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21072

DP/ID/SER.A/1728
28 April 1995
ORIGINAL: ENGLISH

REGIONAL NETWORK ON SAFE PESTICIDES PRODUCTION AND INFORMATION FOR
ASIA AND THE PACIFIC (RENPA) - A SUBPROGRAMME OF FARMER CENTRED
AGRICULTURAL RESOURCES MANAGEMENT (FARM) PROGRAMME

DP/RAS/93/061

PHILIPPINES

Technical report: Findings and recommendations*

Prepared for the Government of the Philippines
by the United Nations Industrial Development Organization,
acting as executing agency for the United Nations Development Programme

Based on the work of Yong-Hwa Kim, ecotoxicology specialist

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United Nations Industrial Development Organization
Vienna

* This document has not been edited.

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ABSTRACT

Title: Ecotoxicology Specialist - Manila

Number: DP/RAS/93/061/11-54

Purpose: To assist the Fertilizer and Pesticide Authority of the Philippines in the workshop by presenting Korean experience in ecotoxicology, suggesting directions for Philippines in the field, and taking part in group discussion.

Duration: Seven days, October 15 to October 19, 1994

Findings: Existing national institutions lack cooperative effort in securing safety of chemicals.

National capacity of research facility and man-power is existing. However, the facilities have degraded and out-dated. Personnel involved are not qualified.

The workshop was timely and useful as a starting point for cooperation for the safety of chemicals, at least among the participants.

Recommendations: Mobilization of national capacity in assessing chemicals is urgent. FPA could be a focal point in that effort with the assistance of three research institutes in evaluation of data and generation of environmental toxicological data.

Financial support is needed for proper maintenance and upgrading the facilities and enforcement of man-power in environmental toxicology.

International organizations, e.g. UNIDO, should assist the Philippines in implementing the suggestions above.

The same kind of workshop would be necessary for the other developing countries.

ABBREVIATIONS

FPA: Fertilizer and Pesticide Authority in the Philippines

GLP: Good Laboratory Practice

MRL: Maximum Residue Limit

DOST: Department of Science and Technology

NCPC: National Crop Protection Center

CIDA: Canada International Development Agency

I. INTRODUCTION

The report is made by Yong-Hwa Kim, Head of the Environmental Toxicology Laboratory, Toxicology Research Center, Korea Research Institute of Chemical Technology, P.O. Box 107, Yu Soung, Dae Jeon, Republic of Korea. The job description is reproduced in Annex I.

The activity of the mission began on October 15, 1994 and lasted on October 19, 1994. Duration of the actual mission was 5 days. The original objective of the mission was to participate in the ecotoxicology workshop organized by FPA to present a Korean experience in developing ecotoxicological system at the Toxicology Research Center, and also to lecture on background principles of environmental toxicology with respect to development of new pesticides. Even if it was not the original plan, by the request of the organizing party, a brief introduction on GLP was also presented. Along the process of the workshop, the expert took part in one of the discussion group, "Standardization of Laboratories/GLP/MRL".

The assignment to the expert was completed successfully. Moreover, national problems on ecotoxicological approach to invent a safe pesticide was recognised by the experts and the participants. Overall, the workshop itself was very successful from the point that a national consensus of the concerned parties of the country could be reached in a short period of time. However, it was afterthoughts of the organizers and the expert that the level of the participants should have been higher than the actual participants as originally invited so that the outcome of the workshop could be directly applicable to the direction of each sectors of the society.

II. ACTIVITIES

Activities of the expert was divided into four parts:

1. Preparatory meeting of the experts on checking the procedure of the workshop.
2. Presenting a Korean experience on ecotoxicology testing system for the development of new pesticides and concepts on GLP.
3. Leading a group discussion.

Details of each activity is as follows.

1. Preparatory meeting of the experts.

The original program of the workshop specified that Korean experience should be presented at the first part of the lectures. However, at the preparatory expert meeting, it was decided that the Canadian case should be presented first and the Korean experience be followed. The experts discussed on their contents of the lectures and made accommodations not to overlap.

2. Presentation of sectoral papers.

Representatives from each sector of the Philippines presented their status regarding the ecotoxicological effort. The main contents of the presentation were mandates, activities, services, and recommendations. Among 16 presenters, seven institutions were relatively and practically more involved in the activities of ecotoxicological aspect. They were ITDI of the Department of Science and Technology(DOST), the Bureau of Food and Drugs of the Department of Health, the Occupational Safety and Health Center of the Department of Labor and Employment, The Pesticide Analysis Section of the Bureau of Plant Industry of the Department of Agriculture, and the National Crop Protection Center(NCPC). Marine Science Institute, and College of

Medicine of the University of the Philippines. The major institutes provide services on toxicity tests and analysis of environmental pollutants. However, there has been little cooperative effort on assessing or evaluating a pesticide already in use or newly developed. Along the presentations, every speaker recommended to upgrade their facilities and enforce man-power, and need cooperation with other institutions in the country.

