

**Transparency and Accountability Network**

# **The IMMC Consortium**

**Integrated Mosquito and Malaria Control**

# **History of Malaria**

# **Eradication**

# **Transparency and Accountability Network History of Malaria Eradication**

**A critical step in the transmission of malaria.**



**If the human has malaria the mosquito becomes infected.**

**If the mosquito has malaria the human becomes infected.**

**If neither has malaria then neither become infected.**

**Challenge is to break the cycle.**

**There has been success in many places.**

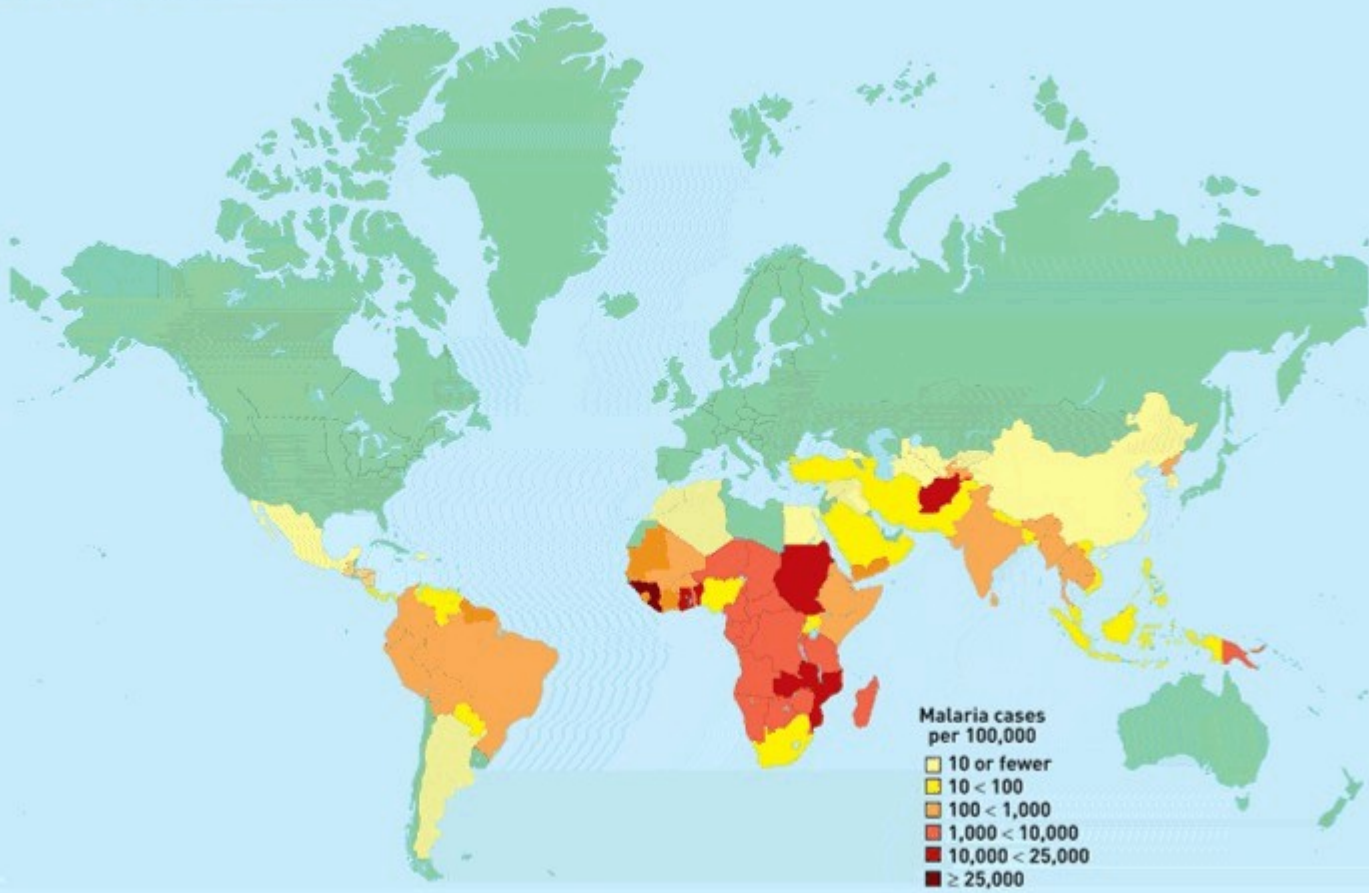
# Transparency and Accountability Network

## History of Malaria Eradication

Where is malaria prevalent?

