International Council for the Exploration of the Sea

C.M.1973/E:24

Fisheries Improvement Committee

Report on a WHO Working Group Meeting on the Hazards to Health and Ecological Effects of Pollution of the North Sea

(Bilthoven, Netherlands, 6 - 8 December 1972)

by

the General Secretary

1. At the last Statutory Meeting, the Consultative Committee agreed (see Procès-Verbal 1972, p.116), with reference to the information that had become available concerning the newly started WHO investigations on pollution of the North Sea, that such investigations, if not carefully coordinated with those of the Council, could lead to serious confusion both at the national and international level. The General Secretary was urged to keep close contact with the European Office of the World Health Organization in this matter.

   The Council endorsed this view at its final session in 1972.

2. Contact has been established with the European Office of the World Health Organization, and there has been some exchange of documentation.

   It also led to an official invitation to the Council to participate in a meeting of a WHO Working Group on Hazards to Health and Ecological Effects of Pollution of the North Sea (Bilthoven, Netherlands, 6-8 December 1972).

   The invitation was accepted by the President, and the Council was represented by the General Secretary. In addition, several of the temporary consultants appointed for the meeting by WHO were people well acquainted with the Council's activities (Mr A J Lee, Dr R Lange, Mr J Zijlstra, Mr F Beyer). A copy of the preliminary report of the meeting is attached.

   A representative of WHO was invited to attend the Meeting of the ICES Working Group on the Study of Pollution of the North Sea (Charlottenlund, 5-7 March 1973).

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ANNEX
to
C.M.1973/E:24

WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR EUROPE

ORGANISATION MONDIALE DE LA SANTÉ
BUREAU RÉGIONAL DE L'EUROPE

ВСЕМИРНАЯ ОРГАНИЗАЦИЯ ЗДРАВООХРАНЕНИЯ
ЕВРОПЕЙСКОЕ РЕГИОНАЛЬНОЕ БЮРО

Working Group on the Hazards to Health and Ecological Effects of Pollution of the North Sea

Bilthoven, 6-8 December 1972

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SUMMARY REPORT

1. Introduction

In collaboration with the Government of the Netherlands, a Working Group was convened by the WHO Regional Office for Europe at the National Institute of Public Health (RIV), Bilthoven, from 6 to 8 December 1972.

Its main objects were:

(1) to document present and planned programmes of activity relating to the control of pollution in the North Sea;

(2) to identify fields of study of interest both to marine scientists and to public health administrators;

(3) eventually to recommend studies in fields not covered by the present and planned programmes of activity and which it is believed would yield results of importance to the assessment of hazards to the marine ecosystem and to public health.

Dr J. Spaander, Director-General of the National Institute of Public Health, welcomed the participants on behalf of the Government of the Netherlands; Mr J. Kumpf, Chief, Environmental Health, addressed the meeting on behalf of Dr Leo A. Kaprio, Director of the WHO Regional Office for Europe; Dr A. Jernelöv, Regional Officer for Environmental Health, gave an outline of the scope and purposes of the meeting; Mr H. Tambs-Lyche, Secretary-General of the International Council for the Exploration of the Sea (ICES) presented an outline of the history and structure of his organization and

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A comprehensive final report on this meeting will appear at a later stage.

Dr L. Andren, Fishery Biologist, FAO, outlined FAO's interests in the field of marine pollution control. Dr J.G. van Esch was elected Chairman of the meeting and Dr A.J. Lee Vice-Chairman; Dr A. Jernelöv acted as Secretary and Dr R. Lange as Rapporteur.

2. Papers presented and discussed

A paper summarizing present and planned programmes of activity relating to pollution control in countries bordering the North Sea area was presented by Dr Lange; Dr Lee gave detailed information regarding the activities of ICES; Mr P. Le Lourd's contribution served to illustrate the efforts being made to estimate the input of pollutants into the North Sea; Dr K. de Brabander summarized Belgian studies of different aspects of pollution (the so-called mathematical model). Comprehensive reviews on ecological studies carried out in the Firth of Clyde, the Wadden Sea and the Oslo Fjord were presented by Mr A. McIntyre, Dr J.J. Zijlstra and Dr F. Beyer respectively. The applicability of methods of mammalian histology in studies of marine vertebrates and invertebrates was demonstrated by Dr B. Falck. Dr R. Fänge showed how common pathophysiological techniques could be applied in studies on sublethal effects of pollutants in fishes and Dr J. Koeman illustrated the field of marine toxicology by presenting information on mercury and selenium accumulation in seals and marine birds.

3. Conclusions

The discussion of the group with regard to human health aspects of marine pollution may be summarized as follows:

Intensive studies are being carried out under the auspices of several organizations. They should yield considerable information on the level of pollution in the North Sea. Particular mention should be made of the ICES programme in this connexion.

The information available from these studies should be evaluated by WHO with respect to its importance for public health.

In cases where sublethal pollution effects can be detected in the ecosystem, ecological changes may be used as an indicator of hazards to human health resulting from such pollution. This also implies that certain animals and plants could have an important function as indicator organisms (warning signals).

However, the meeting found that further information should be collected for this purpose on sublethal effects of pollution on marine organisms. This should include investigations of the direct and indirect pathological and subclinical health effects of microbiological and chemical pollution.

Studies on sublethal effects on marine organisms should be organized and evaluated by interdisciplinary teams and biologists would profit from the knowledge and experience already available in toxicology. Methods developed in clinical physiology and toxicology could be of value in the study on marine organisms. In this connexion, exchange of information and knowledge should be promoted through courses, handbooks and programmes of exchange visits.

The evidence gathered so far concerning sublethal pollution effects on marine organisms would provide useful material for discussion in a symposium to be organized jointly by ICES, FAO and WHO at an early date.

For a proper evaluation of risks to human health and ecosystems created by marine pollutants, more detailed knowledge as to input and chemical speciation of the compounds would be required.

Existing information should be complemented by further studies on the pathways, the transformation and the mode of action on the marine ecosystem of specific pollutants.

4. Recommendations

4.1 To make use of existing information on marine pollution of the North Sea collected by national institutions and by international and intergovernmental organizations, such as FAO and ICES, in evaluating the associated risks to human health.

4.2 To initiate and promote studies on sublethal effects on marine organisms, e.g. in connexion with existing investigations of marine pollution in pilot areas representing different types of (coastal) marine ecosystems and in relation to their possible function as indicator organisms (warning signals).

4.3 To identify:

(a) the types of sublethal effects that should be studied, and their priority;

(b) the methods which are presently available, e.g. in biochemistry, physiology, toxicology and clinical medicine for studying these effects.