It was evaluated by the expert that the capability of the existing institutions are sufficient to take the ecotoxicological approaches to evaluate chemicals of concern, e.g. pesticides, industrial chemicals, and pharmaceuticals. The only point of lacking in the present system is the driving force for mobilization of the responsible sectors of the society to evaluate chemicals of concern.

3. Presentation of Korean Experience and GLP.

The lecture of the expert covered historical background of the emergence of environmental and/or environmental toxicological need, general principle of environmental toxicology, and practical testing methods for evaluating chemicals. The presentation was made with slides composed of pictures and diagrams.

Introduction of GLP was made briefly with diagrams. However, only a small group of the participants was interested, because most of them were not involved in actual laboratory work and did not aware of the importance of the GLP system yet. Those aspect should be emphasized later on after ecotoxicological cooperative system is set up and each sector concentrate on generating necessary data.

4. Discussion session.

The expert was in charge of leading a discussion group, "Standardization of Laboratories/GLP/MRL". The participants in the group was not so well organized that they could classify the present problems, prioritize them, and draw practical solutions. The expert's input was only to make the participants to be organized. All the ideas were drawn from the participants and summarized by themselves. Once they understood the general procedure, they were all interested in exposing ideas and taking part in reaching to a

conclusion. The expert was impressed by the participants' enthusiasm on the discussion and preparation for the following group presentation.

General conclusions of the discussion session were as follows:

- 1) Support for manpower and budget is urgent for upgrading and maintaining the existing facilities.
- 2) A national safety evaluation system is needed for new chemicals invented newly in the country or imported.
- 3) Data on safety is scanty. Therefore, data collection system at national levels needed.
- 4) The laws or regulations on eco-toxicology is related with various departments in the government. Therefore, effective resolution is not possible when ecotoxicological problems arise.

III. FINDINGS

Through the workshop, it was realized that:

1. Existing national institutions lack cooperative effort in securing environmental safety of chemical.
2. Capacity of research and management in ecotoxicology as a whole nation is existing, but the facilities have been degraded and out-dated and persons involved are not adequately oriented or trained.
3. The workshop was very timely and useful for the participants in knowing other organizations' functions in securing safety of pesticides and chemicals and in understanding the needs of cooperation among institutions in the country for the common objective of preventing environmental pollution by chemicals jeopardizing human health and biodiversity.

IV. RECOMMENDATIONS

1. Immediate support is needed for upgrading research facilities and enforcing personnel in the field of environmental toxicology.

2. Mobilization of national capacity in assessing existing and newly developed chemical is urgent. As a first step, FPA could be a focal point of managing the safety of pesticides and three or four major capable institutions could help in evaluating the environmental toxicological data and generating the data. National effort could be practiced at this stage and accumulate experiences.

3. Based on the recommendations above, technical implementation on the safe management of pesticides and chemicals should be followed up by international organizations, e.g. UNIDO, considering that CIDA is assisting the Philippines on the legislative and political matters.

4. The same type of workshop is needed for other developing countries.

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATIONJob Description

DP/RAS/93/061/11-54

Post title: Ecotoxicology Specialist

Duration: 0.2 m/m

Date required: 15 October 1994

Duty Station: Manila, Philippines

Purpose of project: To provide a firm basis for the safe development of pesticides in the Asia and the Pacific region by mutual cooperation of the member countries of the Regional Pesticide Network and to take up the new role as a link through the pesticide sub-programme contributing to the success of the UNDP programme 'Farmer Centered Agricultural Research Management' (FARM) for the benefit of resource of poor farmer of water shed upland and rainfed lowland agricultural systems.

Duties: The expert is expected to assist the Fertilizer Pesticide Authority (FPA) of the Philippines in their Ecotoxicology Workshop and give a summary of the work done in the Republic of Korea with the support of UNDP and UNIDO. The specialist is expected to provide the type of projects dealt with in the Republic of Korea and how the industries and government institutions make use of the toxicology centre in the Republic of Korea. He will also give one or two main lectures* as to the development of ecotoxicology and how countries like Philippines could start working on ecotoxicology both with respect to pesticides and other industrial chemicals of concern. He should take part in group discussion, and assist in writing a report on the meeting along with the counterparts.

Qualifications: A biologist, environmentalist or ecotoxicology specialist with extensive experience at the bench in supervising R&D project. International experience and knowledge of developing countries would be an advantage.

Language: English

* The paper could cover Development of Ecotoxicology Policies and Programmes in Korea.