### PREVALENT

After World War II, malaria eradication efforts succeeded in many parts of the world but not in most of Africa, many parts of Asia, and South America



NOTE: As of January 2004. SOURCE: World Health Organization, Malaria Department

**Africa**

**South Asia**

**Latin America**

It is not about tropics as much as it is a reflection of commitment and allocation of resources.

# **Transparency and Accountability Network History of Malaria Eradication**

## **Success**

- **There are many cases of success:**
  - **USA, Japan, Europe**
  - **Spain, Italy (and Sardinia), Greece**
  - **Panama and Suez Canals, the Maldives, Kwa Zulu Natal**
  - **India, Sri Lanka**
- **How and Why success?**
  - **Because there was a strong commitment to the goal and effective interventions using the best knowledge available at the time.**

# Transparency and Accountability Network

## History of Malaria Eradication

### USA

*1882 to 1940*

MALARIOUS AREA OF THE UNITED STATES  
1882



MALARIOUS AREA OF THE UNITED STATES  
1932



MALARIOUS AREA OF THE UNITED STATES  
1942



MALARIOUS AREA OF THE UNITED STATES  
1944-5



**The USA has been successful in getting rid of malaria.**

**In 1882 malaria was prevalent throughout the USA, all the way and up into Canada.**

**Malaria remained common in the Southern States until the 1940s. It was between 1945 and 1951 that the USA finally got rid of endemic malaria.**

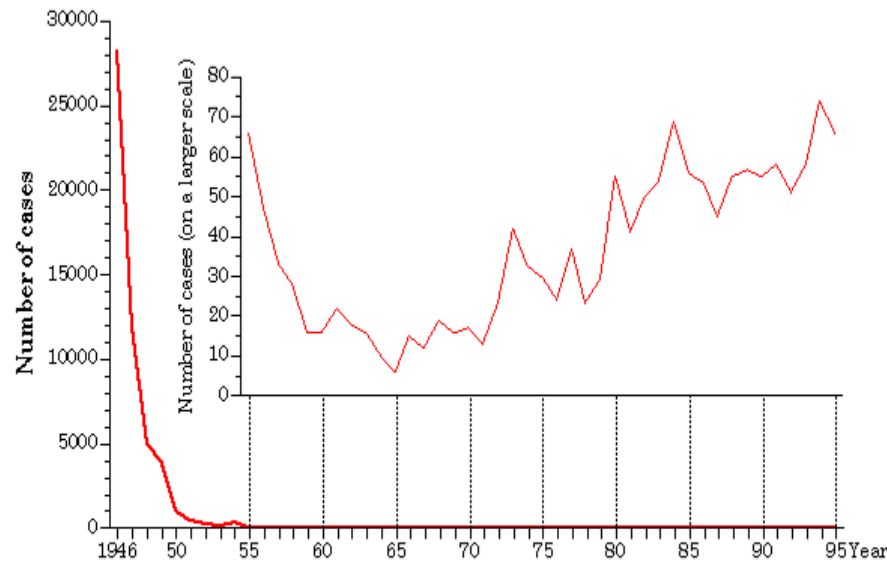
**Today around 1,000 cases a year – visitors and returning travellers.**

# Transparency and Accountability Network

## History of Malaria Eradication

### Japan *1945 to 1995*

Figure 1. Reported cases of malaria in Japan, 1946-1995  
Statistics on Communicable Diseases in Japan (Ministry of Health and Welfare)



