was stopped. Malaria cases increased dramatically, but cases were brought under control again when IRS with DDT was once more used. More than 40,000 cases in 2000 reduced to around 23,000 a year later and then dropped further to under 2,000 cases a year. Good results were also obtained in neighboring Swaziland and in the south of Mozambique.



Training

Team organization

Community cooperation

Care and use of pesticides

Management information: costs and results