

Secretariat of the Pacific Community

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Ciguatera and Related Biotoxins Conference 2008 Outcomes of the Meeting

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6^e CONFÉRENCE DES DIRECTEURS DES PÊCHES DE LA CPS, 9–13 FÉVRIER 2009, NOUMÉA, NOUVELLE-CALÉDONIE

Ciguatera and Related Biotoxins Conference 2008

Outcomes of the Meeting

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INTRODUCTION

Poisoning of humans through the consumption of fish in general has been known in the Pacific for a long time. In fact it is still regarded by many as “an exclusive feature of the islands” although it has been also known in the Red Sea and the Caribbean for a long time. Some of the very early records of fish poisoning in the Pacific dates back to the 16th century through log-book records of some of the earliest European explorers. Fernandez de Queiros in 1606 and Cook and Foster in 1776, recorded in their logs several cases of illness due to toxic Pacific fish. Presumably poisoning by fish would have been present in the Pacific longer before these records.

It was only in the last 25 years or so that, scientists have begun to study and understand the variety of toxins that exist in fish and with absence of their chemical structures until recently, they have been classed based on the marine organism it was derived from or on the effects of the toxins. It was also generally assumed that one toxin was responsible for each type of poisoning. More detailed investigations have however shown that multiple chemical forms exist for many toxins and that a single toxic organism may contain several types of toxins.

The lack of good reporting of cases of fish poisoning has been the situation in the Pacific for a long time and is still at present in most countries. In the late 1990s, SPC established a regional seafood poisoning database. Both fisheries and health workers were contacted to report cases of fish poisoning. This database although still far from perfect is probably the only reliable source of information on ciguatera incidences in the Pacific countries and territories to date. Based on interviews and research in a number of these countries it has been estimated (Lewis 1984) that perhaps 20% of all cases are reported in each country are not from ciguatera. Therefore looking at trends through these records must be treated with caution. The data however confirms that the main hotspots includes Kiribati with the highest annual incidence followed by Tokelau and Tuvalu (> 10 cases per 1000 annually). Generally however ciguatera fish poisoning is a wide spread problem in almost all SPC member countries and territories.

More recently from individual country reports, a general increase in the number of ciguatera cases has been experienced in a number of atolls such as Cook Islands, the Marshall Islands and Niue.

The database therefore in general is very useful but needs to be improved and promoted proactively in all SPC member countries if good and reliable information is to be obtained. SPC member countries are therefore also encouraged to co-operate and participate in this activity for their own benefits.

The social and economic impact of ciguatera in the Pacific is very significant. For the smaller atolls, fish is a very important mainstay and sometimes only protein source for the people's diet. Likewise in most countries in the Pacific, fishing is one of the few income earning opportunities and sources for foreign exchange. A good strong example illustrating this is in the Live Reef Food Fish Trade in Kiribati. The trade was in operation for a number of years providing a very good source of income for local fishermen, estimated to be close to a quarter million dollars per year and an annual income of just over AUD\$8,000 per fishermen on average for those involved in the industry. In 1999, a large number of people in Hong Kong got ciguatera fish poisoning from fish allegedly to have been from Kiribati.

This resulted in the banning of fish from Kiribati for the Hong Kong LRFFT market which in turn resulted in the total closure of the trade in Kiribati and the loss of the income-earning opportunity for the local fishermen who were involved in the operations.

CIGUATERA AND RELATED BIOTOXIN CONFERENCE 2008

This workshop will provide for an in-depth dialogue and potential collaboration between researchers and scientists from all around the world, and fisheries and public health managers from the Pacific Island countries and territories. It is expected that the outputs from this workshop will help both in filling the information gaps required for a better understanding of this phenomenon and in providing future directions for any further research required for the development of practical ways and approaches that could help in minimizing the negative impacts of ciguatera to the livelihoods of Pacific communities.

From the 21 to 31 October 2008, a ciguatera conference was organized by SPC in collaboration with the Institute of Research for Development (IRD) and the Pasteur Institute in New Caledonia. The purpose of the meeting was to bring together researchers and scientists, representatives of fisheries and health departments from Pacific Island country and territories to share their experiences and results of their work on ciguatera research. It was also to discuss and address the current socio-economic impacts of ciguatera especially in the Pacific context.

With financial support from the Pacific French Funds, SPC was able to invite representatives from Fisheries and Health Departments of those Pacific Island Countries and Territories that have serious problems with ciguatera fish poisoning. Each country was given the opportunity to give an overview of the status of ciguatera in their country, and especially highlighting their main issues and concerns.

The conference provided an excellent opportunity for PICTs to seek information and advice from scientists and through the excellent exchange and dialogue the conference was able to make some recommendations to try and address the ciguatera issues and problems in the Pacific. The main recommendations from the conference are described below.

RECOMMENDATIONS

The Conference recognises the need to set up a coordinated and collaborative research on ciguatera between the various research institutes and the PICTs

The Secretariat of the Pacific Community should be the co-ordinator of this regional effort in liaison with each PICTS government administrations.

It is essential to foster partnerships with the following institutes :

- L'Institut Louis Malardé, French Polynesia
- L'Institut Pasteur, New Caledonia
- L'Institut de Recherche pour le Développement, New Caledonia
- L'Institut Cawthron, New Zealand
- L'University of Queensland, Australia
- La FDA Gulf Coast Seafood Laboratory, United States of America
- La NOAA Hollings Marine Laboratory, United States of America

It is essential to support the establishment and the efforts of a steering committee which would be responsible for the development of an action plan with regards to ciguatera in the Pacific, in consultation with the PIVTs governments. This Committee would include:

- Marie-Yasmine BOTTEIN (NOAA Hollings Marine Laboratory, USA)
- Mireille CHINAIN (Louis Malardé Institute, Papeete, French Polynesia)
- Robert DICKEY (Food and Drug Administration, USA)
- Jacqueline EVANS (Ministry of Health, Rarotonga, Cook Islands)
- Patrick HOLLAND (Cawthron Institute, New Zealand)
- Dominique LAURENT (Institute for Research and Development-Toulouse, France)
- Richard LEWIS (University of Queensland, Australia)
- Jordi MOLGO (C.N.R.S., Gif sur Yvette, France)
- Serge PAUILLAC (Pasteur Institute, New Caledonia)
- Being YEETING (Secretariat of the Pacific Community)

It is important to seek funding mechanisms to help and provide the assistance needed by the countries in the following areas: training, building capacity, to set up and implement a monitoring/control system, and to set up a database for recording fish poisoning cases through health and fisheries departments.

It was also considered important to explore the possibility of creating a regional reference Center on ciguatera and marine biotoxins, with the aim of facilitating and enabling exchanges between PICTs. This Center will also be able to conduct research on ciguatera, analyse fish and algae samples in order to identify toxins and other related associated biotoxins and maintain a database on these different toxins in the Pacific for reference.

The conference urged that SPC take these outcomes of the conference and present them to the Head of Fisheries Meeting in 2009 to seek support and endorsement for a co-ordinated regional effort.