**Japan had endemic malaria as recently as the 1940s**

**In five years 1946 to 1950 the prevalence of malaria was reduced to a very low level.**

**The prevalence has been kept low for several decades.**

**The modest increase since 1955 attributed to increased travel.**

# Transparency and Accountability Network

## History of Malaria Eradication

### **Sardinia**

*1945 to 1955*

### **Need an image**

**Sardinia was a post war test case ... and successful**

**There was a massive use of insecticide, including DDT. Some 32,000 people were engaged in the spray campaign.**

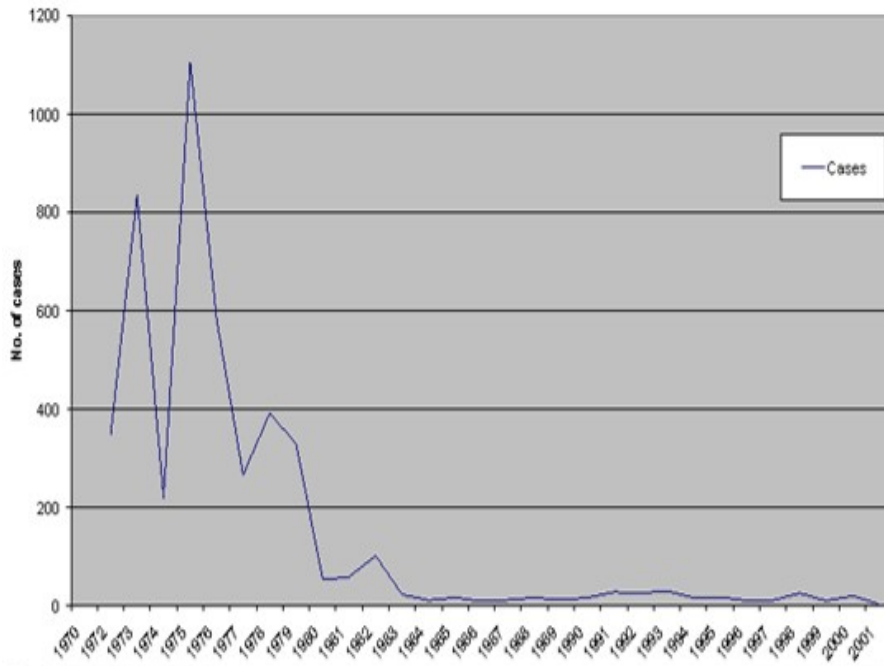
**Though very heavy use of insecticides was expected to have adverse health impacts, much less impact has been reported in subsequent studies.**



# Transparency and Accountability Network

## History of Malaria Eradication

### Maldives *1960 to 1995*



**The Maldives have been successful in reducing malaria prevalence.**

**In five years the prevalence of malaria was reduced to a very low level.**

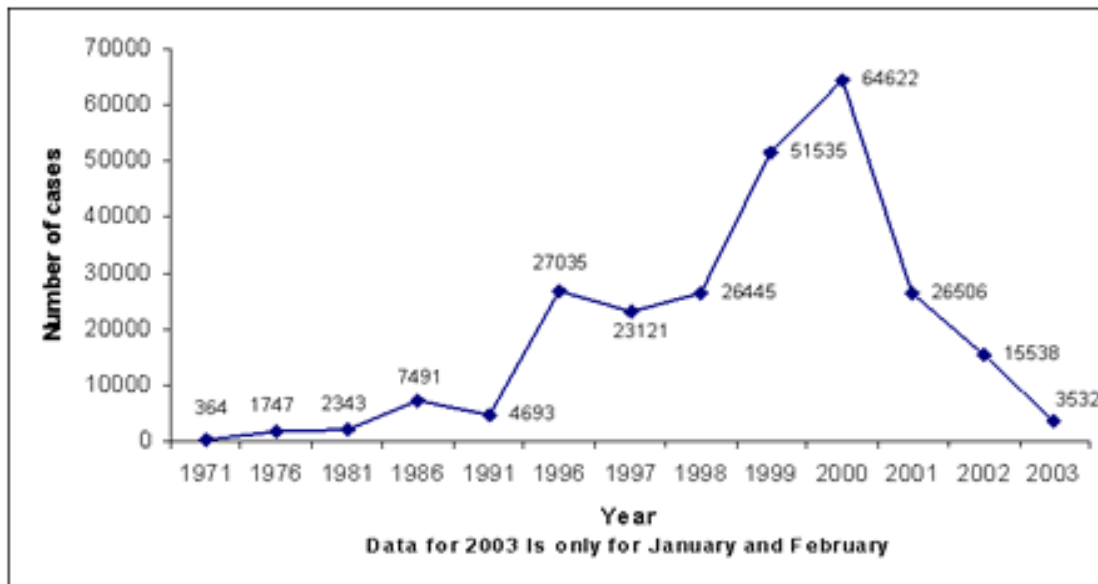
**The cases reported now are exclusively among travelers and visitors.**