Workshop Participation:

Participants will be invited from the following agencies:

A. Government

1. Department of Environment and Natural Resources
 - 1.a Environmental Management Bureau
 - 1.b Forest Ecosystem Research Division, Ecosystem Research & Dev. Bureau

2. Department of Agriculture
 - 2.a Fertilizer and Pesticide Authority
 - 2.b Bureau of Fisheries
 - 2.c Bureau of Soil and Water Management
 - 2.d Agricultural Training Institute
 - 2.e DA's Foreign Assisted Projects' Division
 - 2.f Bureau of Plant Industry's Pesticide Laboratory
 - 2.g National Crop Protection Center

3. Department of Science and Technology
 - 3.a Philippine Council for Health Research and Development
 - 3.b PCARRD
 - 3.c ITDI - health/environmental laboratory
 - 3.d PCARMD

4. Department of Health
 - 4.a Bureau of Food and Drugs
 - 4.b Bureau of Research Laboratory
 - 4.c Environmental Health Service
 - 4.d Non-Communicable Disease Control Service

5. Department of Labor and Employment
 - 5.a Bureau of Working Conditions
 - 5.b Occupational Health and Safety Center

6. National Economic Development Authority
 - Philippine Council for Sustainable Development

B. Academe

1. Pharmacology Department, UP College of Medicine, Manila
2. National Poison Control and Information Center
3. College of Public Health, Environmental Health Unit
4. Institute of Environment Science and Management
5. Marine Science Institute, UP Diliman

C. Non-Governmental Organizations

1. Center for Alternative Development Initiatives (CADI)
2. Pesticide Action Group (PAG)
3. Green Forum International
4. Tanggol Kalikasan

D. International Organizations

1. FAO
2. WHO - Environmental Health
3. UNDP - UNIDO
4. USAID
5. CIDA and/or ERMP
6. IRRI

E. Industry

Crop Protection Association of the Philippines

F. Legislative Bodies

Program

Master of Ceremony: Atty. Nicholas R. Deen
Deputy Executive Director, FPA

Day 1 (October 17)**A. M.**

8:00 - 9:00	Registration	
9:00 - 9:45	Opening Ceremony	
	Invocation	
	National Anthem	
	Welcome Address	Hon. Atty. Francis Tolentino City Mayor, Tagaytay City
	Opening Address	Mr. Francisco C. Cornejo Executive Director, FPA
9:45 - 10:00	Workshop Orientation	Dra. Nelia C. Maramba Chairman, FPA-PTAC Subcommittee on Toxicology
10:00 - 10:15	Recognition of Guests and Participants	
10:15 - 10:30	Break	
10:30 - 11:30	Messages from International Organizations	
11:30 - 12:30	Open Forum	
12:30 - 1:30	Lunch Break Luncheon Speaker	

P.M.

1:30 - 3:00	Presentation of Sectoral Papers
3:00 - 3:15	Break
3:15 - 5:15	Continuation of Sectoral Presentations
5:15 - 5:30	Organizational Meeting (the group will be divided based on sectoral concerns)
7:00	Fellowship Dinner

Day 2 (October 18)**A. M.**

8:00 - 9:00	Pesticide Related Environmental Toxicology: A Country Profile (Korea)	Dr. Yong Hwa Kim
	Good Laboratory Practice (GLP) Guidelines for Environmental Toxicology	Regional Expert RENPAF/UNIDO
9:00 - 9:30	Baseline Study of Philippine Pesticide Laws and Policies	Atty. Hajo Versteeg
9:30 - 10:30	Development of Environmental Quality Guidelines including Legislative Requirements	Dr. Harvey Lerer
10:30 - 10:45	Break	
10:45 - 11:45	Strategies and Approaches to the Implementation of Environmental Quality Guidelines	Dr. Bruce Archibald
11:45 - 12:30	Open Forum	
12:30 - 1:30	Lunch Luncheon Speaker	

P. M.

1:30 - 2:30	Continuation of Open Forum
2:30 - 7:00	Workshop

Day 3 (October 19)**A. M.**

- 8:00 - 8:15 **International Workshop on Persistent Organic Pollutants** **Dr. Harvey Lerer**
- 8:15 - 12:00 **Group Reports
Panel Reaction;
Consolidation of Workshop Output
and Recommendations**
- 12:00 - 1:00 **Lunch
Luncheon Speaker**
- 1:00 - 2:00 **Finalization and Adoption of
Workshop Recommendations**
- 2:00 - 4:00 **Closing Ceremony
Introduction of the Guest Speaker **Hon. Socorro Acosta**
Closing Address **Chairman, House
Committee on Ecology****

Awarding of Certificates of Appreciation

Closing Remarks

UNIDO'S COMMENTS

The report prepared by Mr. Kim based on his short mission to the Philippines clearly brings out the requirements of a fast developing country such as the Philippines in the topic of ecotoxicology and environmental monitoring. The realization that countries which produce and consume large quantities of chemicals should have policies, legislative measures, implementation mechanism and above all laboratories with well trained staff and suitable equipment to carry out nation wide monitoring and training in risk assessment, risk reduction/management. This is vital for countries such as the Philippines where sea food is vital for the economy of the country.

The workshop clearly indicates that the country needs assistance in all areas covering the whole spectrum of environmental monitoring of chemicals of concern. The suggestion that bilateral assistance and multilateral assistance could be linked up to provide full assistance to the Philippines in increasing its national capability in risk reduction/elimination in dealing with chemicals entering the ecosystem, should be seriously considered by UNIDO and the Government of the Philippines.