**The VALUE of this is that tourism to the Maldives has not been adversely affected by malaria.**



# Transparency and Accountability Network History of Malaria Eradication

## South Africa – Lubombo Spatial Development Initiative *1971 to 2003*



**Why the increase  
in malaria cases  
1971 to 2000?**

**Why the reduction  
in cases 2000 to  
2003?**

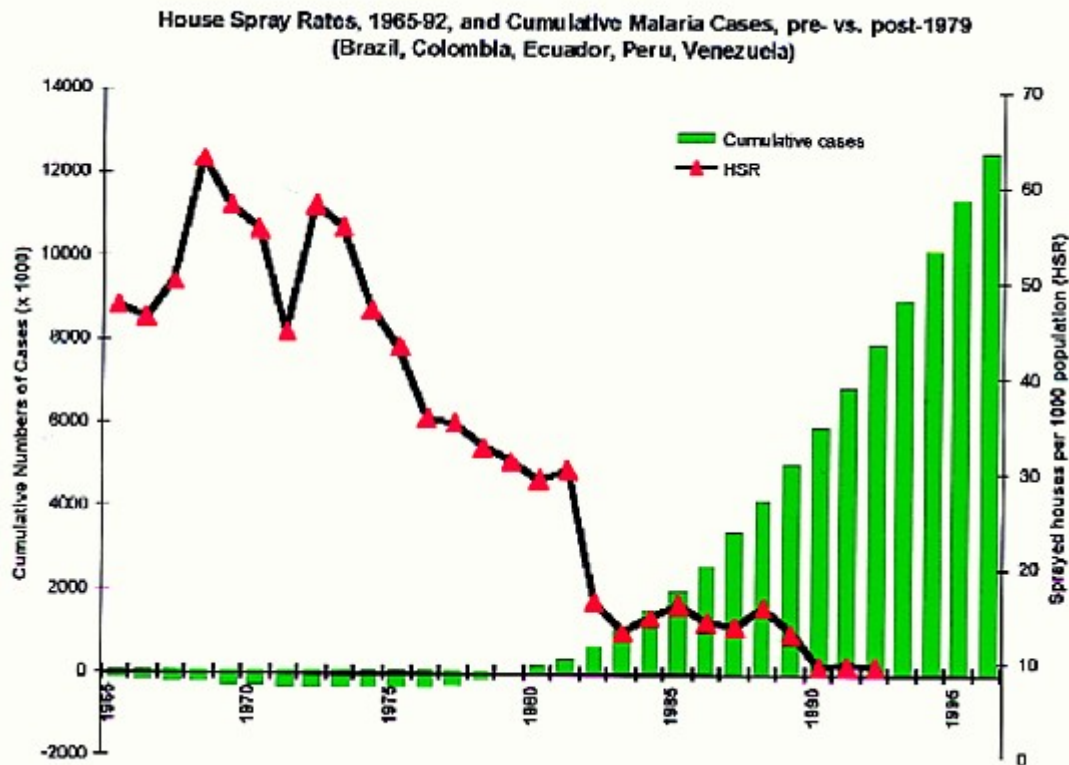
The prevalence of malaria increased during the 1990s after use of DDT was ended. When interior residual spraying (IRS) with DDT was started again in 2000, the malaria cases reduced rapidly.

The evidence that IRS with DDT is effective is very strong.

# Transparency and Accountability Network

## History of Malaria Eradication

### House spraying -v- cases of malaria 1965 to 1997 for five countries in South America



**From a study by Dr. Don Roberts showing the very impressive performance of IRS and DDT in reducing the prevalence of malaria.**

The full report is available on request.

# **Transparency and Accountability Network History of Malaria Eradication**

## **Sardinia**

- **Sardinia was one of the last places in Europe to be rid of malaria.**
- **DDT was used very intensely in Sardinia over a period of around 5 years. Mosquitoes were not eliminated, but malaria dropped to a low level. The funding and the expertise was from the USA.**
- **Concern over heavy DDT use in Sardinia grew as environmental analysis became more commonplace ... but in spite the heavy use of DDT, little long term health and environmental damage has been identified.**

# **Transparency and Accountability Network History of Malaria Eradication**

## **Guyana**

- **In 1946, a large scale campaign was mounted in British Guyana to eradicate malaria.**
- **It was successful**

# **Transparency and Accountability Network History of Malaria Eradication**

## **Taiwan**

- **In 1946, a large scale campaign was mounted in British Guyana to eradicate malaria.**
- **It was successful**

# **Transparency and Accountability Network History of Malaria Eradication**

## **Sri Lanka**

- **Prior to 1969, a large scale campaign to eradicate malaria in Sri Lanka made impressive progress.**
- **The success has not been maintained. One big reason for this is that the use of DDT and IRS has been discontinued**
- **See Dr. Donald Roberts testimony to US Congressional Committee**

# **Transparency and Accountability Network History of Malaria Eradication**

## **Vietnam**

- **WHO uses Vietnam as an example of success ... but it is modest compared to what it could have been.**
- **Over 1 million cases a year were reduced to around 400,000 a year between 199.. and 199...**
- **However, according to personal communications, the Vietnamese would have preferred a strategy that included IRS and DDT, but this was not permitted in the WHO program ... and arguably the results were poor compared to what is frequently achieved with IRS and DDT.**
- **See Dr. Donald Roberts testimony to US Congressional Committee**



# **Transparency and Accountability Network History of Malaria Eradication**

## **Thailand**

- **Thailand has had some success ... but it has been slow.**
- 
- **See Dr. Donald Roberts testimony to US Congressional Committee**

# **Transparency and Accountability Network History of Malaria Eradication**

## **India**

- **Prior to 1969, a large scale campaign to eradicate malaria in India made impressive progress.**
- **The success has not been maintained. One big reason for this is that the use of DDT and IRS has been discontinued**
- **See Dr. Donald Roberts testimony to US Congressional Committee**

# **Transparency and Accountability Network History of Malaria Eradication**

## **Failures**

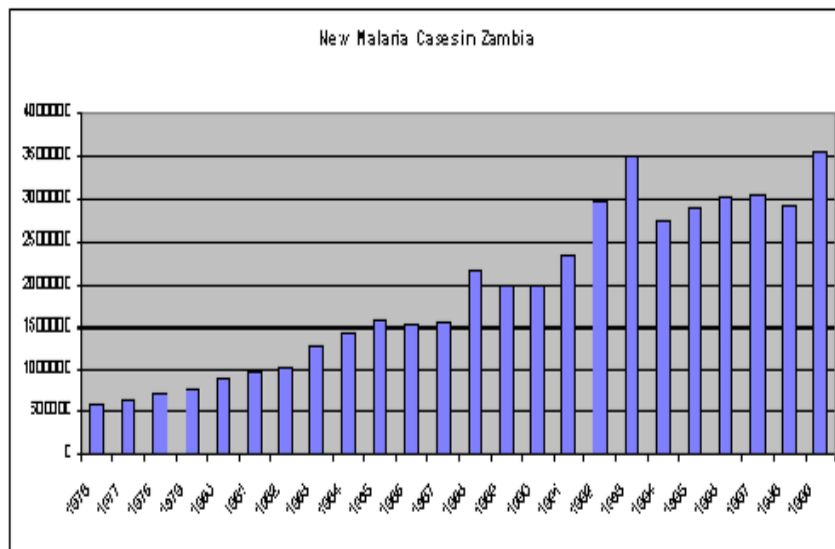
- **In broad terms public policy advice has been wrong:**
  - **Donors, multilateral organizations and African governments have not implemented effective anti-mosquito and malaria interventions.**
  - **In the main, interventions have been limited in scale, constrained by funding and based on wrong science.**
- **When DDT was banned low cost interventions became more difficult ... malaria prevalence soared**
  - **WHO (Roll Back Malaria), World Bank, UNICEF and others have engaged in report writing but not much effective intervention.**

# Transparency and Accountability Network

## History of Malaria Eradication

### Zambia 1976 to 1999

Chart 1 Malaria incidence rate from 1976 to 1999



Source NMCC Central Board of Health, 2000, pp. 7-11 (figures from 1994-1998 are estimates)

**In Zambia malaria incidence increased from 1976 to 1999.**

**Reduced efforts to control mosquitoes and malaria resulted in an increase in malaria incidence.**

**This is typical of post-colonial African countries with limited public health budgets.**

# **Transparency and Accountability Network History of Malaria Eradication**

## **DDT – good news or bad news?**

- **DDT was hailed as the wonder drug to control pests ...**
  - **In the 1940s and 1950s there were many accomplishments, including the reduction of endemic malaria in many places.**
  - **But there was not much scientific oversight and bad consequences started to be identified. It was overused in agriculture.**
  - **Because of DDT's long lasting characteristic, the build up of DDT in the food chain was identified as a possible disaster in the making.**
  - **In the USA, the first act of the newly established (1976) Environmental Protection Agency (EPA) was to ban the use of DDT.**

# **Transparency and Accountability Network History of Malaria Eradication**

## **DDT – the impact of its ban.**

- **While the regulation and oversight of DDT use would have been reasonable, an outright ban has had serious consequences:**
  - **DDT is both least cost and most effective as an interior residual spray. Other chemicals cost more and do not last as long.**
  - **Mosquito and malaria control programs stopped**
  - **Malaria infection has increased in places like Africa, and the daily child death from malaria in Africa is now estimated at 3,000 children every day ... more than 1 million deaths a year.**
- **It makes sense to use DDT carefully and NOW, so that deaths are reduced as quickly as possible.**

**Transparency and Accountability Network**

**IMMC**

**Integrated Mosquito and Malaria Control**

**Questions?**

**For more information:**

**Peter Burgess**

**1 212 772 6918**

**[peterbnyc@gmail.com](mailto:peterbnyc@gmail.com)**